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FOREWORD

This Ethiopia Standard has been prepared under the direction of the Technical Committee for Medical Care Practices (TC90) and published by the Ethiopian Standards Agency (ESA).

The draft document (Working Draft, WD) has been submitted to the Secretariat by the Ethiopian Food, Medicine & Healthcare Administration and Control Authority (FMHACA).

A General hospital shall provide services in accordance with this standard and shall comply with the requirements. The standard shall enter into force starting from the day of approval as Ethiopian Standard. This standard is approved by the convention of ……. made on…..Application of this standard is MANDATORY with the intention to ensure the quality and public safety of health services through standardized licensure and inspection procedures, to promote access to quality health services and encourage health investment.

The Ethiopian Standard Agency recommends fulfilling all the requirements stipulated under this document. It has to be noted that the fruition of fulfilling these requirements will ensure the quality and safety of public health services through availing appropriate infrastructure, deployment and retention of qualified and competent health professionals that deliver best practices and by generating innovative ideas and methodologies to solve healthcare problems.

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Ato……W/O……

Director General, Ethiopian Standard Agency

SECTION ONE: GENERAL

1. Scope

1.1. This Ethiopian standard shall be applicable for all general hospitals new and existing, governmental and non-governmental.

1.2. The standard covers the minimum requirements with respect to practices, premises, professionals and products or materials put into use for general hospitals.

1.3. Requirements of a general hospital are stipulated under section two to eight of this standard.

2. Normative References

The latest editions of the following laws, regulations, directives and guidelines shall be taken as part and parcel of this Ethiopian Standard.

2.1. Ethiopian Food, medicine and Healthcare Administration and Control Proclamation No. 661/2009

2.2. Ethiopian Food, Medicine and Healthcare Administration and Control Regulation No. 189/2010

2.3. Federal Hospitals Administration Council of Ministers Regulation No. 167/2009

2.4. The Ethiopian Hospital Reform and Implementation Guidelines, Mar 2010

2.5. Health Policy of Ethiopia

2.6. Drug Policy of Ethiopia

2.7. Commercial Code of Ethiopia

2.8. Criminal Code of Ethiopia

2.9. Medicines Waste Management and Disposal Directive No 2/2011

2.10. Ethiopian National Guideline for Health Waste Management, 2008

2.11. Ethiopian Building Proclamation, No. 624/2009

3. Terminologies and Definitions

3.1
Appropriate Organ

Shall mean a state government organ authorized to implement food, medicine and healthcare administration and control activities at a state level;

3.2

Authority

Shall mean the Ethiopian Food, Medicine and Healthcare Administration and Control Authority.

3.3

Proclamation

Shall mean the Ethiopian Food, Medicine and Healthcare Administration and Control proclamation No 661/2009.

3.4

Appropriate Law

Shall mean a law issued by a state to implement regulatory activities regarding food, medicine and healthcare.

3.5

Person

Shall mean any physical or juridical person

3.6

Authorized Person

Shall mean any hospital staff who is responsible for a given service

3.7

General Hospital

Shall mean a health facility at secondary level of healthcare which provides promotive, preventive, curative and rehabilitative service that requires diagnostic facilities and therapeutic interventions with a minimum capacity of 50 beds and at least shall provide gynecology and obstetrics, pediatrics, internal medicine, surgery, psychiatry and emergency services. In addition, it shall provide laboratory, imaging and pharmacy services and other related services stated under this standard.

SECTION TWO: LICENSURE

2.1 General

2.1.1 This standard provides minimum requirements for the establishment and maintenance of general hospital in order to protect the public interest by promoting the health, welfare, and safety of individuals**.**

2.1.2 No general hospital shall be built or be functional by any person without prior permission of the appropriate organ.

2.1.3 The requirements set by this standard may not be waived unless otherwise for public interest and there is a substantial need for waiver. There shall be an assurance that the waiver will not create a hazard to the health and well- being of patients or others than the public interest.

2.2 Application for licensure

2.2.1 No person shall operate a general hospital in Ethiopia, whether governmental, nongovernmental or private, without being licensed as required by appropriate law and this standard.

2.2.2 Any person desiring to operate a general hospital shall:

(a) Apply to the appropriate organ for a new license on forms prescribed by the appropriate organ as per article 2.2.6;

(b) Pay the prescribed license fee; and

(c) Provide additional information or document upon written request by the appropriate organ

2.2.3 A person desiring to operate a general hospital shall consult the appropriate organ on the plant design conformity with this standard before starting construction or renovation work.

2.2.4 An application for the initial licensure of general hospital shall be submitted to the appropriate organ no later than ninety (90) days prior to the stated date of operation. The license fee shall accompany the application.

2.2.5 The first pre-licensing inspection shall be conducted by the appropriate organ upon application without service fee. In case of failure to comply with this standard during the first pre-licensing inspection, the applicant has the right to reapply not more than two times upon paying service fee. If the applicant fails to comply with this standard for the third time, its application for licensure shall be suspended for three months.

2.2.6 The application for a general hospital license shall state each service for which the applicant undertakes to furnish hospital care and the number of beds allocated and shall furnish other information as may be required by the appropriate organ including.

(a) Hospital location and address
(b) Name and address of the applicant (if the applicant is an authorized delegate, written delegation letter shall be submitted)
(c) Previous owner, license number for existing hospital;
(d) Name, qualification and address of the licensee/CCO
(e) Total bed capacity;
(f) Surrounding environment/location;
(g) Number, type, work experience and original release of all technical staff;
(h) Number of administrative staff
(i) Physical plant/ Hospital design and its description;
(j) Proposed use of idle space;
(k) CEO of the hospital;
(l) Chain organization (organization structure);
(m) Owner of the building;
(n) Professional license and registration certificate of the licensee and all other health professionals responsible for each service in the hospital;
(o) Any other requirements set by the appropriate organ

2.2.7 An application for a license or change in service shall be denied if the applicant cannot demonstrate that the premises, products, personnel and health care services are fit and adequate in accordance with this standard.

2.2.8 The appropriate organ shall consider an applicant's prior history in operating a health care facility either in Ethiopia or in other countries in making licensure decision. Any evidence of licensure violations representing serious risk of harm to patients shall be

considered by the appropriate organ, as well as any record of criminal convictions representing a risk of harm to the safety or welfare of patients.

2.3 Initial/NEW Licensure

2.3.1 Every general hospital shall have a separate license. The appropriate organ shall issue each license in the name of the owner and chief clinical officer only for the premises and person named as applicant in the application and the license shall not be valid for use by any other person or at any place other than the designated in the license.

2.3.2 A general hospital license shall specify the following:

(a) Name and address of the general hospital

(b) The name and professional license and registration number of the licensee;

(c) Ownership of the hospital;

(d) Name of the owner;

(e) License number, issuance and expiration dates of the license;

(f) Signature and stamp of the appropriate organ and

(g) Notices/reminders prepared by the appropriate organ.

2.3.3 Prior to initial licensure of the hospital, the appropriate organ shall conduct an on-site inspection to determine compliance with the applicable laws and standards governing general hospitals.

2.3.4 The appropriate organ shall send a written report of the findings to the general hospital after the conclusion of the inspection.

2.3.5 A general hospital with deficiencies shall correct them and submit written proof of correction of deficiencies.

2.3.6 The appropriate organ shall conduct a follow-up inspection to determine correction of deficiencies cited within ten (10) days following the one hundred and eighty (180) day correction period or upon notification from the hospital that the deficiencies have been corrected.

2.3.7 The appropriate organ shall deny the application for licensure to a general hospital that has not corrected deficiencies. The applicant shall reapply for licensure when deficiencies are corrected.

2.3.8 The appropriate organ shall conduct on-site inspection of the general hospital to assess the hospital's continued compliance with the laws and standards governing the hospital.

2.3.9 The appropriate organ shall issue a replacement license where the originally issued license has been lost or destroyed upon an application supported by affidavit.

2.3.10 The original license shall be posted in a conspicuous place at reception at all times.

2.4 License Renewal Requirements

2.4.1 A license, unless suspended or revoked or under consideration in pending case, shall be renewable annually and the General hospital shall submit an application for license renewal to the appropriate organ no later than sixty (60) days before the expiration date of the current license.

2.4.2 Without prejudice to article 2.4.1;

(a) Subsequent to submitting renewal application, the owner shall pay the prescribed license fee

(b) License renewal shall be made during the first quarter of each fiscal year (Hamle 1 to Nehassie 30) based on routine inspection findings over the year

(c) In case of failure to renew license within the prescribed period, license may be renewed upon paying penalty (50% of renewal fee) within one month

(d) In case of failure to renew license as per article 2.4.2 (c), license shall be considered as cancelled

2.4.3 Every applicant who needs to renew a license shall:

(a) Apply to the appropriate organ in the prescribed form;

(b) Pay the prescribed license renewal fee; and

(c) Provide additional information or document upon written request by the appropriate organ.

2.4.4 The appropriate organ may conduct background checks on the applicant or licensee to determine its suitability or capability to operate or to continue operating a health care facility. Background checks shall consist of, but not be limited to, the following:

(a) Verification of licensure status;
(b) Verification of educational credentials;
(c) Verification of residency status;
(d) Verification of solvency; and
(e) Contacts with federal and states officials to determine outstanding warrants, complaints, criminal convictions, and records of malpractice actions.

2.4.5 The appropriate organ shall renew a license for a general hospital in substantial compliance with the applicable laws and this standard.

2.5 Removal Permits, Change of Operation and Forfeiture of License

2.5.1. No general hospital or part thereof shall move from the premises for which a license has been issued to any other premises without first having obtained from the appropriate organ a permit to move to the premises not covered by the license issued to the hospital.

2.5.2. Without the prejudice to article 2.5.1, permit in change of address shall indicate the special conditions governing the moving of the general hospital or part of it as the appropriate organ may find to be in the interest of the public health.

2.5.3. Without prior permission of the appropriate organ, change of owner and/or licensee shall not be made.

2.5.4. The hospital licensee shall inform the appropriate organ any change in operation or professional. Change of operation means any alteration of services that is different from that reported on the general hospital's most recent license application.

2.5.5. The license shall not be assignable or transferable to any other person or place without the prior approval of the appropriate organ and shall be immediately void if the center ceases to operate, if its ownership changes, or if it is relocated to a different site.

2.5.6. When change of ownership of a hospital is contemplated, the hospital shall notify the appropriate organ in writing and give the name and address of the proposed new owner.

2.6 Suspension and Revocation of a License

2.6.1 The appropriate organ may suspend or revoke a license or order closure of a service/ unit within the general hospital or order removal of patients from the general hospital where it finds that there has been a substantial failure to comply with this standard.

2.6.2 Without prejudice to grounds of suspension provided under relevant laws, the appropriate organ shall suspend the license for 3 to 12 months in any of the following grounds:

(a) Where the general hospital is legally suspended;

(b) Where the general hospital fails to practice medical ethics;

(c) Where the general hospital engages in rendering services which are outside the competence of the hospital for which the license is obtained;

(d) Where the general hospital fails to allow inspection pursuant to the law and this standard;

(e) When the general hospital allows a practitioner, who has been suspended by appropriate organ from practicing his profession;

(f) When of a member of the Governing Board, the Chief Executive Officer, a Chief Clinical Officer, department head, or other key staff member of a serious offence involving the management or operation of a general hospital, or which is directly related to the integrity of the facility or the public health or safety;

(g) When the general hospital fails to implement or fulfill comments and corrections given by the appropriate organ;

(h) When the general hospital shown any act which constitutes a threat to the public health or safety;

(i) When the general hospital fails to observe laws relating to health services and this standard;

(j) When the general hospital fails to submit relevant information required under this standard.

2.6.3 Without prejudice to grounds of revocation provided under relevant laws, the appropriate organ shall revoke the general hospital license from one to two years on any of the following grounds Where the license is proved to have been obtained by submitting false information;

(a) Where the license is proved to have been obtained by submitting false information;

(b) Allows a practitioner who is not licensed pursuant to the appropriate law or who has been revoked by appropriate organ from practicing his profession;

(c) Where any of its permanent health personnel is found registered/ employed as a permanent staff in any other facility;

(d) Where the faults referred to in Article 2.6.2 have been committed for the second time;

(e) Where the license is found transferred or rented to another person;

(f) Where the general hospital changes types of services, name, address and the licensee without obtaining permission from the appropriate organ;

(g) Where the license is not renewed in accordance with Section 2.4 of this standard;

(h) Where the general hospital is legally closed or ceases operation;

(i) Where the general hospital is found operating while suspended by appropriate organ;

(j) Where the general hospital is found operating out of the scope of services stated under this standard;

2.6.4 At least 30 days prior to voluntary surrender of its license where approved by the appropriate organ, or order of revocation, refusal to renew, or suspension of license, the general hospital must notify each patient and the patient's physician the intended closure.

2.6.5 Each license in the licensee's possession shall be the property of the appropriate organ and shall be returned to the appropriate organ immediately upon any of the following events:

(a) Suspension or revocation of the license;

(b) Refusal to renew the license;

(c) Forfeiture of a license; or

(d) Voluntary discontinuance of the operation by the licensee.

2.6.6 If the appropriate organ determines that operational or safety deficiencies exist, it may require that all admissions to the general hospital cease. This may be done simultaneously with, or in lieu of, action to revoke license and/or impose a fine. The appropriate organ shall notify to the hospital in writing of such determination.

2.6.7 The appropriate organ shall order and ensure in collaboration with appropriate local health authorities the immediate removal of patients from the general hospital whenever it determines there is imminent danger to the patients' health or safety.

2.6.8 The license shall be returned to the appropriate organ within five (5) working days from voluntary surrender, order of revocation, expiration, or suspension of license.

2.6.9 The appropriate organ shall issue to the general hospital a written notification on reasons for denial, suspension or revocation of the license.

2.7 Right to Fair Hearing

2.6.1. Any applicant made subject to action by the appropriate organ for denial or suspension or revocation of license or who is assessed a fine under terms of this standard shall have the right to a fair hearing in accordance with relevant laws.

2.6.2. Fair hearing shall be provided/arranged by the appropriate organ whenever there is an official compliant submitted to this body.

2.8 Information to be disclosed

2.8.1 Evidence based information received by the appropriate organ through inspection and other true sources about the general hospital shall be disclosed to the public in such a way to indicate the public a decision maker or self regulator for its own health.

2.8.2 Whenever public disclosure is necessary, the appropriate organ shall forward inspection reports to the general hospital at least 15 days prior to public disclosure.

2.8.3 Any citizen has the right to obtain information on the official profile of services of any licensed general hospital from the appropriate organ.

2.8.4 Anyone who is interested in establishing a general hospital shall have the right to be provided with information concerning the standards required by the appropriate organ at any working day.

SECTION THREE: GOVERNANCE

3.1 Governing Board

3.1.1. A governmental general hospital shall have Governing Board, Chief Executive Officer (CEO), Chief Clinical Officer (CCO) and necessary staffs indicated in this standard.

3.1.2. Except for Share Company where its Board of Directors shall be deemed as Governing Board, other private general hospital registered otherwise under the Commercial Code shall not be required to have such organizational structure.

3.1.3. The Board of Management of nongovernmental general hospitals registered according to Charities and Societies Proclamation No. 629/2009 shall be deemed as Governing Board.

3.1.4. The Board shall have the authority and responsibility for the direction and policy of the general hospital.

3.1.5. The Board of the hospital may issue its own rules of procedures.

3.1.6. Without prejudice to powers and duties provided by the relevant laws, the Board responsibilities shall include:

(a) Formulate all policies and guidelines to be used in the hospital;

(b) Maintaining the general hospital's compliance with all applicable laws, its policies, procedures and plans of correction;

(c) Systems are in place for ensuring the quality of all services, care and treatment provided to patients;

(d) Designating and defining duties and responsibilities of the CEO save for the provisions of relevant laws;

(e) Notifying the appropriate organ in writing within thirty (30) working days when a vacancy in the CEO position occurs, including who will be responsible for the position until another person is appointed;

(f) Notifying the appropriate organ in writing within thirty (30) working days when the CEO vacancy is filled indicating effective date of the appointment and name of person appointed;

(g) At least once a year, reviewing the medical care provided and the utilization of the hospital resources; and

(h) Establishing a means for effective communication and coordination among the CEO, the medical staff and the various hospital departments.

3.1.7. Minutes of the Board Meeting shall be recorded, signed, and retained in the hospital as a permanent record.

3.1.8. The CEO shall be the secretary and non voting members of the Board.

3.1.9. The Board shall at least develop the following policies and procedures that are revised at least every three years:

(a) For human resource management;

(b) For ensuring the hospital is smoke- free area;

(c) For the declaration of death of patients which shall accommodate the patient's religious beliefs with respect to declaration of death. Such policies shall also include indicating the cause of death, medication given, examinations done, and practitioner who cares of the patient.

(d) For transfer of dead body to its family. If a patient dies in the facility, the body shall be handed over to the family within a day unless conditions dictate otherwise.

(e) For visitation which shall be in the best interest of patients, including, but not limited to, protection from communicable diseases, protection from exposure to deleterious substances and hazardous equipment and assurance of health and safety of patients.

3.1.10. The hospital shall develop and implement a complaint procedure for patients, families, visitors, and others. The procedure shall include, at least, a system for receiving complaints, a specified response time, assurance that complaints are referred appropriately for review, development of resolutions, and follow-up action.

3.1.11. There shall be an organizational chart of the general hospital and each service that shows lines of authority, responsibility, and communication between and within services.

3.1.12. There shall be a formal mechanism for communication among the Board, CEO, CCO and the necessary medical staff.

3.1.13. The general hospital shall establish a mechanism for involving consumers in the formulation of hospital policy and implementation of activities.

3.2 Chief Executive Officer

3.2.1 The Manager of general hospitals formed as Charities and business organization shall be deemed as CEO.

3.2.2 The CEO shall be responsible for planning, organizing, and directing and controlling the day to day operation of the hospital. The CEO shall report and be directly responsible to the Board in all matters related to the maintenance, operation, and management of the hospital.

3.2.3 The CEO shall be responsible for the operation of the hospital twenty-four (24) hours per day, seven (7) days per week.

3.2.4 Without prejudice to powers and duties provided in relevant laws, the CEO shall be responsible for:

(a) Providing for the protection of patients' health, safety, and well- being;

(b) Maintaining staff appropriate to meet patient needs;

(c) Developing and implementing procedures on collecting and reporting information on abuse, neglect and exploitation;

(d) Ensuring that investigations of suspected abuse, neglect or exploitation are completed and that steps are taken to protect patients; and

(e) Ensuring appropriate response to reports from the Authority;

3.3 Chief Clinical Officer

3.3.1 Each general hospital shall have a Chief Clinical Officer who shall be accountable to the CEO.

3.3.2 The CCO shall oversee the clinical care provided by the hospital. In particular, the function of the CCO shall include:

(a) Facilitating communication among the medical staff members and with the hospital;

(b) Implementing the hospital and medical staff policies and procedures;

(c) Recommending the appointments to the medical staff and scope of clinical privileges;

(d) Ensuring the provision of continuing medical education;

(e) Taking other necessary actions necessary to govern the medical staff and relate to the hospital board.

3.4 Management Committee

3.4.1 A department head shall be assigned to each of the medical and administrative departments. The responsibility of department heads includes at least the following:

(a) Providing a written description of the services provided by the department

(b) Ensuring coordination and integration of these services with other departments when relevant

(c) Recommending space, staffing, and other resources needed to fulfill the department's responsibility

(d) Defining the education, skills, and education needed by each category of employee in the department

(e) Ensuring that there is an orientation and continuing education program for the department's employees

(f) Developing and implementing a department quality improvement program.

3.4.2 Any general hospital shall establish a Management Committee consisting of heads of the medical and administrative departments. The CEO shall be the chairperson of the Committee.

3.4.3 The Committee shall be an adviser of the CEO on the day to day management of the hospital.

3.4.4 The Committee shall meet upon regular basis. The minutes of the meeting shall be recorded and available to the appropriate organ upon request.

SECTION FOUR: PATIENT RIGHTS AND RESPONSIBILITIES

4.1 Informed Consent

4.1.1. Each hospital shall protect and promote each patient's rights. This includes the establishment and implementation of written policies and procedures for the patient right.

4.1.2. For undertaking any type of procedures and treatments an informed consent shall be required from the patient or patient's next of kin or guardian.

4.1.3. An informed consent may not be required during emergency cases or life threatening situations where the patient is not capable of giving an informed consent and his or her next of kin or guardian is not available.

4.1.4. Unless provided by the law or this standard or by the hospital policies and procedures that an informed consent shall be given in written form, an informed consent of the patient can be given orally or inferred from an act. A written consent shall be needed at least for the following:

(a) Surgery and invasive procedures;
(b) General anesthesia;
(c) Blood donation and transfusion;
(d) Clinical trials/Research;
(e) High-risk procedures or treatments (including radiation therapy and chemotherapy).

4.1.5. The general hospital shall comply with relevant laws, national and international codes of ethics in the cases of vulnerable groups like children, women, geriatric patients etc when someone other than the patient can give consent.

4.1.6. Patient consent forms shall be available in all applicable locations like areas where surgery or invasive procedures are done

4.1.7. No photographic, audio, video or other similar identifiable recording is made of without prior informed consent of a patient.

4.1.8. Patient consent forms shall be available in all applicable locations at the hospital. The locations include at least the following:

(a) All nursing inpatient units
(b) All areas where surgery or invasive procedures are done

(c) Radiation therapy

(d) Outpatient chemotherapy area

(e) Psychiatry units where electroconvulsive treatment is done

4.1.9. A general hospital shall establish and implement a process to provide patients and/or their designee appropriate education to assist in understanding the identified condition and the necessary care and treatment.

4.1.10. A general hospital shall document its assessment of each patient's ability to understand the scope and nature of the diagnosis and treatment needed.

4.2 Patient Rights

Every general hospital patient shall at least have the following rights,

4.2.1. To receive reasonable, respectful and safe access to health services by competent personnel that the hospital is required to provide according to this standard;

4.2.2. To receive treatment and medical services without discrimination based on race, age, color, religion, ethnicity, national or social origin, sex, persons with disability, diagnosis, source of payment or other status;

4.2.3. To retain and exercise to the fullest extent possible all the constitutional and legal rights to which the patient is entitled by law;

4.2.4. To be informed of the names and functions of all physicians and other health care professionals who are providing direct care to the patient. These people shall identify themselves by introduction or by wearing a name tag;

4.2.5. To receive, to the extent possible, the services of a translator or interpreter to facilitate communication between the patient and the hospital's health care personnel if the patient cannot understand the working language;

4.2.6. To receive from the patient's physician(s) or clinical practitioner(s) an explanation of his or her complete medical condition, recommended treatment, risk(s) of the treatment, expected results and reasonable medical alternatives in terms that the patient understands. If this information shall be detrimental to the patient's health, or if the patient is not capable of understanding the information, the explanation shall be provided to his or her next of kin or guardian and documented in the patient's personal medical record;

4.2.7. To give informed, written consent prior to the start of specified nonemergency procedures or treatments only after a physician or clinical practitioner has explained specific details about the recommended procedure or treatment, the risks involved, the possible duration of incapacitation, and any reasonable medical alternatives for care and treatment in terms that the patient understands. If the patient is incapable of giving informed, written consent, consent shall be sought from the patient's next of kin or guardian or through an advance directive, to the extent authorized by law. If the patient does not give written consent, a physician or clinical practitioner shall enter an explanation in the patient's medical record;

4.2.8. To refuse medication and treatment and to be informed of the medical consequences of refusing treatment provided that he/she is mentally clear. The hospital shall develop a procedure on the management of the cases of patients who refuse treatment.

4.2.9. To be informed if the general hospital has authorized other health care and educational institutions to participate in the patient's treatment. The patient also shall have a right to know the identity and function of these institutions, and may refuse to allow their participation in the patient's treatment;

4.2.10. To be informed by the attending physician and other providers of health care about any continuing health care requirements after the patient's discharge from the hospital. The patient shall also have the right to receive assistance from the physician and appropriate hospital staff in arranging for required follow-up care after discharge;

4.2.11. To receive sufficient time before discharge to have arrangements made for health care needs after hospitalization;

4.2.12. To be informed by the hospital about any discharge appeal process to which the patient is entitled by law;

4.2.13. To be transferred to another facility only for one of the following reasons, with the reason recorded in the patient's medical record:

(a) The transferring hospital is unable to provide the type or level of medical care appropriate for the patient's needs. The hospital shall make an immediate effort to notify the patient's primary care physician and the next of kin, and document that the notifications were received; or

(b) The transfer is requested by the patient, or by the patient's next of kin or guardian when the patient is mentally incapacitated or incompetent;

4.2.14. To receive from a physician an explanation of the reasons for transferring the patient to another facility, information about alternatives to the transfer, verification of acceptance from the receiving facility, and assurance that the movement associated with the transfer will not subject the patient to substantial, unnecessary risk of deterioration of his or her medical condition. This explanation of the transfer shall be given in advance to the patient, and/or to the patient's next of kin or guardian except in a life-threatening situation where immediate transfer is necessary;

4.2.15. To be treated with courtesy, consideration, and respect for the patient's dignity and individuality i.e. the right to care that respects the patient's personal values and beliefs;

4.2.16. To be free from physical and mental abuse, neglect, sexual harassment, sexual violence and exploitation;

4.2.17. To be free from chemical and physical restraints that are not medically necessary, unless they are authorized by a physician for a limited period of time to protect the patient or others from injury;

4.2.18. To have personal and physical privacy during medical treatment and personal hygiene functions, such as bathing and using the toilet, unless the patient needs assistance for his or her own safety. The patient's privacy shall also be respected during other health care procedures and when hospital personnel are discussing the patient;

4.2.19. To get confidential treatment. Information in the patient's records shall not be released to anyone outside the hospital except the followings;

(a) If the patient has approved the request,

(b) If another health care facility to which the patient was transferred requires the information,

(c) If the release of the information is required and permitted by law.

(d) If the patient's identity is masked, the hospital may release data about the patient for studies containing aggregated statistics.

4.2.20. To know the price of services and procedures;

4.2.21. To receive a copy of the hospital payment rates, regardless of source of payment. Upon request, the patient or responsible party shall be provided with an itemized bill

and an explanation of the charges if there are further questions. The patient or responsible party has a right to appeal the charges. The hospital shall provide the patient or responsible party an explanation of procedures to follow in making such an appeal;

4.2.22. To have prompt access to the information contained in the patient's medical record, as per the medical record section stated under this standard, unless a physician prohibits such access as detrimental to the patient's health, and explains the reason in the medical record. In that instance, the patient's next of kin or guardian shall have a right to see the record. This right continues after the patient is discharged from the hospital for as long as a copy of the record is kept;

4.2.23. To obtain a copy of the patient's medical record, as per the standards set under the medical record section of this standard.

4.2.24. To have access to individual storage space in the patient's room for the patient's private use. If the patient is unable to assume responsibility for his or her personal items, there shall be a system in place to safeguard the patient's personal property until the patient or next of kin is able to assume responsibility for these items;

4.2.25. To receive a medical certificate in English or Amharic or in a working language of the place where the hospital is located;

4.2.26. To present his or her suggestion or grievances, without fear of retribution, to the hospital staff member designated by the hospital to respond to questions or grievances about patient rights and to receive an answer to those grievances within a reasonable period of time without discrimination. The hospital shall post the names, addresses, and telephone numbers of the government agencies to which the patient can complain and ask questions.

4.2.27. To be given a summary of these patient rights, as approved by the appropriate organ, and any additional policies and procedures established by the hospital involving patient rights and responsibilities. The hospital shall be obliged to ensure that,

(a) The patient is informed of his or her rights during the admission process;

(b) This summary include the name and phone number of the hospital or hospital staff member to whom patients can complain about possible patient rights violations;

(c) This summary is provided in the patient's native language if 10 percent or more of the population in the hospital's service area speak that language;

(d) A summary of these patient rights is posted conspicuously in the patient's room and in public places throughout the hospital;

(e) Complete summary copies of the patient right is available at nurse stations and other patient care registration areas in the hospital.

4.2.28. To be informed and participate in decisions relating to their care and participates in the development and implementation of a plan of care and any changes.

4.3 Patient Responsibilities

4.3.1. Every patient shall have the following responsibilities:

(a) To provide, to the best of the patient's knowledge, accurate and complete information regarding past medical history and issues related to the patient's health, including unexpected changes, to the health professional responsible for the patient's care;

(b) To follow the course of treatment and instructions proposed by the physician or an authorized health personnel or to accept the consequences if treatment instructions is refused;

(c) To report any changes in his/her condition or any thing that appears unsafe to the responsible health professional;

(d) To be considerate of the rights of other patients and to respect their privacy;

(e) To respect their caregivers;

(f) To fulfill the financial obligations as promptly as possible;

(g) To keep all appointments and notify hospital or the appropriate person when unable to do so;

(h) To observe the hospital policies and procedures, including those on smoking, alcohol or drug addiction, cellular phones, noise and visitors;

(i) Be considerate of the hospital facilities and equipment and to use them in such a manner so as not to abuse them;

(j) Not to litter the hospital premises.

(k) To sign on "Against Medical Advice Notice" if he / she refuses the recommended treatment or intervention.

4.3.2. The list of a patient's right & responsibilities shall be posted at various places of the hospital premises.

SECTION FIVE: HUMAN RESOURCE AND MANAGEMENT

5.1. General Requirements

5.1.1. The hospital shall have Human Resource Department (HRD) which carries out the major functions of Human Resource Management (HRM).

5.1.2. Each service units of the hospital shall maintain a sufficient number of staff with the qualifications, training and skills necessary to meet patient needs as per as per this standard.

5.1.3. All recruitment and selection shall follow consistent approach using the recruitment and selection manual approved by the hospital management/ governing board.

5.1.4. No health professional shall practice his/her profession in the hospital without having professional license from the Authority or appropriate regional organ. The hospital shall ensure that all health professionals recruited by the hospital are licensed as per the registration and licensing requirement of the Authority or appropriate regional organ.

5.1.5. Each hospital shall ensure and maintain evidence of current active licensure, registration, certification or other credentials for employees and contract staff prior to staff assuming job responsibilities and shall have procedures for verifying that the current status is maintained.

5.1.6. Whenever a licensed health-care professional is terminated as a result of a job-related incident, the hospital shall refer a report of the incident to the appropriate body in accordance with the appropriate health professional regulation

5.1.7. Every health professional shall report to the hospital whenever he/she is infected with contagious diseases. The hospital shall also establish a mechanism for screening health professionals with contagious diseases. The health professional shall not practice his/her profession during the period of such infection and his/her rights provided under the relevant employment law and the hospital's HR manual shall be respected.

5.1.8. Each person involved in direct patient care shall have an occupational health screening prior to entering active status and once every five (5) years

thereafter. A health professional shall not conduct health examination for himself/ herself.

5.1.9. Each health screening shall include a medical history, physical examination, and any indicated laboratory work and investigations.

5.1.10. A report, signed by an examining physician or other qualified health professional, shall be made of each examination.

5.1.11. The report of each examination shall be kept on file in the hospital and shall be open to inspection by the control agency.

5.1.12. Each person who is involved in direct patient care and who acquires notifiable illness shall, prior to returning to duty, obtain certificate of fitness, as provided in the hospital's policies, that he or she may return to duty without apparent danger to any patient.

5.1.13. Immunization against communicable disease shall be required of all employees and all other persons who routinely come in contact with patients or patient areas. Immunizations shall be in accordance with current national immunization guidelines.

5.1.14. Each hospital shall maintain a current employment record for each staff person. The record shall contain, at a minimum, information on credentials, health examination (fitness for duty), work history, current job description, evidence of orientation, in-service education/training and copies of annual evaluation

5.1.15. All health professionals shall abide with health professionals Code of conduct and their respective scope of practice.

5.1.16. There shall be a policy or procedures for all health professionals to report any suggestive signs of child abuse, substance abuse and /or abnormal psychiatric manifestations by the patients under their care.

5.2. Staffing Plan

5.2.1. The hospital shall avail as a minimum the staff requirement stated under this standard.

5.2.2. For additional staff a staffing plan shall be developed collaboratively by the different service units and management, which identifies the number and types of the staff

5.2.3. The planning process shall use recognizable process for estimating the staffing need like Workload Indicator for Staffing Need (WISN) method.

5.2.4. The staffing plan shall be reviewed on an ongoing basis and updated as necessary

5.2.5. The staffing plan shall define the following elements:

(a) The total number and types of staff needed for the hospital as a whole and for each service unit

(b) The total number and types of staff currently available for the hospital as a whole and each service unit

(c) The required education, skills, knowledge, and experience required for each position

(d) The process and time period for reviewing and updating the plan shall be indicated. (The plan is periodically reviewed and updated as required, but it shall be done at least every two years.)

(e) Expected/existing workload

5.2.6. The hospital shall have in effect a contingency plan for assuring adequate staffing at all times. The plan shall detail policies and procedures to regulate closure of available beds or services, if actual staffing levels fall below specified levels.

5.2.7. The general hospital shall have at least the following summary of professionals and staffing:

Professionals required	**Minimum number required**
CEO	1
MD-Specialist (licensee)	1
Specialist	
• General Surgeon	2
• Anaesthesiologist	1
• Obstetrician and Gynaecologist	2
• Internist	1
• Pediatrician	1
• Accident/ Emergency specialist	1
• Psychiatrist	1
• Orthopaedic surgeon	1
• Ophthalmologist (Optional)	1
• Pathologist (Optional)	1
• Dental Specialist/ Surgeon (Optional)	1
• Oncologist (Optional)	1
• Dermatologist (Optional)	1
• ENT specialist (Optional)	1
• Nuclear medicine professionals	Refer nuclear medicine service standard

MD	14
Midwives	13
Nurses (BSc) [ER (6), OPD (10), IPD (12), OR (14), ICU (6)]	48
Nurse (Diploma) [ER (6), OPD (17), IPD (12), OR (14), ICU (0)]	49
BSc anaesthetist	4
Nurse anaesthetist	4
Specialized nurses	
• Ophthalmic nurse	1
• Cataract surgeon	1
• Nurse psychiatrist	1
• Optometrist/refractionist	1
Dental professional	2
Radiology technologist	4
Physiotherapist	2
Laboratory technologist	7
Microbiologist	1
Laboratory technician	3 (optional)
Pharmacist	7
Pharmacy technician	3(optional)
Environmental Health	2
Health Information	2
Cleaners	30
Reception/Archive	10
Maintenance personnel (plumbing, electricity, general maintenance services)	4
Bio-Medical Engineer	2
Food and dietary	16
Morgue attendant	2
Social workers	1
Compliant handling officer	1

NB: Human resource minimum requirement has been determined based on the mandatory services to be licensed as a general hospital. In addition for detail requirements please refer the standard of each service unit.

5.3. Job Description and Orientations

5.3.1. All staffs shall be provided with current written job descriptions and be oriented to their specific job responsibilities at appointment

5.3.2. The job description shall include the title and grade of the position, specific function of the job, job requirement, reporting mechanism, evaluation criteria and description of job site and work environment.

5.3.3. The orientation program for all employees shall include three levels of orientation: hospital wide, service unit and job specific:

5.3.4. Orientation to hospital structure and administration shall be provided by hospital management.

5.3.5. Orientation to hospital policies, including all environmental safety programs, infection control, and quality improvement shall be provided

5.3.6. Staff members who are not licensed to independently practice shall have their responsibilities defined in a current job description.

5.3.7. Each hospital shall provide and maintain evidence of an orientation program for all new staff and, as needed, for existing staff who are given new assignments. The orientation program shall include:

(a) Job duties and responsibilities
(b) Hospital's sanitation and infection control programs;
(c) Organizational structure within the hospital;
(d) Patient rights;
(e) Patient care policies and procedures relevant to the job;
(f) Personnel policies and procedures;
(g) Emergency procedures;
(h) The Disaster preparedness plan; and
(i) Reporting requirements for abuse, neglect or exploitation

5.4. Staff Education:

5.4.1. The hospital shall ensure that staffs receive training in order to perform assigned job responsibilities.

5.4.2. Each staff member shall receive ongoing Continuing Professional Development (CPD) to maintain or advance his or her skills and knowledge

5.4.3. The CPD shall be relevant to the setting in which they work as well as to the continuing advancement of the hospital

5.4.4. The hospital shall decide the type and level of training for staff in accordance with National CPD guideline and then carry out and document a program for this training and education.

5.4.5. The hospital shall provide and maintain evidence of CPD for staff. A record shall be maintained including dates, topics and participants

5.4.6. The hospital shall periodically tests staff knowledge, skill and attitude through demonstration, mock events and other suitable methods. This testing is then documented

5.5. Medical Staff

5.5.1. There shall be a policy of verifying qualifications, restrictions to practice and professional registration of all new employees and have a system in place to check re-registration details. There shall be documentation of staff licenses and training certificates.

5.5.2. There shall be a policy that strengthens involvement of medical staff to take part in the ongoing Continuing Medical Education (CME).

5.5.3. Any medical service shall be organized under the directorship of a senior licensed professional stated under this standard

5.5.4. The medical staff shall be responsible to the governing authority for medical care and treatment provided in the hospital in accordance with the standards stipulated under the hospital administration and shall:

(a) Participate in a Quality Assurance/Performance Improvement program to determine the status of patient care and treatment;

(b) Abide by hospital and medical staff policies;

(c) Establish a disciplinary process for infraction of the policies

5.5.5. The medical staff shall see that there is adequate documentation of medical events by a review of discharged patients that shall insure that medical records meet the required standards of completeness, clinical pertinence and promptness or completion of following discharge

5.5.6. The medical staff shall actively participate in the study of hospital associated infections and infection potentials and must promote preventive and corrective programs designed to minimize their hazards

5.5.7. There shall be regular medical staff meetings to review the clinical works of the members and to complete medical staff administrative duties

5.5.8. The hospital shall have physicians available on the premises during working hours. The physician on call shall be duty bound to respond to calls.

5.5.9. Each patient shall be under the care of a physician, regardless of whether the patient is also under the care of an allied health professional practitioner authorized to practice.

5.6. Employee's Health

5.6.1. The hospital shall institute systems and processes that minimize employees' risks, protect employees and provide access to care when needed.

5.6.2. A comprehensive Occupational Health and Safety (OHS) program shall have the following components:

(a) Staff dedicated to coordinate OHS activities

(b) Policies and Procedures that define components of the program

(c) Training for staff on program components

5.6.3. The hospital shall have a designated individual qualified (occupational health and safety officer) to coordinate and develop the hospital's occupational health and safety activities full-time.

5.6.4. The standards outlined below define the core elements of an OHS program and specify minimum requirements needed to address OHS issues.

(a) The hospital shall have an occupational health and safety policy and procedures in place to identify, assess and address identified health and safety risks to staff and prevent those risks that will potentially compromise their health and safety.

- The hospital assesses and documents safety risks through formalized, structured assessments that are done at regular intervals.
- The assessments shall be logged in some format—for example a register or report
- The information gathered from the assessment shall be documented and reported to the management (management committee and boards).
- Interventions shall be designed and implemented to address the risks that are identified.

(b) The hospital shall establish a means of communicating to staff their risks and prevention measures or interventions.

(c) The hospital shall regularly monitor its occupational health and safety activities to assess how effective it has been in reducing risk.

(d) The hospital shall have written policies and procedures to manage manual handling risks.

(e) The hospital shall have written policies and procedures which define how harassment, physical violence and/or aggression against staff (from patients, caregivers, other staff etc) are addressed.

(f) The hospital shall provide services to staff to minimize work-related stress.

(g) The hospital shall ensure all employees have access to full pre-employment health screening, covering Hep B (including other relevant vaccine), TB status and are declared fit for their respective roles prior to employment. This shall include having:

- Written instructions for health care workers to follow in notifying the hospital's administration of infectious status.
- Documentary evidence of vaccination records for all health care workers employed, including Hep B status for all health care workers who perform exposure-prone procedures. All staff are tested for and vaccinated against Hep B, if there is no evidence of previous vaccination produced.

(h) The hospital ensures that all employees are provided with immunization services to protect against infectious/communicable diseases.

(i) The hospital shall have a program in place to address injuries that could lead to the transmission of blood-borne viruses (needle stick and other injuries). The program shall include:

- Measures to prevent needle stick and other injuries
- Training on infection prevention techniques
- Sharps risk reduction
- Provision of post-exposure prophylaxis
- Working hours and duty hours

5.6.5. The hospital shall provide personal protective equipment (please refer to standards for Infection Prevention and Control and Sanitation)

5.6.6. The hospital shall provide the following facilities to employees

(a) Cafeteria

(b) Break room (equipped with a television and other recreational equipment)

(c) Green area

(d) Library (equipped with books and computers with internet)

(e) Adequate toilet and shower facilities

5.7. Dress Code and Employee Identification Badge

For areas involving direct patient contact:

5.7.1. Footwear shall be safe, supportive, clean, and non-noise producing.

5.7.2. No open toe shoes shall be worn.

5.7.3. Artificial nails are prohibited. Natural nails must be kept short and jewelry must be kept to a minimum.

5.7.4. Hair must be worn in a way that prevents contamination and does not present a safety hazard

5.7.5. The dressing shall not interfere in any way the service provision

5.7.6. The hospital shall specify a particular style and/or color of uniform with different style/color code; separate for each human resource category, employee and trainees

5.7.7. The employee shall keep the uniform neat, wrinkle free and in good repair

5.7.8. The hospital shall be responsible for providing employee identification badges

5.7.9. The identification badge shall be worn at all times while at work and be easily visible, with name, profession and department facing outward.

SECTION SIX: SERVICE STANDARDS

6.1 Nursing Services

6.1.1. Practice

6.1.1.1 There shall be written policies and procedures of nursing services for routine taking and documenting vital signs, carrying out prescribed medication and nursing care to be rendered. Such policies and procedures shall be reviewed at least once every three years.

6.1.1.2 There shall be regulations that ensure nurses access to clinical supervision, support and participation in regular clinical services audit and reviews.

6.1.1.3 There shall be current clinical and administrative nursing policies and procedures available to all nursing personnel on each patient care unit at all times.

6.1.1.4 Nursing care service at different service delivery areas shall be directed by a licensed nurse with a minimum of BSc from recognized university and has at least two years of relevant experience

6.1.1.5 Written copies of nursing procedure manual shall be available to the nursing staff in every nursing care unit. The manual shall be used at least to:

(a) Provide a basis for training programs to enable new nursing personnel to acquire local knowledge and current skills

(b) Provide a ready reference on procedures for all nursing personnel.

(c) Standardize procedures and equipment.

(d) Provide a basis for evaluation and study to insure continued improvements in techniques.

6.1.1.6 The hospital shall have established guidelines for verbal and written communication about patient care that involves nurses.

(a) Written communication includes proper use of clinical forms, nursing Kardex, progress notes, and/or nursing care plan for each patient and discharge instructions.

(b) Verbal and/or written communication includes reporting to physicians; nurse-to-nurse reporting; communication with other service units (laboratory, pharmacy, X-Ray, social work service), with patient and family education.

6.1.1.7 There shall be a procedure for standardized, safe and proper administration of medications by nurses or designated clinical staff including regular checks of patients' medications and proper documentation of administered medicine.

6.1.1.8 There shall be a system/ protocols in place to handle comatose or patients on life support system and also patients diagnosed to have communicable diseases.

Nursing care: general patient services

6.1.1.9 Assessment and documentation of the holistic needs of patients; formulating, implementing goal-directed nursing interventions and evaluating the plan of nursing care and involvement of patients, their relatives or next of kin in decisions about their nursing care shall be done by licensed nurses.

6.1.1.10 All patients shall be under the supervised care of a licensed nurse at all times.

6.1.1.11 Implementation of infection prevention procedures and provision of information on IP practices to patients, clients, family members and other caregivers, as appropriate shall be done by the nurses; see the infection prevention section of this standard.

6.1.1.12 Nurses shall work with others to protect and promote the health and wellbeing of patients under their care.

6.1.1.13 Nurses shall be open and honest, act with integrity and uphold the reputation of their profession.

6.1.1.14 All nursing staff shall wear easily readable name tags that include their name and status, (such as licensed nurse, student, etc). The hospital shall have a policy to identify nursing unit exceptions to this procedure where necessary.

6.1.1.15 Nurses providing care and service at specific units like OR, ICU, Recovery, cardiac unit, etc., shall have proper orientation and minimum basic training on related nursing activities in each unit.

6.1.1.16 The nursing care plan shall be initiated upon admission of the patient and, as a part of the long-term goal, shall include discharge plans.

6.1.1.17 Each patient shall receive nursing care that is organized around ongoing, patient-specific care planning which is consistent with medical care planning. The planning shall include setting measurable goals with the patient and family to the extent possible. This planning, nursing interventions and patient responses shall be documented in the medical record.

6.1.1.18 There shall be a policy that empowers nurses to restrict number of visitors and/ or care takers based on the condition of the patient.

6.1.1.19 Documentation and completion of all patient's recording, registers, and reporting formats shall be the responsibility of licensed nurses in the unit.

6.1.1.20 A nurse shall write brief and pertinent nursing care plan and activity for each patient. It shall include at minimum:

(a) Medication, treatment, and other items ordered by authorized staff members.
(b) Nursing care needed.
(c) Long-term goals and short-term goals.
(d) Patient and family teaching and instructional programs.
(e) The socio-psychological needs of the patient.
(f) Preventative nursing care.

6.1.1.21 Nurses shall not disclose confidential information relating to their patients.

6.1.1.22 Nurses shall explain and seek informed consent from their patients or their relatives/next of kin (for incompetent patients) before carrying out any procedure.

6.1.1.23 Nurses shall find solutions to conflicts caused by deep moral, ethical and other beliefs arising from a request for nursing service through dialogue with patients.

6.1.1.24 Patient discharge instructions shall be documented in the patient's medical record at the time of discharge.

6.1.1.25 Allergies shall be listed on the front cover of the patient's chart and/or, in a computerized system, highlighted on the screen and this shall be posted in patient's bed.

6.1.1.26 Patients who require assistance in feeding shall be identified, and there shall be a mechanism in place to assure that assistance is provided.

6.1.1.27 For admitted patients, the nursing staff shall take and document the necessary vital signs as ordered and communicate to treating /attending physician immediately if abnormal findings observed.

6.1.1.28 Patients who required/prescribed to have special diet/ care shall be identified, labeled and there shall be a mechanism in place to ensure this procedure.

6.1.1.29 There shall be clear policy that state general and oral hygiene in particular of admitted patients as part of the nursing care.

6.1.1.30 There shall be written policies that state the procedures for communicating with laboratory, laundry and food service. The nurse shall communicate and follow up food orders, laboratory orders and specimens and patient transfers.

6.1.1.31 There shall be a policy that state reporting of any signs suggestive of child abuse, substance abuse and /or abnormal psychiatric manifestations by the nursing staff.

6.1.1.32 There shall be a policy or guideline that assigns nurses to different specific disciplines such as ENT, OR, ophthalmic clinic and others.

Nursing care services related to pharmaceutical services

6.1.1.33 All medications administered by nursing personnel shall be prescribed by physician and/or any other authorized health professional and shall be administered in accordance with the prescriber orders.

6.1.1.34 Medications for individual patients shall not be removed from their original prescription containers by nursing personnel until the time of medicines administration.

6.1.1.35 Medicines packaged in unit dose containers shall not be removed from the containers by nursing personnel until the time of medicines administration. Such medicines shall be administered immediately after the dose has been removed from the container, and by the individual who prepared the dose for administration.

6.1.1.36 Each patient shall be identified prior to medicines administration. Medicines dispensed for one patient shall not be administered to another patient.

6.1.1.37 The nurse shall observe administration of prescribed medicines for those patients under nursing care who are taking oral medications.

6.1.1.38 Regarding self-administration of medicines, nursing personnel shall directly observe self-administration and implement policies and procedures developed by the pharmacy and therapeutics committee.

6.1.1.39 There shall be a policy of reporting and documenting medication errors, product quality defect and adverse drug reaction by attending nursing personnel immediately to the prescriber and ADE focal person.

6.1.1.40 Medicines in patient care areas shall be maintained under proper conditions, as indicated under pharmaceutical service standards of this standard.

6.1.1.41 Medicines, needles and syringes in patient care areas shall be maintained under proper conditions as per the pharmaceutical service standards stated under this standard.

6.1.1.42 Nursing personnel shall return unfit-for-use medicines to the central medical store of the hospital for disposal.

6.1.1.43 Nursing personnel shall store and use needles and syringes in accordance with the infection prevention standards of this standard

6.1.1.44 There shall be a protocol that guides nurses copying the prescription of prescriber's order.

Nursing care: use of restraints

6.1.1.45 The hospital shall have written policies and procedures regarding the use of physical restraints that are reviewed at least once every three years and implemented. They shall include at least the following:

(a) Protocol for the use of alternatives to physical restraints, such as staff or environmental interventions, structured activities, or behavior management. Alternatives shall be utilized whenever possible to avoid the use of restraints;

(b) A delineation of indications for use, which shall be limited to:

- Prevention of imminent harm to the patient or other persons when other means of control are not effective or appropriate; or
- Prevention of serious disruption of treatment or significant damage to the physical environment;

(c) Contraindications for use, including at least clinical contraindications, convenience of staff, or discipline of the patient;

(d) Protocols for notifying the family or guardian of reasons for use of restraints, and for informing the patient and requesting consent when clinically feasible; and

(e) Protocol for removal of restraints when goals have been accomplished.

6.1.1.46 Except in an emergency, a patient shall be physically restrained only after the attending physician or another designated physician has personally seen and evaluated the patient and has executed a written order for restraint.

6.1.1.47 An emergency restraint procedure, beginning with the least restrictive alternative that is clinically feasible, shall be initiated by a licensed professional nurse only

when the safety of the patient or others is endangered or there is imminent risk that the patient will cause substantial property damage. The attending physician, another, or a licensed psychiatric nurse or other authorized professional shall be notified immediately and shall respond within one hour. An order shall be given if the use of restraints is to continue beyond one hour. The clinical condition of the patient shall be evaluated and documented by medical or licensed nursing personnel at least once every two hours.

6.1.1.48 In all cases, the attending physician, or licensed psychiatry nurse or other authorized professional shall observe the restrained patient at least once every 24 hours to evaluate any changes in the patient's clinical status. This evaluation shall be documented in the patient record. If a physician has ordered the use of restraints, a subsequent order for the use of restraints shall not be required so long as its use is in compliance with the intent of the original order and hospital policy.

6.1.1.49 Interventions while a patient is restrained, except as indicated at (g) below, shall be performed by nursing personnel in accordance with nursing care policy. They shall include at least the following and shall be documented:

(a) Assessment for clinical status and reevaluation of need for restraints at least every two hours;

(b) Toileting at least every two hours with assistance if needed;

(c) Monitoring of vital signs; and

(d) Release of restraints at least once every two hours in order to:

- Assess circulation and skin integrity;
- Perform skin care; and
- Provide an opportunity for exercise or perform range of motion procedures for a minimum of five minutes per limb.

(e) Continuous or periodic visual observation based upon an evaluation of the patient's clinical condition.

(f) Administration and monitoring of adequate fluid intake;

(g) Adequate nutrition through meals at regular intervals, snacks, and assistance with feeding if needed;

(h) Assistance with bathing as required, occurring at least once a day; and

(i) Ambulation at least once every four hours if clinically feasible.

6.1.1.50 Licensed professional nursing staff shall evaluate and ensure appropriate monitoring and documentation of the effects of all psychotropic medications. These medications shall be administered only upon written physician orders as part of the patient's treatment plan and shall not be used as a method of restraint, discipline, or for the convenience of staff.

Nursing care: Dying patient

6.1.1.51 There shall be a policy or a protocol that state the procedure to be followed for dead body care which at least contain:

(a) Confirmation of death by at least attending physician or any independent practitioner and the nurse giving care (at least 2 medical personnel),

(b) Care for the body shall be carried out according to the religion and culture of the patient as per the hospital protocol,

(c) If there is need of pathologic examination the request shall be sent to morgue,

(d) If there is document of consent for organ donation (i.e. cornea), the consent shall be sent to morgue

(e) The body shall be taken to morgue immediately,

(f) The time of death shall be documented on the patients chart,

6.1.2 Premises

6.1.2.1. The hospital shall have the followings premises for nursing services:

(a) Room /space for isolation or special care, with toilet room and shower

(b) Hand washing basin and toilet room at nurse station

(c) Procedure room for nursing procedures

(d) Nurse changing room with cabinet, chairs, cupboard

(e) Nurse's station located in the middle of the wards with free access to all rooms.

6.1.3 Professional

6.1.3.1. The nursing staff shall have a minimum of diploma from recognized college or university.

6.1.3.2. There shall be written discrete job descriptions that detail the roles and responsibilities of each nursing staff members at specific units ICU, OR CSR.

6.1.3.3. The hospital shall have in place a nursing workforce plan that addresses nurse staffing requirements, including, at a minimum:

(a) A nurse representative in each patient care unit or case team responsible for the operation of the professional nursing service 24 hours per day and 365 days a year.

(b) A daily staffing schedule that ensures at least one licensed nurse in charge and assigned exclusively to each patient care unit or case team on each shift;

(c) A provision that at least 100 percent of direct patient care for 24 hours in inpatient units on a hospital wide average be provided by licensed nursing personnel,

(d) A method for assessing each unit's additional nursing needs for each shift.

6.1.3.4. There shall be at least one licensed nurse in charge of each patient care unit at all times and this shall be indicated in the hospital's organizational plan. Additional staff shall be assigned by the hospital as required by the acuity levels.

6.1.3.5. Nurse staffing for inpatient patient care service within the hospital shall be in accordance with not more than 6 patients under one nurse for general inpatient care.

6.1.3.6. There shall be effective policy that control nursing care by junior nurses, health assistants and nursing students shall be under direct supervision of a licensed nurse; all being accountable.

6.1.3.7. All nursing staff shall receive orientation, training and/or update at least annually including at least:

(a) Hospital's policies and procedures,

(b) Routine nursing procedures,

(c) Emergency procedures and

(d) Infection prevention and control.

6.1.3.8. **Professional Quality assurance:** On-going internal institutional evaluation of outcome-based quality indicators related to nursing care shall be in place to assess and provide a safe and adequate level of patient care including at least:

(a) Patient injury rate;

(b) Medication process errors;

(c) Maintenance of skin integrity;

(d) Control of cross infections and nosocomial infection rates;

(e) Hospital-wide patient satisfaction with overall nursing care;

(f) Patient satisfaction with pain management.

6.1.4 Products

6.1.4.1 The following products shall be available for nursing care services.

(a) Specimen collection set

(b) Rubber Sheets

(c) Restraining equipment in accordance with the standards under the use of restraints and mental health services. E.g., cushion, belt, vest, long sleeve pullover, etc.,

(d) Patient Chart Folders

(e) Emergency resuscitation sets: airway, ambu bag of different size,

(f) Vital Sign Equipments

- Trolley for vital sign monitoring,
- Thermometer, BP apparatus, stethoscope, measuring tape
- sphygmomanometer with stethoscope,
- wrist watch/ wall clock,
- bedside weighing scale
- Pulseoxymetry

(g) Nursing procedure equipments:

- Dressing trolley
- Dressing set,
- Minor set,
- Chest tubes and bottles,
- Enema set,
- IV stand,
- Oxygen trolley,
- Oxygen cylinder,
- Oxygen regulator/gauge,
- Oxygen face mask/ nasal catheters,
- Suction machine: electrical/pedal,
- Wheel chair,
- Waste basket,
- Safety boxes,
- Bed screens,
- Kidney basin, 475ml x 5
- Bed pan
- Urinal
- Mobile Examination light,
- Plastic apron,
- Drapes,
- Rubber sheets,
- Connectors,
- Cushion bags,
- NG tube, Catheter (different type , poly , plain ,etc) , canuala of different gauge

(h) Soiled utility room:

- Soiled linen trolley
- Bin with lid
- Worktable with laminated top
- Wash tub (65L)
- General purpose trolley, two trays

(i) Furniture and fixtures;

- Table
- Chair, stackable, without armrests
- Basket, waste-paper, metal
- Cabinet
- Patient chart holder,
- Refrigerator,
- Bedside cabinet,
- Feeding table,
- IV stands,

6.2. Patient flow

6.2.1. Practices

6.2.1.1. The hospital shall have a written protocol of patient flow which at least describes the following:

(a) How to refer patients to different level of health facilities

(b) How to handle patients referred from other health facilities

(c) The presence, roles and responsibility of a receptionist at the gate

(d) Triaging of patients

(e) How to get into emergency and delivery services

(f) How to get into regular outpatient case teams and chronic illness case teams

(g) How to be admitted if admission is needed

(h) How to get pharmacy, laboratory and other diagnostic services

(i) The process of discharge

(j) The procedures of payment for services

6.2.1.2. The hospital shall follow its written patient flow procedures

6.2.1.3. Except for laboring mothers, Central triage shall be carried out by a team of qualified professional as soon as a patient arrives at the hospital. Emergency cases shall be transferred directly to emergency service.

6.2.1.4. There shall be separate triaging for children and persons with disability within the central triage.

6.2.1.5. Triage at emergency service shall be carried out before any administrative procedures such as registration.

6.2.1.6. Patients identified as nonemergency cases in emergency service unit shall be transferred to central triage.

6.2.2. Premises

6.2.2.1. Service areas shall be labeled in bold at a recognizable location

6.2.2.2. The office layout shall be arranged in a way that ensures patient independence by labeling in bold and making related service provided in adjacent rooms

6.2.2.3. There shall be a clearly labeled triage room.

6.2.3. Professionals

6.2.3.1. The hospital shall have runners to facilitate patient flow

6.2.3.2. Receptionists

6.2.4. Products

The following equipment are required

(a) Wheelchairs

(b) Stretchers with wheels

6.3. Outpatient Services

6.3.1. Practices

6.3.1.1. The outpatient services shall comply with the standards prescribed under patient rights and responsibilities standard

6.3.1.2. The hospital outpatient service shall have a triage system

6.3.1.3. The outpatient service shall have policies and procedures regarding access, availability of service and networking

6.3.1.4. The outpatient service shall be available in working days for at least eight hours a day

6.3.1.5. The hospital may have a system for providing after-hour (non-working hour) follow up service.

6.3.1.6. Follow up clinic services, which shall be led by a specialist or senior general practitioner shall be available at least once a week for eight hours per discipline.

6.3.1.7. The hospital shall have a system to make follow up of patients by the same physician

6.3.1.8. The outpatient service shall have consultation, and functional intra and inter facility referral system which include at least:

- Procedure for referring and receiving referral
- List of potential referral sites with contact address (referral directory)

- Referral forms
- Referral tracing mechanism (linkage)
- Feedback providing mechanism
- Documentation of referred clients
- Consultation forms

6.3.1.9. The medical assessment at outpatient services shall at least includes comprehensive medical and social history, physical examination, diagnostics impression as well as laboratory and other medical workups (x-ray, ultrasound, etc) when indicated.

6.3.1.10. The outpatient clinic shall have clinical protocols for management of at least common disease entities and locally significant diseases in line with the national and international guidelines.

6.3.1.11. The range of relevant treatment options and the clinical impression shall be fully described to client and/or their families and documented accordingly

6.3.2. Premises

6.3.2.1. The outpatient layout shall include the following:

a) Dedicated entrance
b) Waiting area: room /lobby preferably with public telephone, TV area, drinking fountain and gender specific toilet
c) Reception and recording area/desk
d) Dedicated patient consultation and examination rooms /cubicles for each specialty services
e) Room for minor procedures
f) Room for providing injections
g) Storage place for sterile supplies
h) Soiled utility
i) Staff room (for changing cloth)
j) Janitors closet

6.3.2.2. All rooms shall have adequate light, water and ventilation

6.3.2.3. Communication system shall be connected with major functional areas

6.3.2.4. The room arrangements of outpatient services shall consider proximity between related services

6.3.2.5. The outpatient clinical setup shall have easy access to pharmacy, laboratory and other diagnostic services.

6.3.2.6. The outpatient clinic shall be well marked and easily accessible for disabled clients, elderly patients, under five children and pregnant mother.

6.3.2.7. The outpatient service shall be located where access for ambulatory patients is the easiest and where in coming client would not have to pass through other care service outlets (in- patient , laboratory etc)

6.3.2.8. The outpatient clinics shall have fire extinguishers placed in visible area

6.3.3. Professionals

6.3.3.1. At least one general medical practitioner per discipline (Internal Medicine, Pediatrics, Surgery, Gynecology and Obstetrics) for the general outpatient service shall be assigned for eight hours in each working day

6.3.3.2. At least One specialist per discipline (specialty) to run the respective specialized outpatient service shall be assigned

6.3.3.3. The actual number of personnel shall be determined by workload analysis using recognizable methods

6.3.3.4. The staff shall have regular supportive supervision by senior staff or peer review or case conferences every three months and it shall be documented

6.3.4. Products

6.3.4.1. Products that are specific to particular department are indicated under the specific discipline

a) Weighing Scale

b) Vital Sign and Diagnostic Set
- Thermometer
- Stethoscope
- Sphygmomanometer
- Fundoscope
- Otoscope
- Pulseoxymeter
- Reflex hammer
- Snellen's chart

c) Refrigerator

d) Dressing Set

e) Minor Set

f) Examination Coach

g) Catheterization set

h) Trolley

i) Folding Screen

j) X-Ray Film viewer

6.4. Inpatient Services

6.4.1. Practices

6.4.1.1. The inpatient service delivery shall comply with the patient rights section of this standard

6.4.1.2. The inpatient service shall be available 24 hrs of a day and 365 days a year.

6.4.1.3. The inpatient service shall have consultation and functional intra and inter facility referral system as prescribed under the outpatient service standards.

6.4.1.4. The inpatient service shall include at least the following services for admitted patients:

a) Taking comprehensive medical and social history, comprehensive physical examination and performing important laboratory & other medical workups upon admission and when indicated.

b) Nursing care service over the 24 hrs of each day of admission until discharge

c) Detailed round visits at least twice a week and daily business round by the attending physicians

6.4.1.5. The inpatient nursing care shall comply with the nursing service section of this standard

6.4.1.6. The inpatient service shall have clinical protocols for management of at least common causes of admission in the hospital

6.4.1.7. The hospital shall have a system to make follow up of patients by the same physician

6.4.1.8. The range of relevant treatment options, plans and the clinical impression shall be communicated to client and/or their families and documented accordingly

6.4.1.9. The inpatient service shall have quality improvement mechanisms that at least include conducting regular morning sessions among relevant health professionals

6.4.1.10. The hospital shall provide dietary service for patients who are admitted

6.4.1.11. The hospital shall provide a clean gown to admitted patients

6.4.1.12. The hospital shall secure the properties of admitted patients in a cabinet or room with shelves

6.4.1.13. The inpatient service shall have easy access to laboratory, diagnostic and pharmacy services as per their respective sections of this standard

6.4.1.14. Religious support shall be provided for admitted patients upon patient request and this shall not disturb the privacy, dignity and right of other admitted patients.

6.4.1.15. The inpatient service shall arrange the appropriate post discharge instructions and follow up for the patient

6.4.1.16. The hospital shall provide a post mortem care and morgue service to deceased

6.4.1.17. The hospital shall contact the municipality or responsible body for burial service if there is no family/guardian of the deceased.

6.4.2. Premise

6.4.2.1. Inpatient service shall have the following rooms

a) Wards separate for male and female
b) Nursing Station per ward
c) Doctors office (consultation room)
d) Bathroom for patients per ward
e) Staff bathroom
f) Duty room
g) Clean utility room
h) Soiled utility room
i) Store

6.4.2.2. The number of beds per room shall not exceed six (6) with the following specification

a) Distance of bed from fixed walls shall be 0.9 m
b) Distance between beds shall be 1.2 m
c) Adult beds shall have 1m width and 2m length
d) Each bed room shall have alarm
e) The rooms shall have safe and continuous water supply, light and ventilation
f) There shall be washing basins for each room

6.4.3. Professionals

6.4.3.1. Specialists and sub-specialists of the related discipline with a minimum of one shall be physically available during working hours in respective wards.

6.4.3.2. At least one general medical practitioner per discipline shall be physically available in all the shifts in respective wards.

6.4.3.3. One nurse for a maximum of six (6) patients per shift shall be available to provide nursing care services

6.4.3.4. Support staff such as runner, cleaner and telephone operator shall be available for 24 hrs a day

6.4.3.5. Actual number of professionals shall be determined based on the case load analysis of the hospital

6.4.3.6. Engineers/Technicians for equipment maintenance and general facility maintenance shall be available during working hours and shall be also available either on duty or on call basis during non working hours

6.4.4. Products

6.4.4.1. The following products shall be available for inpatient services. Products peculiar to specialty services are indicated in respective specialty standards stated in this document.

- Beds with wheels
- bed side cabinet
- Bed pans
- Urinal (Male and Female)
- Bed Pan carriage
- Bed pans washer and Sterilizer
- Bed pan Racks
- IV Stand
- Stretcher
- Wheel chair
- Safety Box
- Suction machine
- Resuscitation set
- X-ray Film Viewer
- Thermometer
- Stethoscope
- Sphygmomanometer
- Fundoscope
- Otoscope
- Reflex hammer
- Refrigerators
- Minor operation set
- Dressing Set
- Enema Set
- Lumbar puncture(LP) set
- Catheterization set
- Folding screens

6.5. Emergency Services

6.5.1. Practices

6.5.1.1. The emergency service including emergency surgical interventions shall be available 24hrs a day and 365 days a year.

6.5.1.2. The hospital shall have an emergency triage system. Triage shall be carried out before any administrative procedures such as registration.

6.5.1.3. Patients identified as nonemergency cases in emergency service unit shall be transferred to the central triage or respective outpatient services.

6.5.1.4. Infection prevention standards shall be implemented in the emergency room as per the IP standards stated under this standard

6.5.1.5. Every emergency patient shall get the service without any prerequisite and discrimination.

6.5.1.6. The hospital shall provide a complete emergency service at least to the level of its specialization

6.5.1.7. The emergency service shall have functional intra and inter facility referral system which encompasses SOP for selection of referral cases, referral directory, referral forms, referral tracing mechanism, feedback providing mechanism, documentation of referred clients and consultation forms.

6.5.1.8. If referral is needed it shall be done after providing initial stabilization and after confirmation of the required service availability in the facility where the patient is to be referred to.

6.5.1.9. If the patient to be referred needs to be accompanied by a physician or other professional on the way to another hospital, the hospital shall arrange an ambulance service and accompanying professionals to transfer the patient.

6.5.1.10. Every procedure, medication and clinical condition shall be communicated to the patient or family member after responding for urgent resuscitation measures

6.5.1.11. There shall be a mechanism of quality improvement for the service at least by collecting feedback from clients and having a formal administrative channel through which clients place their complaints and grievances

6.5.1.12. The hospital shall provide a complete emergency service at least to the level of its specialization.

6.5.1.13. For labor and delivery emergencies, the emergency service of the hospital shall have direct access with the delivery facility.

6.5.1.14. There shall be a written protocol for emergency services and the provision of this service shall be done in accordance with the clinical protocols of the service

6.5.1.15. The emergency service shall have clinical protocol for the initial management of at least the following emergency cases:

(a) Shock
(b) Bleeding
(c) Fracture and injuries
(d) Coma
(e) Seizure disorder
(f) Air way obstruction
(g) Cardiac emergencies
(h) Hypertension emergencies
(i) Psychiatric emergencies
(j) Acute diarrhea
(k) Tetanus
(l) Meningitis
(m) Burn
(n) Poisoning
(o) Cerebrovascular accident
(p) Acute abdomen

6.5.1.16. Emergency referral system shall be strictly chained, controlled & managed by the emergency team of the hospital.

6.5.1.17. Other service that assist the emergency service shall be available for 24 hrs with adequate staffing

6.5.2. Premises

6.5.2.1. The emergency room shall be located in a place where it is easily recognizable to the public and shall be labeled in bold.

6.5.2.2. The emergency premise shall be low traffic area and there shall be reserve parking place for ambulances.

6.5.2.3. The corridor to emergency rooms shall be stretcher friendly and spacious enough.

6.5.2.4. The emergency area shall be spacious enough (> 193 m2) to provide a space for the following tasks:

(a) Triaging
(b) Accepting and providing immediate care including emergency procedures
(c) Admitting for a maximum of 24 hrs to provide emergency care (8 beds) equivalent to 67 square meters.
(d) Emergency pharmacy for emergency medicines, supplies and equipments
(e) Staff/duty room
(f) Toilet facilities separate for patients and staff

6.5.2.5. Beds shall be arranged as the description of inpatient beds' arrangement

6.5.2.6. The size of the door for the emergency room shall not be less than 1.5 meter

6.5.2.7. The emergency premise shall allow patient dignity and privacy.

6.5.2.8. The rooms shall be arranged in such a way that the first encounter to an emergency patient coming from outside will be the examination room or space

6.5.2.9. The emergency room shall have the following facilities

(a) Adequate water, light and ventilation.

(b) Fire extinguishers placed in visible area

(c) Telephone

(d) Hand washing basin in each room

6.5.2.10. Waiting area for attendants and caregivers

6.5.3. Professionals

6.5.3.1. The emergency service shall be directed by emergency medicine specialist or emergency medical service trained physician.

6.5.3.2. The team of emergency shall be changed every eight hours and the team composition during working and non-working hours shall have similar staffing pattern.

6.5.3.3. The emergency service shall be opened for 24hrs a day and 365 days a year being run by an emergency team. Each team for all the shifts shall contain a minimum of:

(a) Emergency trained physician or emergency medicine specialist

(b) Nurses

(c) Cleaners

(d) Runner

(e) Regarding pharmacy, laboratory and x-ray see their respective standards stated under this standard

6.5.3.4. At least one specialist for each major discipline shall be available for emergency consultation on call basis.

6.5.3.5. The actual number of personnel required shall be adjusted based on Workload analysis.

6.5.3.6. All health professionals working in the emergency room shall be trained on at least cardio-pulmonary resuscitation

6.5.3.7. Rotation of staff shall not be a routine exercise for the emergency service.

6.5.3.8. Drill-exercise of emergency case management shall be conducted on regular bases among the teams working in the emergency service.

6.5.3.9. The staff shall have regular supportive supervision by senior staff or peer review or case conferences every three months and it shall be documented

6.5.3.10. The hospital shall have personnel manual which also covers staff at the emergency services

6.5.4. Products

6.5.4.1. The emergency service shall have readily arranged emergency medicines and supplies on trolley.

6.5.4.2. There shall be at least two coaches at emergency room

6.5.4.3. There shall be at least eight beds to be used only for emergency admission

6.5.4.4. The emergency service shall have at least the following products.

(a) Emergency Bed with wheel
(b) Stretcher with wheel
(c) Wheelchair
(d) IV Stand
(e) EKG
(f) Suction machine
(g) Defibrillator
(h) Tracheotomy set
(i) NG tube
(j) Minor surgical set
(k) Different types of splints
(l) Mobile examination light
(m) Hot air oven
(n) Oxygen supply: oxygen, cylinder with flow meter, trolley and nasal prongs
(o) Examination Lamp
(p) Resuscitation set on trolley
(q) Intubation set
(r) Ambu bags
(s) Examination coach

6.6. Internal Medicine Services

6.6.1. Practice

6.6.1.1. There shall be written protocols and procedures which shall be enforced that establish the management of the medical conditions in the unit as well as consultation and transfer of patients admitted to this unit or other units or to general hospital.

6.6.1.2. For non-emergency medical condition the medical service shall be available during the regular working hours

6.6.1.3. For admitted patients the medical service shall be organized in such a way that it covers all the shifts.

6.6.1.4. Nursing functions shall be the responsibility of licensed nurses and shall be monitored by at least B.Sc. nurse coordinator.

6.6.1.5. The service shall have written policies and procedures that shall include

a) Admission and discharge criteria specific to the service;
b) Visitors policy that specifies the number of visitors permitted for each patient at any time
c) Infection control specified under this standard and National and or Hospital IP guideline
d) Transfer and referral of patients
e) Monitoring and follow-up of patients

6.6.1.6. Every medical records shall be kept for each patient as specified in the medical records of this standard

6.6.1.7. Information contained in the medical record shall be complete and sufficiently detailed relative to the patient's history, physical examination, diagnosis, diagnostic procedures, medication administration, and treatment. Refer to the medical record section of this standard.

6.6.1.8. The medical unit shall have a follow-up service for patients with chronic ailments.

6.6.1.9. Diseases under national surveillance shall be notified through the proper channel (to chief clinical officer or chief executive officer and hence to the FMOH)

6.6.1.10. The unit shall avail updated reference materials, treatment guidelines and manuals (e.g. National TB and leprosy, pain management, Malaria treatment, ART etc)

6.6.1.11. The caretakers and/or patients shall be included in the development of the nursing patient plan of care

6.6.1.12. There shall be a system for clinical staff to refer patients directly to the social works unit.

6.6.2. Premises

6.6.2.1. In patient room capacity shall not exceed a maximum of six beds per room

6.6.2.2. Patient rooms shall be constructed to meet a minimum of 9 meter squares for single bed room

6.6.2.3. In case of multiple beds per room, the area per bed shall be 8.6m2

6.6.2.4. Dimensions and clearances- the dimensions and arrangements of rooms shall be such that there is a minimum of 0.9m (90cm) between the sides and foot of the bed and any wall or any other fixed wall construction. In multiple bed rooms a clearance of 1.2 meter shall be available at the foot of each bed or between beds to permit the passage of equipments and beds

6.6.2.5. The number of rooms and beds shall be as per the load, volume and nature of work performed.

6.6.2.6. The medical service unit shall have at least two isolation rooms for treatment of conditions that require isolation

6.6.2.7. Patients in acute care shall be under direct observation in a room near the nurses' station.

6.6.2.8. In addition to the ward rooms, the internal medicine service shall have the following rooms and facilities:

a) Examination & counseling rooms
b) Physicians' office
c) Duty room;
d) Meeting room;
e) Nurse station;
f) Utility rooms;
g) Procedure room
h) Rooms for follow-up clinics;
i) Care after death room;
j) Soiled utility room;
k) Bed Screen fixed with the roof;
l) Store;
m) Staff Toilets, showers and changing room and

n) Patient Toilet and shower at least one per each room.

6.6.3. Professionals

6.6.3.1. The internal medicine services shall be directed by a licensed internist

6.6.3.2. There shall be licensed medical and nursing personnel in the medical service unit available at all times to meet the service needs

6.6.3.3. The number and type of technical staff shall be determined by the volume and type of work carried out (Workload Analysis)

6.6.3.4. A general practitioner shall be available (physically present) at all times in the adult medical service unit.

6.6.3.5. An internist or licensed independent practitioner shall be on duty or on call at all times. The physician on call shall be duty bound to respond to calls.

6.6.3.6. An internist or general practitioner shall be responsible for the follow-up clinics.

6.6.3.7. The internal medicine service shall have support staff such as cleaners and others available as per the service need.

6.6.4. Products

6.6.4.1. The hospital shall prepare an emergency medicines list in accordance with the hospital medicines list and ensure their availability.

6.6.4.2. The medical OPD shall have the following supplies and functional equipment in addition to office furniture's

a) Torch, Otoscope, ophthalmoscope
b) Weighing scales for adults
c) Measuring board for measuring length and height
d) Tape meter, thermometer
e) Stethoscopes
f) Sphygmomanometer
g) Examination couch
h) Lumbar puncture, bone marrow aspiration set, pleural (peritoneal) biopsy set, cut down set, Pericadiocentesis set, wide bore needles for thoracentesis
i) Hand washing basin
j) Spatula, K-Y jelly, surgical and disposable gloves, antiseptics, cotton, gauze

6.6.4.3. The inpatient service shall have the following supplies and functional equipments

a) Torch, Otoscope, funduscope etc…
b) Weighing scales
c) Tape meter, thermometer, patella hammer
d) Stethoscopes and Sphygmomanometer
e) Examination couch, medicine trolley, Cup board
f) Lumbar puncture, Bone marrow aspiration set, pleural biopsy set, tracheotomy set, chest tube
g) EKG machine
h) Suction machine
i) Drip counters/Infusion pump, Tourniquets and IV stands
j) Oxygen cylinder, Flow-meters for oxygen, Nasal prongs catheters
k) Self inflating bags for respiratory support, Masks, endotracheal tubes,
l) Laryngoscope
m) Cannulas, Nasogastric tube
n) Beds
o) Hand washing basin
p) Nebulizers
q) Equipment for skin scrapings and biopsy of dermatological lesions, bone marrow trephine needles and slides and others
r) Glucometer and glucostick
s) Pulseoximeter
t) Wheelchair
u) Over bed table(for feeding)
v) Bed side cabinet and bed curtain fixed with the roof and the ground
w) Waste paper basket

6.6.4.4. The service shall have at least a general follow-up clinic that shall have the following supplies and functional equipments:-

a) Torch, Otoscope, funduscope, Snellen's chart
b) Weighing scales
c) Tape meter, thermometer, patella hammer
d) Stethoscopes and Sphygmomanometer
e) X-ray viewer
f) Examination couch

6.6.4.5. Medicines and supplies shall be available in line with the general hospital medicine list.

6.7. Pediatric Services

6.7.1. Practices

6.7.1.1. Pediatric emergency care shall be available 24 hours a day and 365 days a year.

6.7.1.2. The pediatric services shall have a plan to deal with internal disasters such as the arrival of one or more seriously injured patients.

6.7.1.3. The hospital shall have pediatric intensive care services with full-fledged neonatal unit and this service unit shall have written protocols and procedures

6.7.1.4. The pediatric service shall include neonatal unit with optional ICU

6.7.1.5. For non-emergency pediatric patients, the service shall be available during regular working hours

6.7.1.6. Admitted patients shall receive services for 24 hours a day and 365 days a year.

6.7.1.7. The service shall have written policies and procedures that shall include

a) The age below which all patients must be admitted to a pediatric service;
b) Admission and discharge criteria specific to the service;
c) A visitors policy that specifies the number of visitors for each patient at any one time;
d) Infection control as per the standard prescribed under IP standards
e) Transfer and referral of patients
f) Safety measures for the purpose of preventing electrical and bodily injury to pediatric patients.
g) Monitoring and follow-up of pediatric patients

6.7.1.8. The nursing assessment and care of each pediatric patient shall consider the patients developmental needs

6.7.1.9. The parents or guardians of pediatric patients shall be included in the development of the nursing plan for patient care

6.7.1.10. Immunization services shall be available in the pediatric unit and all children shall have their immunization status checked before discharge

6.7.1.11. The unit shall avail updated reference materials, treatment guidelines and manuals (e.g. National TB, Malaria, ART etc.)

6.7.1.12. Medical records shall be kept in line with standards

6.7.1.13. Information contained in the medical record shall be complete and sufficiently detailed relative to the patient's history, physical examination, diagnosis, diagnostic procedures, medication administration, and treatment.

6.7.1.14. Growth monitoring activities and nutritional advice and management shall be there.

6.7.1.15. The pediatrics unit shall have a follow-up service for patients with chronic ailments.

6.7.1.16. All children with notifiable diseases shall be notified through the proper channel (to chief clinical officer or chief executive officer and hence to the FMOH)

6.7.1.17. There shall be a system for clinical staff to refer patients directly to the social works unit.

6.7.2. Premises

6.7.2.1. In patient room capacity shall not exceed six patients (or beds) per room

6.7.2.2. Patient rooms shall be constructed to meet a minimum of 9 meter squares for single bed room

6.7.2.3. In case of multiple beds per room, the area per bed shall be 8.6m2

6.7.2.4. Dimensions and clearances- the dimensions and arrangements of rooms shall be such that there is a minimum of 0.9m (90cm) between the sides and foot of the bed and any wall or any other fixed wall construction. In multiple bed rooms a clearance of 1.2 meter shall be available at the foot of each bed to permit the passage of equipments and beds

6.7.2.5. Each room shall have at least one window

6.7.2.6. Each room shall have a hand washing sink, toilet and bath room

6.7.2.7. The pediatric premises shall include at least emergency unit, outpatient, and inpatient

6.7.2.8. The pediatric outpatient shall have a functional oral rehydration therapy corner

6.7.2.9. A minimum of 10 percent of the beds used for pediatric care shall be capable of functioning as isolation rooms.

6.7.2.10. The number and size of the rooms shall be adequate in relation to the volume and nature of the activity in the unit (work load analysis).

6.7.2.11. Patients in acute care shall be under direct observation in a room near the nurse’s station.

6.7.2.12. For the pediatric OPD

a) The paediatric OPD shall have at least the following rooms:

- Waiting area with safe play ground
- Examination room(s)
- Procedure room
- Room(s) for follow-up cases
- Nurse station
- Store
- Separate toilets for patients and staff
- Patient waiting area.

b) The paediatric emergency shall have at least the following rooms:

- Space for patient triaging/ reception
- Examination room
- Room for initial management of patients with ORT corner.

6.7.2.13. For the pediatric inpatient

a) The paediatric inpatient shall have at least the following rooms:

- Inpatient care room care
- Procedure room
- Room for severely malnourished patients
- Nutritional supplement preparation room
- Nurses station
- Isolation room
- Staff toilet and bath
- Toilet and bath for patients and care takers
- Store room
- Office for physicians

6.7.2.14. The following premises setup shall be available in the pediatric service.

a) Neonatal unit: shall have at least the following rooms

- Room for care of critical newborns
- Isolation room for infectious cases
- Procedure room
- Nurses station
- Room for mothers
- Milk preparation room
- Kangaroo mother care room
- Toilet and bath for Staff
- Toilet and bath for others
- Store room
- Office for physicians
- The arrangement of the rooms for the neonatal care shall avoid wind draft and shall be access limited.

b) Pediatric OPD: shall have at least the following rooms:

- Waiting area with safe playing ground
- Examination Room(s)
- Procedure room
- Room(s) for follow-up clinic
- Nurse station
- Store
- Toilets for patients and staff

c) Pediatric emergency shall have at least the following rooms:

- Space for triaging/ reception
- Examination room
- Resuscitation room with beds for initial management of patients and
- ORT corner,

d) Pediatric in-patient shall have at least the following rooms:

- Inpatient rooms
- Procedure room
- Room for severely malnourished patients
- Nutritional supplement preparation room
- Nurses station
- Dark room
- Isolation room,
- Staff toilet and bath
- Toilet and bath for patients and care takers
- Store room
- Office for physicians

e) In addition to the rooms in the units mentioned above pediatrics services shall have the following rooms*:*

- Counselling room
- Duty room
- Meeting hall
- Room for inpatient pharmacy

6.7.3. Professionals

6.7.3.1. The pediatric service shall be directed by a licensed pediatrician.

6.7.3.2. There shall be adequate qualified medical and nursing staff in the pediatric unit available at all times the service needs

6.7.3.3. The number and type of technical staff shall be determined by the volume and type of work carried out (Workload Analysis)

6.7.3.4. A general practitioner shall be available at all times in the pediatric unit

6.7.3.5. A licensed pediatrician shall be available at all times. The pediatrician on call shall be duty bound to respond calls.

6.7.3.6. The neonatal unit shall have at least the following professionals:

a) Neonatologist,
b) Pediatrician,
c) Nurses with experience in neonatal care,
d) Neonate caretakers/Feeders with training or experience and
e) Others as required.

6.7.3.7. The pediatric OPD and the inpatient units shall have at least one attending pediatrician

6.7.3.8. The nurse with administrative responsibility for nursing care in pediatrics shall be a licensed professional nurse with at least one year of experience in pediatrics

6.7.3.9. There shall be adequate support staff available as per the service need

6.7.4. Products

6.7.4.1. The pediatric emergency unit shall have the following equipment and supplies:

a) Resuscitation stretcher, examination couches, beds for emergency services,
b) X-ray viewer,
c) Sphygmomanometer (pediatric and adult sizes), stethoscope, thermometer, weight scale, tape meter, Torch, Otoscope, ophthalmoscope, patella hammer,
d) Oxygen cylinder with flow meter,
e) Nasal prongs catheters,
f) Self inflating bags for respiratory support,
g) Masks (infant size, child size, adult size),
h) endotracheal tubes (pediatric and adult sizes),
i) laryngoscope
j) Equipment for intra-osseous fluid administration
k) Glucometer with glucosticks,
l) pulse oximetery,

m) EKG machine and its supplies,
n) Cardiac monitor (optional),
o) lumbar puncture set,
p) minor set,
q) chest tube set,
r) tracheostomy set
s) Suction machine,
t) medicine trolley, Cup board
u) Hand washing basin
v) Nebulizers (electricity driven, or oxygen driven or manual)
w) Spacers with masks for sprays,
x) Consumables:
    - Butterflies and/or cannulas of paediatric size,
    - NG-tubes and urinary catheters (pediatric size),
    - Gloves (surgical and disposable),
    - antiseptics (alcohol, savlon, iodine), cotton, gauze, K-Y jelly,
    - Spatula,
y) Emergency medicines as per the national medicine list.

6.7.4.2. The pediatric OPD shall have the following functional equipment and supplies:

a) Diagnostic equipment: Torch, Otoscope, ophthalmoscope, reflex hammer,
b) Weighing scales for children and infants,
c) Measuring board for measuring length (lying for infants) and height (standing for older children),
d) Measuring tape, thermometer,
e) Stethoscopes,
f) Sphygmomanometer (pediatric and adult sizes),
g) X-ray viewer,
h) Examination couch,
i) Lumbar puncture, Bone marrow aspiration set, pleural biopsy set,
j) Hand washing basin,
k) Consumables: Spatula, KY Jelly, Surgical and disposable gloves, antiseptics, cotton, gauze

6.7.4.3. The pediatric inpatient shall have the following functional equipment and supplies:

a) Diagnostic equipment: Torch, Otoscope, ophthalmoscope, reflex hammer,
b) Weighing scales for children and infants,
c) Measuring board for measuring length (lying for infants) and height (standing for older children),
d) Measuring tape, thermometer,
e) Stethoscopes and Sphygmomanometer (pediatric and adult sizes),
f) X-ray viewer,
g) Examination couch, medicine trolley, Cupboard,
h) Lumbar puncture, Bone marrow aspiration set, pleural biopsy set,
i) EKG machine and its supplies,
j) Suction machine,
k) Drip counters,
l) Infusion pump,
m) Tourniquets,
n) IV stands,
o) Radiant or Heat source,
p) Beds for patients, mothers and croup tents
q) Oxygen cylinder, Flow-meters for oxygen
r) Nasal prongs catheters
s) Self inflating bags for respiratory support,
t) Masks (infant size, child size, adult size)
u) endotracheal tubes (pediatric and adult sizes), laryngoscope
v) Equipment for intra-osseous fluid administration
w) Nebulizers for administration of salbutamol (electricity driven, or oxygen driven or foot pump driven)
x) Spacers with masks for administration of metered doses (spray) of salbutamol
y) Consumables: Spatula, K-Y jelly, Surgical and disposable gloves, Butterflies and/or cannulas of pediatric size, NG-tubes-pediatric size, antiseptics, cotton, gauze,
z) Emergency medicines as per the national medicine list.

6.7.4.4. The neonatology unit shall have the following equipment:

a) Neonatal bed/ cradle,
b) Incubator,

c) Oxygen source,
d) Baby weighing scale,
e) Cardiorespiratory monitor,
f) Pulse oximeter,
g) Glucometer,
h) Infusion pump,
i) Phototherapy light with bed,
j) X-ray viewer,
k) Diagnostics: Torch, Otoscope, ophthalmoscope, Stethoscopes, thermometer
l) Measuring board for measuring length, Measuring tape,
m) Examination couch,
n) Medicine trolley,
o) Medicine Cup board,
p) Lumbar puncture,
q) Suction machine,
r) Tourniquets,
s) IV stands,
t) Exchange transfusion sets,
u) Radiant warmers,
v) Oxygen cylinder with flow-meters,
w) Nasal prong catheters,
x) Self inflating bags for respiratory support,
y) Masks (infant size),
z) endotracheal tubes (new born sizes),
aa) laryngoscope (new born size),
bb) Refrigerator,
cc) consumables:
- Butterflies and/or cannulas of paediatric size,
- NG-tubes-paediatric size,
- Umbilical catheters

dd) Beds for mothers,
ee) Mobile X-ray machine,

6.7.4.5. Medicines and supplies shall be available in line with hospital's medicine list.

6.8. Surgical and Orthopedic Care Services

6.8.1. Practices

6.8.1.1. Comprehensive emergency surgical service shall be available 24 hours a day, 365 days a year,

6.8.1.2. Services for non-emergency elective surgical cases shall be available only when all the necessary experts are available;

6.8.1.3. There shall be written protocols and procedures for admissions and discharges with follow up.

6.8.1.4. There shall be protocols for the management of the surgical conditions in the unit.

6.8.1.5. There shall be protocols for consultation and transfer of patients admitted to this unit and to other departments.

6.8.1.6. There shall be a clear policy for handling emergency surgical conditions. This service shall be available 24 hours a day throughout the year.

6.8.1.7. The hospital shall have emergency surgical services integrated with the general emergency service.

6.8.1.8. The admission process for emergency surgery shall be done by the emergency/ duty physician with consultation to the duty surgeon.

6.8.1.9. The admission process for elective surgery shall be done by the respective surgeon in consultation with the anesthesia department and with the other departments as needed.

6.8.1.10. For admitted patients the surgical service shall be organized in such a way that it covers all the shifts

6.8.1.11. There shall be a mechanism of interdepartmental consultations with surgical unit for which the surgeon on duty shall be responsible.

6.8.1.12. Adequate surgical records shall be kept for each patient and the patient's surgical record shall be integrated with the patient's over-all hospital record.

6.8.1.13. All surgical procedures (except in life-threatening emergencies) are performed only after appropriate history, physical examination, and indicated diagnostic tests are completed and documented in the patient's medical record.

6.8.1.14. The preoperative diagnosis shall be recorded in the medical record for all patients prior to surgery.

6.8.1.15. The surgeon shall explain the disease condition, possible surgical intervention and outcome possibilities in clear, simple and understandable terms to the patient and/or family.

6.8.1.16. Except in life-threatening emergencies, the surgeon shall obtain an informed consent and this must be documented in the patient's medical record. For the case with life threatening condition, consent shall be obtained from spouse, family, guardian or based on the surgeon's clinical judgment.

6.8.1.17. If there is no body to sign the consent for the patient who is in life-threatening condition, the reason for not having the consent shall be stated.

6.8.1.18. The nursing care of patients undergoing surgery shall be planned and documented in the medical record, directed by a trained nurse, and includes the following:

(a) Pre-operative care,
(b) Location of post-operative care,
(c) Type of post-operative care and monitoring needed,
(d) Pain management, and
(e) Patient understands of discharge instructions.

6.8.1.19. Operative reports shall be written in the patient's record and in the OR registration book immediately after surgery and include at least the following:

(a) Patient identification,
(b) Pre-operative diagnosis,
(c) The procedure performed,
(d) Findings during surgery,
(e) Post-operative diagnosis,
(f) Surgical specimens removed,
(g) Date and time operation started and ended,
(h) Name of surgeon, anesthesiologist/anesthetist, scrub nurse, and any assistants,
(i) Signature of the surgeon, and the scrub nurse
(j) Immediate post-operative orders explicitly in the order sheet.

6.8.1.20. There shall be policy that leads to positively identify the patient and ensure that the correct procedure and the correct side are confirmed prior to starting the surgery.

6.8.1.21. There shall be processes and policies defining the appropriate safety before, during and immediately after surgery, including at least the following:

(a) Aseptic technique,
(b) Sterilization and disinfections,
(c) Selection of draping and gowning,
(d) Counting of sponges, instruments, and needles

6.8.1.22. The surgeon shall fill the pathology form and the specimen container shall be labeled properly. The container shall be leak proof with lid & filled with 10% formalin.

6.8.1.23. The specimen shall be sent to the pathology department by the OR staff.

6.8.1.24. There shall be a policy for preparing and availing appropriate and properly functioning supplies, equipment, and instruments available for all surgeries performed according to the country standard

6.8.1.25. There shall be a protocol for patient transfer from operation theatre to recovery room. This includes;

(a) The handover and/or transfer of immediate post-operative patients shall be done between the anesthetist or anesthesiologist who administered the anesthesia and the licensed nurse in recovery room,

(b) The nurse in the recovery room shall immediately re-evaluate the condition of the patient in front of the anesthesiologist or anesthetist,

(c) The follow up of immediate post-operative patients in the recovery room shall be done by licensed nurse with special training or similar experience until the anesthesiologist, anesthetist or other qualified physician makes the decision to transfer the patient from post-anesthesia care and this decision shall be based on the documented results of monitoring during anesthesia recovery,

(d) The transfer from recovery room shall be done after the transfer order is signed by the appropriate professional in the following order: Anesthesiologist, Surgeon, Anesthetist or General Practitioner

(e) The nurse in the recovery room shall inform the ward and the ward nurse shall transfer the patient with the signed transfer note.

6.8.1.26. Post- operative patient in the wards shall get post operative care by qualified nurses. The post operative care includes to the minimum:

(a) Evaluation by the surgeon or appropriate physician and ward nurses daily or whenever needed,

(b) Follow up of vital signs and carrying out of post-operative orders shall be done as per the order specified for individual patients. (special orders-NPO, positioning, exercise, drainages, etc.,)

6.8.1.27. The hospital shall have clear protocol for surgical activities to be done at outpatients level, surgical referral clinics, follow up clinics, minor operations and orthopedic procedures

6.8.1.28. There shall be no time left without having general surgeon or physician attending the surgical unit.

6.8.1.29. There shall be a policy or procedure that clearly shows at least one surgeon shall be on call/ on duty to respond for surgical requests from emergency and/ or surgical ward physician.

6.8.1.30. There shall be a mechanism that the surgeon shall be available within 30 minutes upon call.

6.8.1.31. All patients in surgical unit shall be attended by licensed nurse all the time with supervision by duty physician.

6.8.1.32. There shall be a mechanism by which the surgical unit provides board certificate in response to hospital medical board request. The board shall be composed of, at minimum, one physician and two specialist surgeons one of them being the treating one.

6.8.1.33. Emergency call access to each bed in the wards and recovery room shall be in place; at switches for emergency calls (nurse alarms) shall be placed accessible to beds

6.8.2. Premises

6.8.2.1. Surgical Unit:

(a) A general hospital shall have a minimum of three operating theatres and one septic operation theatre

(b) The operation room shall be readily accessible to the surgical wards.

(c) The surgical unit shall be composed of operation room, recovery room, the surgical wards, central sterilization room (CSR), toilet rooms, showers and changing rooms with lockers, offices, store rooms, clean and dirty utility rooms, duty rooms and cleaners room.

(d) Operation Room /Surgical Suite:

(e) The operation room shall have three operation theatres of which one is for septic procedures, one nurse station, two staff toilets, two shower stands, two changing rooms with lockers, one rest room, anesthesia store, nurse store, one general store.

(f) An operating room shall have access- restricted environment where surgical and invasive interventions are performed. It shall be organized and equipped so that OR trafficking shall be controlled and exercised over all persons and materials entering and leaving the area.

6.8.2.2. Operation Theatre:

(a) The wall of the operation theatres shall be washable; the vicinity of plumbing fixtures shall be smooth and water resistant i.e., ceramic plated up to the ceiling.

(b) The ceiling shall be monolithic, scrub-able and capable of withstanding chemicals. Cracks or perforation in these ceilings are not allowed.

(c) Floors and walls penetrated by pipes, ducts and conduits' shall be tightly sealed.

(d) The floor of the theatre shall be smooth, easily cleanable, non-slippery and non-staining and it shall not be affected by water or germicidal cleaning solutions; preferably made of marble or ceramic.

(e) There shall be drainage on the floor,

(f) There shall be at least six fixed electric outlets in each theatre with cover,

(g) The entrance and exit doors to the theatre shall be fitted with self-closing double doors,

(h) There shall be at least one operation table in each theatre,

(i) At least one ceiling operation light and one mobile operation light per theatre shall be available

(j) Glass cabinet and shelves shall be available

(k) The OR shall be thoroughly cleansed weekly.

(l) Appropriate temperature shall be maintained in the operation theatre (considering the climatic conditions of the hospital location).

(m) Orthopedic accessories for OR table shall be available (can be removed and stored when not in use)

6.8.2.3. Scrub area:

(a) There shall be a scrubbing-up area outside but adjacent to the operating theatre(s). The scrub area shall be in between the two self closing doors. If there is one common scrub area for the four theatres, it shall be wide enough to accommodate four staff scrubbing simultaneously.

(b) Scrub area shall have direct access to the operating room,

(c) Scrub area shall be provided with multiple sinks or with wide sink and taps for running (warm) water and mirror(s) above each sink. The taps for running water for scrubbing shall be hand free to be manipulated with elbow or knee joint. (e.g., long arm of valve gate to be manipulated with elbow or knee joint.)

6.8.2.4. Nurse station:

(a) It shall be access restricted area, which is so situated, constructed and equipped to enable nursing staff to observe patients directly and where necessary, to render assistance. This area need may be an integral part of the main patient corridor, recovery area or bed-receiving area.

(b) There shall be a corridor or allocated area for keeping charged and empty Oxygen cylinders; the empty and charged oxygen cylinders shall be labeled clearly.

6.8.2.5. Entrance/Patient Transfer Area:

(a) This area shall be large enough to allow for the transfer of patients from a bed to OR stretcher.

(b) A line shall be clearly marked in red on the floor, beyond which no person shall be permitted to set foot without putting on protective clothing and OR shoes.

(c) Holding bay: there shall be a space or corridor to keep and observe pre-operative patients until called to theatre.

6.8.2.6. Staff Change Rooms

(a) Suitable separate changing rooms shall be available and clearly labeled for male and female,

(b) Each changing room shall have two doors, one entrance and the second door accessing into the restricted access area; the entrance is from outside the restricted access area.

(c) Each changing room shall be provided with a locker for a minimum of 10 staff to keep personal clothes and belongings.

(d) Each changing room shall be provided with shelves for Storage of clean theatre attire and inside shoes and operation theatre gum boots.

(e) Separate storage bin shall be provided for used and soiled theatre apparels.

(f) Each changing room shall be provided with hand wash basins.

(g) For each changing room, there shall Toilets and shower stands.

6.8.2.7. Set-up area (optional):

(a) There shall be a set –up area where suture materials and other supplies and necessary consumables could be stacked on a trolley that could be wheeled into theatre for subsequent procedure.

(b) Doors into the operating room shall be big enough to wheel through the set trolleys from the set up room into the operating room without contact with doors or non sterile surfaces.

(c) Packed instruments and other relevant materials shall be brought from the CSR and stored in this area according to the daily schedules one day prior to the scheduled operations.

(d) Mayo table and dressing trolley to set up for the next case are kept in this area.

(e) If there is no set up area the instruments can be set up within the operating theatre

6.8.2.8. Operating Theatre Equipment Store

(a) There shall be equipment store area in the operating room that shall be supplied with a sufficient number of electrical plugs to keep the electrical equipments plugged in, charged and in case of power failure to work as back up electrical supply / or emergency electrical supply.

(b) Equipments shall always be stored at the same space/location and properly labeled.

(c) Shelves and cabinets

6.8.2.9. Operating Theatre Sterile Supply Store: This shall be a room which is used for the storage of all sterile instrument sets, swabs and sterile renewable, consumables and it requires shelves.

6.8.2.10. Clean Utility, Surgical Suite: There shall be a room allocated for storage of IV fluids, clean linen, medicines and other sundry items. Requirements:

(a) Shall be situated where OR staff have easy access to the clean utility store.

(b) Metallic washable rack for storage shall be available,

(c) Equipments used for special procedures like splints shall be kept here thoroughly cleaned after use,

(d) Refrigerator with thermometer shall be available for medicines requiring a temperature range of 4 to 8 °C.

(e) Sink, cabinets and shelves

6.8.2.11. Soiled Utility/Sluice room shall be available with the followings;

(a) This room shall be located at the back of the OR.

(b) This room shall be for keeping contaminated materials until they are taken for disposal.

(c) Sharp containers, leak proof containers with lids shall be available, used sharps/safety boxes are to be stored here before being sent for incineration.

(d) Container for temporary storage point for soiled linen,

(e) Hand Washing basin,

(f) Drainage on the floor,

(g) Trolley for soiled materials and waste human tissues,

6.8.2.12. Cleaner's Room shall be available with the followings;

(a) A room provided with 2 sets of cleaning equipments and materials,

(b) Hand washing Basin,

(c) Washing sink,

(d) Detergent proof shelves and cabinets.

6.8.2.13. Central sterilization room shall be available with following requirement;

(a) Direct access to OR,

(b) Needs a minimum of the following rooms:

- One for reception, sorting of equipments; or clothes and documentation process;
- One for inbuilt autoclaves;
- One separate properly ventilated room for storing and shelving sterile clothes and instruments as per the guideline,
- One staff room and
- One cleaners' room

(c) Shall have at least two inbuilt autoclaves, with small one as backup,

(d) Continuous water supply with extra reservoir,

(e) There shall be a closed drainage system for the autoclaves,

(f) Shelves shall be washable ,corrosive free and metallic racks.

(g) The name of the set/ instruments, date of sterilization, evidence of sterilization shall be written on the wrap of the set/ instrument,

(h) Staff toilets,

6.8.2.14. Recovery facilities shall be available with the following requirement;

(a) Close to OR, and shall be within the semi- restricted area.

(b) A minimum of four beds shall be available,

(c) A minimum of 1.2 meter gap between beds for patient transferring stretcher,

(d) Recovery beds shall have flexible side protections,

(e) A minimum of two electric outlets shall be available for each bed,

(f) A trolley carrying functional emergency equipments shall be available in the recovery room,

(g) A minimum of four bed pans

(h) A minimum of four patient screens shall be available,

(i) Sufficient light for each bed, one head light per bed,

(j) There shall be a heater,

6.8.2.15. Minor operation theatre shall be available with the followings requirements;

(a) Located accessible to OPD, and shall be with low or no traffic area.

(b) One operation room with two theatres,

(c) One transparent cabinet for surgical consumables in the OR,

(d) Two patient changing rooms,

(e) Mark on the floor restricting movement of unauthorized and/or person without OR suit,

(f) Staff room

(g) Utility room,

(h) Store with shelves and cabinets,

(i) Nurse station with table and chairs,

(j) Toilet rooms for male female,

(k) Cleaners room,

6.8.2.16. **Surgical ward** shall be available with the followings requirements;

(a) It shall be part of the inpatient service,

(b) There shall be a separate orthopedic wing/room,

(c) The beds shall be flexible and orthopedic beds,

(d) In third class, space between beds shall be at least 1.2m.

(e) There shall be a minimum of one separate room, labeled “Septic Room” for septic patients,

(f) The beds shall be equipped with fixtures for certain surgical patients-orthopedic cases

(g) Patient screens,

(h) Patient toilets and showers with proximity to the ward, or covered walkways to the ablution facilities.

6.8.2.17. **Nurses' station** shall be available with the following;

(a) located amidst of the wards

(b) shall have table and chairs

(c) shall have lockable cabinets,

(d) shall have specimen collection station/ laminated table with racks

(e) shall have hand washing basin,

6.8.2.18. **Surgical ward clean utility room (procedure room)** shall be available with the following;

(a) Dressing trolleys ,beds

(b) POP equipments sets,

(c) Deep Sink,

(d) Hand washing basin,

(e) Worktable with laminated top,

(f) Cabinets and shelves,

6.8.2.19. **Surgical ward clean linen room** with shelves and cabinets shall be available

6.8.2.20. **Surgical ward in patient store** with **s**helves, cabinets and fixed electrical plugs with protection shall be available

6.8.2.21. **Surgical ward soiled utility room** with shelves and leak proof containers with leads shall be available

6.8.2.22. **Surgical ward cleaner's room** shall be available with the following requirements;

(a) Hand washing basin,

(b) Sinks and cleaning equipments,

(c) Shelves and Cabinet,

(d) One room for keeping patients belongings with lockers.

6.8.3. **Professionals**

6.8.3.1. Surgical services shall be directed by a licensed experienced surgeon.

6.8.3.2. Minimum number of professionals for surgical service at OR for 24 hours services:

(a) Anesthesiologist or BSc in anesthesiology 1

(b) Anesthetist 4

(c) Scrub nurses 10

(d) Circulating nurses 10

(e) Cleaners 4

(f) Technicians 1

(g) Porters 1

6.8.3.3. Minimum number of professionals for surgical service at recovery:

(a) Recovery nurses 4

(b) Porters 1

6.8.3.4. Minimum number of professionals for surgical service at CSR:

(a) CSR nurse 2

(b) Technician 1

(c) Cleaner 2

6.8.3.5. Minimum number of professionals for surgical department:

(a) General surgeons 2

(b) Orthopedists 1

(c) GP 4

(d) Nurses 12

(e) Cleaners 8

(f) Porters 2

6.8.3.6. The nursing services in the OR shall be coordinated by a licensed nurse experienced in surgical nursing.

6.8.3.7. Number of general surgeons shall be determined by the 24 hour service availability.

6.8.3.8. Number of scrub nurse shall suffice to the number of operation theatres.

6.8.3.9. A surgeon or licensed general practitioner shall be responsible for the services provided to each patient; while the nurse coordinator (licensed BSc nurse) shall be responsible for all nursing care provided to the patient

6.8.3.10. The duties and responsibilities of Para-medicals and porters shall be clearly outlined by the hospital.

6.8.3.11. Orientation and continuous training shall be provided for cleaners for proper handling and disposal of sharp materials and surgical wastes by OR nurse coordinator or via IP committee.

6.8.4. **Products**

6.8.4.1. Surgical ward equipments and supplies

(a) Surgical bed and mattress
(b) Pillows
(c) Oxygen flow meter, 0-15 L/min
(d) Chairs,
(e) Feeding table/ Over bed table
(f) Bed side cabinet
(g) Bed screen, 3 sections
(h) Waste paper basket
(i) Safety boxes
(j) Footstool
(k) IV stands
(l) Wheelchairs
(m) Stretchers
(n) Oxygen on trolleys
(o) Hand washing basins

6.8.4.2. Equipment – Orthopedics Specifics

(a) Browns frame
(b) Thomas splint
(c) Traction set
(d) Hand or manual drill
(e) Steinmann pin
(f) K-nail set
(g) Orthopedic bed with fixtures
(h) POP cutter
(i) POP spreader
(j) Wires
(k) External fixator (optional)

6.8.4.3. Equipment – Clean Utility Room and procedure room

(a) Dressing trolley
(b) IV stand
(c) Wheelchair
(d) Walking rail,
(e) Crutches,

6.8.4.4. Equipment – Nurses station

(a) Wall clock
(b) Desk
(c) Chair
(d) Trolley for vital sign monitoring
(e) Refrigerator for medication with temperature control
(f) Safety box
(g) Waste paper basket
(h) Adult sphygmomanometer
(i) Stethoscope, dual head
(j) Stethoscope, adult head
(k) Thermometer

6.8.4.5. Equipment –ward/ in patient store:

(a) General purpose trolleys, and trays
(b) Patient chart holder
(c) Bed screen, three sections
(d) Oxygen trolley, complete
(e) Suction pump, portable
(f) Bed pans
(g) Kidney basin, 475 ml
(h) Wheelchair
(i) General surgical dressing set
(j) Tendon hammer
(k) Mobile examination light
(l) Adult weight scales

6.8.4.6. Equipment – surgical ward soiled utility room:

(a) Soiled linen trolley
(b) Bin with lid
(c) Worktable with laminated top
(d) Washing basins
(e) General purpose trolley, trays
(f) Mobile trolley
(g) Bedpans
(h) Kidney basin, 475 ml

6.8.4.7. Equipment – surgical ward cleaner's room:

(a) Cleaning trolley
(b) Mop rack
(c) Worktable
(d) Cabinets and shelves
(e) Pail with handle
(f) Brooms
(g) Mops
(h) Cabinet for detergents

6.8.4.8. Equipment – reception/nurse station, operating theatre suite:

(a) Wall clock
(b) Desk
(c) Desk chair
(d) Cabinet
(e) Chair, stackable, without armrests
(f) Basket, waste-paper,

6.8.4.9. Equipment – entrance, patient transfer area, operating theatre suite:

(a) Chairs
(b) Patient stretchers

6.8.4.10. Equipment –staff changing room, operating theatre suite:

(a) Soiled linen trolley
(b) Clean linen cabinet
(c) A big mirror
(d) Waste basket
(e) Lockers
(f) Shoe shelves
(g) Aprons

6.8.4.11. Equipment, operating theatre: Minimum equipment list for a single operating theatre.

(a) Time clock
(b) Anesthesia trolley
(c) Oxygen cylinders
(d) Worktable with laminated top
(e) Stools
(f) IV stands
(g) Kick buckets
(h) Safety boxes
(i) Swab rack with drip trays
(j) Swab count record boards
(k) Bowls and stands
(l) Instrument tables, Mayo type
(m) Framed boards with pencil trays
(n) Infusion pumps
(o) Chest tubes with bottles
(p) Blankets, warming
(q) Tourniquets
(r) Tongue depressors
(s) Coagulation unit, electro, mobile, 200 W
(t) Lights, operating, 1 large copula, ceiling mounted
(u) Mobile operating lights
(v) Operating table, 3 sections
(w) Suction machines
(x) Hip spica tables
(y) Bone cutters
(z) IV fluid pressure bag
(aa) Anesthesia machine with ventilator, 2 vaporizers, and gas cylinders
(bb) Laryngoscope, set (Mackintosh)
(cc) Magill forceps (adult & pediatrics)
(dd) Laryngeal mask set
(ee) Mask holder
(ff) Mouth gauge
(gg) Patient monitor
(hh) Dual head stethoscope

6.8.4.12. Equipment – scrub area:

(a) Soap dispenser
(b) Scrub-up brushes

6.8.4.13. Equipment: set up area

(a) Worktable with laminated top
(b) Cabinets and shelves
(c) Dressing trolley
(d) Instrument table, Mayo type
(e) Blood warmer
(f) IV fluid warmer

6.8.4.14. Equipment – operating theatre store

(a) Patient transfer, stretchers
(b) General purpose trolleys
(c) IV stands
(d) Hygrometer, humidity and temperature
(e) Pillows, abduction

(f) Support, head, operating table
(g) Positioner, bag, small
(h) Positioner, bag, medium
(i) Positioner, bag, large
(j) Apron, protective, small
(k) Apron, protective, medium
(l) Apron, protective, large

6.8.4.15. Equipment – operating theatre sterile supply store:

(a) General purpose trolleys, trays
(b) Gen.surg-Suture set
(c) Gen.surg- Basic surgery set
(d) Orthopedic set
(e) Thyroidectomy set
(f) Cholecystectomy set
(g) Thoracotomy set ,etc
(h) Gen.surg- Laparotomy set
(i) Gen.surg- Small dissection set
(j) Gen.surg- Minor surgical set
(k) Gen.surg- Suprapubic puncture set

6.8.4.16. Equipment – clean utility room, surgical suite:

(a) General purpose trolley, trays
(b) Worktable, laminated top
(c) Refrigerator,
(d) Shelves
(e) cabinets

6.8.4.17. Equipment – operating theatre sluice room

(a) Soiled linen trolley
(b) General purpose trolley, trays
(c) Bin with lid
(d) Worktable with laminated top
(e) Wash basins
(f) Bedpans
(g) Kidney basin, 475 ml

6.8.4.18. Equipment – cleaners' room, operating theatre:

(a) Cleaning trolley
(b) Mop rack
(c) Worktable
(d) Pail with handle
(e) Brooms
(f) Mops

6.8.4.19. Renewable/Consumables for surgical unit

(a) Guedel airways: size 0, 00, 3, 4 & 5
(b) Alcohol Swabs
(c) Disposable aprons
(d) Aqua-packs Oxygen humidifier
(e) Bags - Refuse - All Colors and Sizes
(f) Bags – Urine
(g) Bandage - Crepe
(h) Batteries - Medical & General
(i) Bedpan Covers
(j) Blood Administration Sets
(k) Blood Sampling
- Needles, disposable, sterile, 20 G, 21 G, 23 G
- Tube, Vacuum 5ml (Vacutainer)
- Tube, Vacuum EDTA 5ml (Vacutainer)
- Tube, Vacuum Heparinised 5ml (Vacutainer)
- Vacutainer Holder
- Vacutainer needle

(l) Bottles - Suction - Glass/Plastic

(m) Braun Splints (Arm)
(n) Bubble tubing box
(o) Cannula - Nasal-Oxygen
(p) Cannula, IV short, ster, disp, 18G, 20 G, 22 G, 24 G
(q) Caps - Mop/Bonnet Type
(r) Catheter - Jacques
(s) Central Venous Pressure Sets
(t) Chest, Electrode, Monitor
(u) Cleansing Swabs – Sterile
(v) Cleansing Swabs Non-Sterile
(w) Cold/Hot Packs
(x) Combur Tests
(y) Connector,
- Biconical Autoclavable
- Connector, T/Y
- Connectors - Plastic – Tapered

(z) Container, Sample, urine, plastic, non-sterile, 60 ml
(aa) Cotton
- Cotton Buds
- Cotton Wool Balls - Sterile/Non-Sterile
- Cotton Wool Rolls

(bb) POP
(cc) Covers - PVC - Mattress/Bed Wedge
(dd) CVP – Cannulae
(ee) Cytological Fixative Spray
(ff) Drawsheet,plastic,90x180cm
(gg) Face Mask Water Repellent
(hh) Foley Catheters – Latex/Silicone Size 10, 12 and 14
(ii) Gauze Absorbent Ribbon
(jj) Gloves:
- Household Large & Medium
- Surgical Size 6, 6 ½, 7, 7 ½, 8
- Exam, latex, disp, large, medium, small

(kk) Hand wash Antiseptic Liquid (Hibiscrub)
(ll) Hand wash Povidone (Betadine)
(mm) Hot Packs
(nn) I.V. Sets :
- I.V. Administration Sets – 15 Drop
- I.V. Administration Sets - 60 Drop
- I.V. Set, Infusion "Y", Luer lock, air inlet

(oo) Incontinence Sheets
(pp) Intubation stylet, adult, 15 Ch
(qq) IV Infusion set Buretrol
(rr) K.Y. Jelly
(ss) IV stands
(tt) Drums
(uu) Latex Tubing
(vv) Linen Savers
(ww) Masks - Nebulizer/Oxygen
(xx) Masks – Oxygen 40 %
(yy) Nail Brushes - Autoclavable/Disposable
(zz) Needles:
- Spinal disp, (0.9x90mm),sterile, 20G, 22G, 24G
- Disp,15G, 18G, 21G, 22G, 23G, 25G
- Butterfly 23G

(aaa) Oxygen T Pieces
(bbb) Oxygen Tubing
(ccc) Face Masks
(ddd) Razor Medical - Disposable - Single Edge
(ää) Rubber Bath Mat - Non-Slip
(öö) S.G. Meter (Urine Meters)
(ggg) Safety Pins Large & Medium
(hhh) Sharps Containers (Safety Box/used syringes and needles)
(iii) Shrouds
(jjj) Soap,toilet,bar,approx.110g,wrapped
(kkk) Spatulas - Tongue
(lll) Spigots Large, Medium and Small
(mmm) Spray Bottles - Plunger Operated
(nnn) Surgical Splints
(ooo) Suture absorbable (Chromic) for episiotomy and perinea tears
(ppp) Syringes:
- Volume: 2ml, 5ml, 10ml, 20ml
- Syringes 50 ml Conical Tip
- Syringes 50 ml Luer Lock
- Syringes Insulin

(qqq) Tape:
- Elastic Adhesive Plaster - White 5cm and 10 cm
- Micropore tape
- Surgical Adhesive Hypo-Allergenic
- Adhesive, zinc oxide, perforated,10cmx5m
- Adhesive, zinc oxide, 2.5cmx5m

(rrr) Clinical thermometer
(sss) Fridge thermometer

6.8.4.20. Operating Suite Renewable/Consumables:

(a) Airway Guedel, pediatric & adult size
(b) Plastic, reusable aprons
(c) Urine bags, collecting, 2000 ml
(d) 012 Band, Esmarch, 6 cm x 5 m
(e) Survival blanketl,220x140cm
(f) Blood Sampling:
- Needle, disposable, sterile, 20G, 21G
- Tube, Vacuum 5ml (Vacutainer)
- Tube, Vacuum EDTA 5ml (Vacutainer)
- Tube, Vacuum Heparinised 5ml (Vacutainer)
- Vacutainer holder
- Vacutainer needles, 18-24G

(g) Bouffant Nurse Cap
(h) Bubble Tubing
(i) Cannula, IV short, ster, disp, 18G, 20G, 22G, 24G
(j) Catheters:
- Sup-Pubic, CH 10, 1.65 cm, ster, disp adult with trocar
- Ureteral, CH5, ster, disp
- Urethral, CH6, ster, disp
- Urethral, CH7, ster, disp
- Foley, ster, disp, CH10, CH12, CH14
- Three way foley catheter

(k) Compresses:
- Abdominal compress, 40 x 40 cm
- Compress, Swab, 20x 20 cm
- Compress, gauze,10x10cm,n/ster/PAC-100
- Compress, gauze,10x10cm,ster/PAC-5
- Compress, paraffin,10x10cm,ster/BOX-10

(l) Connector, biconical, OD 7-11-7mm
(m) Cotton wool,500g,roll,non-ster
(n) CVP - Set
(o) Diathermy pencil/ball/blade
(p) Disposable, dispersive, electrode(Diathermy pad)
(q) Drain, corrugated sheet, 3 cm x 25 cm
(r) 063 Drain, wound, CH 12, ster, disp, CH12, CH16, CH6
(s) Drawsheet,plastic,90x180cm
(t) Elastoplasts, 10 cm x 3 m
(u) Electrode, Chest, Monitor
(v) Extractor,mucus,20ml,ster,disp
(w) File for ampoules
(x) Gauze:
- Ball, Large (sterile)
- Ball, Large (un-sterile)
- Ball, Peanut (sterile)
- Swabs RAYTEX® 10 X 10 cm
- Swabs, Un-sterile (Green)
- Roll,90cmx100m,non-ster
- Vaseline gauze

(y) Gloves,exam,latex,disp, large, medium & small
(z) Gloves,surg,disp, 6.0, 6.5, 7.0, 7.5, 8, 8.5
(ttt) Tourniquet, latex rubber,75cm
(uuu) Tubes:
- Endo-tracheal, disp. + connector, neonate mm, w.o balloon
- Endo-tracheal, disp. + connector, balloon, 6.5mm, 7mm, 7.5mm, 8mm
- Suction, L125cm,ster,disp, CH10, CH12, CH16

(aa) Gum elastic bougie, CH 15, 60 cm
(bb) Intubation stylet, adult, 15 Ch
(cc) Lancet,blood,ster,disp/PAC-200
(dd) Mask, Clinical, Disposable (non-woven)
(ee) Mask, Protection, High Filtration
(ff) Needle, spinal, 0.9x90mm),ster,disp, 20G, 22G, 24G
(gg) Oxygen mask, adult
(hh) Oxygen, nasal cannula
(ii) Reusable, Diathermy, Cable
(jj) Safety box for .used syrgs/ndls
(kk) Set, Infusion "Y", Luer lock, air inlet
(ll) Scalpel blade,ster,disp,no.10, no. 11, no. 15, no. 22, no. 23
(mm) Shoe cover, disposable
(nn) Silicone Rubber Tubing
(oo) Surgeon's Cap, Easy-Tie
(pp) Suturing materials:
- Abs,DEC1,need 1/2,18mm,round/BOX-36
- Abs,DEC2,need 3/8 18mm,round/
- Abs,DEC2,need 3/8,26mm,tri
- Abs,DEC3,need 1/2 30mm,round
- Abs,DEC3,need 3/8 50mm,round
- Abs,DEC3,spool
- Abs,DEC4,need 3/8 36mm,tri
- Nonabs,DEC2,need 3/8 13mm,tri
- Nonabs,DEC3,need 3/8 30mm,tri

(qq) Syringe,dispos, 2ml, 5ml, 10ml, 20ml
(rr) Tape,adhesive,Z.O,perforated, 10cmx5m
(ss) Tape,adhesive,Z.O.,2.5cmx5m
(tt) Telfa, dressing (Various Sizes)
(uu) Tourniquet,latex rubber,75cm
(vv) Tubes:
- Endo-tracheal, disp. + connector, 3 mm, w/o balloon
- Endo-tracheal, disp. + connector, 3.5 mm, w/o balloon
- Endo-tracheal, disp. + connector, 4 mm, w/o balloon
- Endo-tracheal, disp. + connector, 4.5 mm, w/o balloon
- Endo-tracheal, disp. + connector, 5 mm, balloon
- Endo-tracheal, disp. + connector, 5.5 mm, balloon
- Endo-tracheal, disp. + connector, 6 mm, balloon
- Endo-tracheal, disp. + connector, 6.5 mm, balloon
- Endo-tracheal, disp. + connector, 7 mm, balloon
- Endo-tracheal, disp. + connector, 7.5 mm, balloon
- Endo-tracheal, disp. + connector, 8 mm, balloon
- Trachea, balloon, int.can, ster, size 6
- Trachea, balloon, int.can, ster, size 8
- suction,CH08,L50cm,ster,disp, CH08, CH10, CH14, CH16
- N.G Tubes 12, 14, 16

6.8.4.21. Operating Room Linen:

(a) Apron Surgical, rubber
(b) Trousers, Surgical, woven, Small, Medium & Large
(c) Top(shirts), Surgical, woven, Small, Medium & Large
(d) Gown, Surgical, woven(Plain)
(e) Cap, Surgical, woven
(f) Masks, surgical, woven
(g) Drape:
- Surgical, woven(1 x 1 m)
- Surgical, woven(1 x 1.5 m)
- Surgical, woven(1.5 x 1.5 m)(fenestrated

- Surgical, woven(45 cm x 70 cm)(fenestrated)
- Surgical woven (2 x 1.5 m)

(h) Pillow case
(i) Pillows
(j) Sheet, Bed
(k) Sheet, draw, white
(l) Cellular Blanket
(m) Mayo cover
(n) Towel Bath
(o) Towel Hand

6.8.4.22. Equipment recovery area:

(a) Vacuum aspirator
(b) Oxygen Flow meter, 0 - 15 l/min
(c) Oxygen (one cylinder per bed)
(d) Oxygen concentrater
(e) Patient transfer, (stretchers)
(f) Dressing trolley, trays
(g) Bed with mattress
(h) Stools
(i) IV stands
(j) Bed screen, 3 sections, mobile
(k) Pedal bin
(l) Oxygen trolley, complete
(m) Pulse oximeter
(n) Resuscitator, hand operated
(o) Suction machines
(p) Mobile examination light
(q) Dual head stethoscope

6.8.4.23. Equipment-Central sterilization room

(a) Auto claves ;big
(b) Autoclaves ;small
(c) Drums
(d) Metallic shelves
(e) Cabinets

6.9. Gynecology and Obstetrics Care Services

6.9.1. Practice

6.9.1.1. The gynecology and obstetrics service shall have written protocols and procedures including:

a) Antenatal care
b) Follow up of delivery
c) New born care
d) Postnatal care
e) Immunization
f) Pre and post operative care
g) Administration of antibiotics, oxytocics and anticonvulsants
h) Assisted delivery
i) Manual removal of placenta
j) Infertility
k) Admission and discharge
l) Transfer and referral
m) Infection prevention

6.9.1.2. Normal delivery and comprehensive emergency obstetric care shall be available 24 hours a day, 365 days a year. This includes:

a) Administration of antibiotics, oxytocics and anticonvulsants
b) Manual removal of the placenta
c) Removal of retained products following miscarriage or abortion
d) Assisted vaginal delivery, preferably with vacuum extractor
e) Blood transfusion
f) Caesarean section

6.9.1.3. Essential newborn care and newborn resuscitation care shall be available 24 hours a day, 365 days a year. This service shall have written policies and procedures to transfer or refer neonates to neonatal unit that require further care.

6.9.1.4. Routine examination for detection of congenital hip dysplasia and other congenital anomalies shall be done.

6.9.1.5. Emergency gynecological services shall be available 24 hours a day, 365 days a year. This includes, but is not limited to, services for the medical and/or surgical management of:

a) Bleeding in early pregnancy
b) Ectopic pregnancy
c) Acute pelvic inflammatory disease
d) Ruptured or torsion of ovarian cyst

6.9.1.6. Management of minor and major gynecological conditions shall be available including but not limited to:

a) Vaginal bleeding
b) Pelvic infection or abscess
c) Uterine pathology (fibroids, polyps etc)
d) Endometriosis
e) Ovarian pathology (cyst, torsion)
f) Gynecological cancers
g) Cervical cytology
h) treatment of cervical intraepithelial neoplasia

6.9.1.7. Non emergency maternal health services shall be available during regular working hours. This includes:

a) Antenatal care
b) Post natal care
c) Family planning services including counseling and the provision of:
    - Barrier contraceptives
    - Oral contraceptives
    - Injectable contraceptives
    - Implant contraceptives
    - Intra-uterine contraceptive devices
    - Sterilization
d) Tetanus immunization

6.9.1.8. There shall be a mechanism of interdepartmental consultations with internal medicine, pediatrics, surgery and other relevant services.

6.9.1.9. Gynecology and obstetrics records shall be kept for each patient and the patient's record shall be integrated with the patient's over-all hospital record.

6.9.1.10. All gynecologic and obstetrics surgical procedures (except in life-threatening emergencies) are performed only after appropriate history, physical examination, and indicated diagnostic tests are completed and documented in the patient's medical record.

6.9.1.11. The preoperative diagnosis shall be recorded in the medical record for all patients prior to surgery.

6.9.1.12. The gynecologist/obstetrician shall explain the disease condition, possible surgical intervention and outcome possibilities in clear, simple and understandable terms to the patient and/or family.

6.9.1.13. Except in life-threatening emergencies, the gynecologist/obstetrician shall obtain an informed consent and this must be documented in the patient's medical record. For the case with life threatening condition, consent shall be obtained from spouse, family, guardian or based on the surgeon's clinical judgment. If there is no body to sign the consent for the patient who is in life-threatening condition, the reason for not having the consent shall be stated on patient's medical record.

6.9.1.14. The nursing care of patients undergoing gynecologic/obstetrics surgery shall be planned and documented in the medical record, directed by a trained nurse, and includes the following:

(a) Pre-operative care,
(b) Location of post-operative care,
(c) Type of post-operative care and monitoring needed,
(d) Pain management, and
(e) Patient's understanding of discharge instructions.

6.9.1.15. The gynecological and obstetrics related surgical services shall follow practices standards stated under the surgery section of this standard

6.9.1.16. The gynecological and obstetrics services shall strictly follow the infection prevention section of this standard.

6.9.2. Premises

6.9.2.1. The Maternity Unit is comprised of the maternity ward, delivery suite and nursery and operating theatre.

6.9.2.2. The delivery suite shall be comprised of a 6 bedded labour bay for women in first stage labour and a two bedded delivery room(s) to conduct two deliveries simultaneously. In case of 100% occupancy of the delivery rooms, the labor bays shall be equipped in such a way that patients can be accommodated there to deliver.

6.9.2.3. The delivery room shall have neonatal resuscitation corner.

6.9.2.4. The wall and floor of the delivery room shall be clean, easily washable and resistant to disinfectants.

6.9.2.5. The maternity ward and delivery suite shall be located close to each other to make the transfer of obstetric cases to and from the delivery suite as uncomplicated as possible.

6.9.2.6. The delivery room and maternity ward shall be easily accessible to an operating theatre. An operating table shall be specifically designated for obstetric and emergency gynaecology cases.

6.9.2.7. The maternity unit shall have the following facilities:

a) Maternity Ward:

- Facilities shall be provided for antenatal and postnatal care including high dependency care and rooming in facilities for mother and newborn. These can be organized into patient bays +/- separate one or two bedded rooms for high risk patients.
- Curtain tracks shall be installed around each bed, or in their absence bed screens shall be provided.
- Sinks shall be provided in each patient bay or room. Patient toilets and showers shall be provided, in or adjacent to the ward. If this is not possible then covered walkways should lead from the ward to the ablution facilities.
- A nurses' station shall be set up to enable nursing staff to monitor all visitors entering or leaving the unit.

b) Maternity Ward clean utility room: This is used for:

- The storage of supplies , both clean and sterile
- Preparing and storing dressing trolleys used on the ward
- The storage, preparation and assembly of items of equipment for diagnostic and therapeutic procedures
- IV fluid preparation
- Injection preparation

c) Maternity Ward clean linen room: This is used for the storage of linen including bed sheets, mackintosh and draw sheets for use in the maternity unit. It requires cabinets and shelves

d) Maternity Ward inpatient store: This is used for the storage of equipment required on the maternity ward that requires shelves, cabinets and sufficient electrical plugs should be available to keep the electrical equipment plugged in and keep batteries charged.

e) Maternity Ward soiled utility room: This is used for:

- Temporary storage point for urine and stool specimens to be sent to laboratory for analysis
- Dipstick urinalysis
- Temporary storage point for soiled linen
- Temporary storage point for contaminated items for destruction at a later stage
- Temporary storage point for used safety boxes prior to incineration

f) Maternity Ward cleaner's room

g) Maternity Ward kitchen: This is used to temporarily store and prepare food from the main kitchen and to prepare patient beverages. It requires stainless steel sink, drainer and cabinets

h) Staff toilet, shower and changing facilities: These shall be separate from patient ablution facilities. Staff lockers shall be included. Facilities shall be sufficient for staff working on the maternity ward, delivery suite and obstetric operating theatre.

i) Nursery

- The nursery unit shall have a room for milk preparation
- The nursery shall have a single entrance to control access.
- Work surface for washing, drying and changing babies
- Sink, cabinets and shelves

j) Delivery Suite shall have the following

- Sink, cabinets and toilet facilities
- Delivery room store: This shall be located within the delivery suite, with easy access from the labor and delivery rooms. It requires shelves and cabinets
- Delivery Room (s) (two beds): Delivery rooms are used for all stages of labor including recovery following birth. Transfer to obstetric theatre shall be easy.
- Soiled Utility – delivery room

k) The obstetric gynecology services shall have separate operating theater (OR) for gynecologic cases. In the event that the gynecologic services does not have separate OR there shall be clear policy and procedures on using the OR available in the hospital.

l) Nurse station.

m) Entrance/Patient transfer area

- This area shall be large enough to allow for the transfer of patients from a bed to a trolley.
- A line shall be clearly marked in red on the floor, beyond which no person from outside the operating department should be permitted to set foot without obtaining authority and putting on protective clothing.
- Holding bay: space shall be located to allow for the supervision of waiting patients to go into theatre.

n) Changing room

- Suitable separate changing room facilities shall be provided for male and female staff.
- The changing room shall have one door that opens into the restricted access area, and must have a separate entrance from outside the restricted access area.
- Storage facilities for the personnel's personal clothing and effects.
- Storage of clean theatre attire and inside shoes and operation theatre gum boots.
- Provision must also be made for soiled theatre apparel.
- Wash hand basins: Toilets, showers, shelves, lockers

o) Operating theatre shall have the following:

- Patient entrance into theatre and exit out of theatre shall be through double self-closing doors situated in the centre of the operating room entrance.
- Scrub area
- Operating theatre equipment and sterile supply store
- Operating theatre sterile supply store.
- Clean Utility, Surgical Suite.
- 2-Bed Recovery
- Soiled Utility/Sluice room
- Cleaner's Room

6.9.3. Professionals

6.9.3.1. The gynecology and obstetrics services shall be directed by a licensed obstetrician and gynecologist with a minimum of two years work experience.

6.9.3.2. There shall be adequate qualified medical and nursing professionals in the gynecology and obstetric unit available at all times to meet the service needs

6.9.3.3. The number and type of technical staff shall be determined by the volume and type of work carried out (Workload Analysis).

6.9.3.4. A licensed obstetrician and gynecologist shall be available at all times. The obstetrician and gynecologist shall be also available on call after working hours in a period not to exceed thirty (30) minutes.

6.9.3.5. The nurse with administrative responsibility for nursing care in obstetrics shall be a registered professional nurse with at least one year of experience gynecology and obstetrics

6.9.3.6. The nurse with administrative responsibility for nursing care in gynecology shall be a registered professional nurse with at least one year of experience in gynecology and obstetrics

6.9.3.7. Minimum number of professionals for obstetrics and gynecology service at OR for 24 hours services:

(a) Anesthesiologist 1 (can be shared with surgery)
(b) Anesthetist 4 (can be shared with surgery)
(c) Scrub nurses 10 (can be shared with surgery)
(d) Circulating nurses 10 (can be shared with surgery)
(e) Cleaners 4(can be shared with surgery)
(f) Technicians 1 (can be shared with surgery)
(g) Porters 1 (can be shared with surgery)

6.9.3.8. Minimum number of professionals for obstetrics and gynecology service at recovery:

(a) Recovery nurses 4 (can be shared with surgery)
(b) Porters 2 (optional) (can be shared with surgery)

6.9.3.9. Minimum number of professionals for obstetrics and gynecology service at CSR:

(a) nurse 2 (can be shared with surgery)
(b) Technician 1 (can be shared with surgery)
(c) Cleaner 2 (can be shared with surgery)

6.9.3.10. Minimum number of professionals for obstetrics and gynecology ward:

(a) Obstetrician and gynecologist 2 (can be shared for all units of gynecology and obstetrics)

(b) General practitioner 2 (can be shared for all units of gynecology and obstetrics)
(c) Midwifery 4
(d) Nurses 10
(e) Cleaners 4
(f) Porters 2

6.9.3.11. Minimum number of professionals for delivery service:

(a) Midwives 6
(b) Cleaner 6
(c) Porter 2

6.9.3.12. Minimum number of professionals for outpatient obstetrics and gynecology service:

(d) Midwives 3
(e) Cleaner 3
(f) Porter 2

6.9.4. Products

6.9.4.1. Equipment – Clean Utility Room

a) Trolley for vital sign monitoring with thermometer and sphygmomanometer
b) Dressing trolley
c) Refrigerator for medication with temperature control
d) IV stand
e) Wheelchair

6.9.4.2. Equipment - Clean linen room

a) Trolley to be used for bed linen changes during patient hygiene
b) Cabinet

6.9.4.3. Equipment – maternity ward:

a) Beds and mattresses
b) Vacuum aspirator, 0 – 250mm/Hg with bottle and tubing
c) Oxygen flow meter, 0-15 /min
d) Oxygen source
e) Baby cot
f) Bed side cabinets
g) Over bed tables
h) Bed screen, 3 sections
i) Footstools
j) IV stands
k) Wheelchair

6.9.4.4. Equipment – Nurses station

a) Crash cart, with sufficient equipment and medicines for the resuscitation of mother and neonate, including defibrillator, intubation sets and oxygen
b) Diagnostic set with ophthalmoscope and otoscope
c) Adult sphygmomanometer
d) Paediatric sphygmomanometer
e) foetal stethoscope,
f) Stethoscope, dual head
g) Stethoscope, pediatric head
h) Thermometer

6.9.4.5. Equipment – maternity ward store:

a) Patient transfer, roller system
b) General purpose trolley, two trays, stainless steel
c) Patient chart holders
d) Bed screen, three sections
e) IV stand
f) Oxygen trolley, complete
g) Suction pump, portable
h) Bed pan
i) Kidney basin, 475 ml
j) Wheelchair
k) General surgical dressing set
l) Reflex hammer
m) Mobile examination light
n) Adult weight scales

6.9.4.6. Equipment – maternity ward soiled utility room:

a) Soiled linen trolley
b) Bin with lid
c) Worktable with laminated top
d) Wash tub (65L)
e) General purpose trolley, two trays
f) Bedpans
g) Kidney basin, 475 ml

6.9.4.7. Equipment – maternity ward cleaner's room:

a) Cleaning trolley
b) Mop rack
c) Worktable
d) Cabinets and shelves
e) Pail with handle
f) Broom
g) Mop

6.9.4.8. Equipment – maternity ward kitchen:

a) Pedal bin
b) Worktable with laminated top
c) Stove or kettle to prepare beverages for patients

6.9.4.9. Equipment – milk formula room:

a) Worktable with laminated top
b) Refrigerator
c) Kitchen scale
d) Sterilizing equipment or solutions
e) Stove or kettle to heat water for warming feeds
f) Baby bottles, teats and bottle brushes
g) Pedal bin
h) Stool

6.9.4.10. Equipment – nursery

a) Vacuum aspirator, 0 - 250 mm/Hg, w bottle and tubing
b) Flow meter, 0 - 15 l/min
c) Oxygen source
d) Baby cot
e) Chair
f) Stool
g) IV stand
h) Infusion pump, drop controlled
i) Pedal bin
j) Baby warmer or overhead heater
k) Incubator, automatic
l) Breast pump
m) Neonatal resuscitation kit
n) Infant scale

6.9.4.11. Equipment – labour bay:

a) Vacuum aspirator, 0-250mm/Hg with bottle and tubing
b) Flow meter, 0-15l/min
c) Oxygen source
d) Wall clock
e) Worktable with laminated top
f) Bed
g) Bedside cabinet
h) Chair
i) IV stand
j) Bed screen, three sections
k) Waste paper basket
l) Fetoscope
m) Stethoscope, dual head

6.9.4.12. Equipment – delivery room store:

a) Patient transfer, roller system
b) Patient stretcher
c) IV stand
d) Portable suction pump
e) Vacuum extractor, Bird, manual, complete set
f) Delivery set
g) Obstetric forceps
h) Gyn/Obs- Delivery set
i) Gyn/Obs- Obstetric forceps 1

6.9.4.13. Equipment –delivery room (s)

a) Vacuum aspirator, 0 - 250 mm/Hg, w bottle and tubing
b) Trolley, oxygen, complete
c) Flow meter, 0 - 15 l/min
d) Wall clocks
e) Dressing trolley, two trays
f) Soiled line trolley, 2 rings
g) Baby cots
h) Delivery couches
i) IV stands
j) Kick bucket, stainless steel
k) Bowl and stands
l) Instrument table, Mayo type, mobile
m) Infusion pump, volumetrics
n) Newborn care tables
o) Operating light, ceiling mounted or mobile
p) Neonatal resuscitation kit
q) Fetoscopes

6.9.4.14. Equipment – soiled utility room, delivery suite:

a) Soiled linen trolley
b) Bin with lid
c) Worktable with laminated top
d) Wash tub (65L)
e) General purpose trolley, two trays
f) Bedpans
g) Kidney basin, 475 ml

6.9.4.15. Equipment – reception/nurse station, operating theatre suite:

a) Wall clock
b) Desk
c) Desk chair
d) Cabinet
e) Chair, stackable, without armrests
f) Basket, waste-paper, metal

6.9.4.16. Equipment – entrance, patient transfer area, operating theatre suite:

a) Patient transfer, roller system

b) Patient stretcher

6.9.4.17. Equipment –staff changing room, operating theatre suite:

a) Soiled linen trolley
b) Waste basket

6.9.4.18. Equipment, for one operating theatre:

a) Elapsed time clock
b) Anaesthesia trolley and Oxygen cylinders
c) Worktable with laminated top
d) Stool
e) IV stand
f) Kick bucket
g) Swab rack with drip tray
h) Swab count record board
i) Bowl and stand
j) Instrument table, Mayo type
k) Framed board with pencil tray
l) Infusion pump and Suction pump
m) Blanket, warming
n) Tourniquet x 1 and Tongue depressor
o) Coagulation unit, electro, mobile, 200 W
p) Light, operating, 1 large copula, ceiling mounted
q) Operating table, 3 sections,
r) IV fluid pressure bag
s) Anaesthesia machine with ventilator, 2 vaporizers, and gas cylinders
t) Laryngoscope set (Mackintosh)
u) Magill forceps (adult)
v) Laryngeal mask set and Mask holder
w) Mouth gauge
x) Patient monitor
y) Dual head stethoscope

6.9.4.19. Equipment – scrub area:

a) Soap dispenser
b) Scrub-up brushes

6.9.4.20. Equipment: set up area

a) Worktable with laminated top
b) Cabinets and shelves
c) Dressing trolley
d) Instrument table, Mayo type
e) Blood warmer
f) IV fluid warmer

6.9.4.21. Equipment – operating theatre store

a) Patient transfer, roller system
b) General purpose trolley
c) IV stand
d) Hygrometer, humidity and temperature
e) Newborn general care table
f) Pillow, abduction
g) Support, head, operating table
h) Positioner, bag, patient, small
i) Positioner, bag, patient, medium
j) Positioner, bag, patient, large
k) Apron, protective, small
l) Apron, protective, medium
m) Apron, protective, large

6.9.4.22. Equipment – operating theatre sterile supply store:

a) General purpose trolley, 2 trays
b) Gen.surg-Suture set
c) Gen.surg- Abdominal set
d) Gen.surg- Basic surgery set
e) Gen.surg- Laparotomy set
f) Gen.surg- Small dissection set
g) Gen.surg- Minor surgical set
h) Gen.surg- Suprapubic puncture set
i) Gen.surg- Circumcision set, newborns x 1 (part of general surgery)
j) Gyn/Obs-IUD set
k) Gyn/Obs- Cranioplasty/ craniotomy set
l) Gyn/Obs- Dilation & curettage (D&C) set
m) Gyn/Obs- Manual vacuum aspiration set
n) Gyn/Obs- Obstetric forceps
o) Gyn/Obs- Caesarean section set
p) Gyn/Obs- Abdominal hysterectomy set
q) Gyn/Obs- Vaginal hysterectomy set, extras
r) Gyn/Obs- Gynaecology examination set (EUA)
s) Gyn/Obs- Cervical biopsy set

6.9.4.23. Equipment – clean utility room, surgical suite:

a) General purpose trolley, two trays
b) Worktable, laminated top
c) Refrigerator, 140 l + 20 l
d) Steam sterilizer

6.9.4.24. Equipment recovery area:

a) Vacuum aspirator
b) Oxygen Flow meter, 0 - 15 l/min

c) Oxygen (one cylinder per bed)
d) Patient transfer, roller system
e) Dressing trolley, two trays
f) Bed with mattress
g) Stool
h) Bed screen, 3 sections, mobile
i) Pedal bin
j) Oxygen trolle, complete
k) Ventilator
l) Resuscitator, hand operated
m) Mobile examination light
n) Dual head stethoscope

6.9.4.25. Equipment – operating theatre sluice room

a) Soiled linen trolley
b) General purpose trolley, two trays
c) Bin with lid
d) Worktable with laminated top
e) Wash tub, 65 L
f) Mobile bedpan trolley
g) Bedpan
h) Kidney basin, 475 ml x 5

6.9.4.26. Equipment – cleaners' room, operating theatre:

a) Cleaning trolley
b) Mop rack
c) Worktable
d) Pail with handle
e) Broom
f) Mop

6.9.4.27. Renewable/Consumables for maternity unit

a) Guedel airways: size 0, 00, 3, 4 & 5
b) Alcohol Swabs
c) Disposable aprons
d) Bag urine baby
e) Bags - Refuse - All Colours and Sizes
f) Bags – Urine
g) Batteries - Medical & General
h) Blood Administration Sets
i) Blood Sampling Needles and tubes (assorted),
j) Bottles - Suction - Glass/Plastic
k) Cannula - Nasal-Oxygen
l) Cannula, IV short, ster, disp, 18G, 20 G, 22 G, 24 G
m) Caps - Mop/Bonnet Type
n) Cold/Hot Packs
o) Container, Sample, urine, plastic, non-sterile, 60 ml
p) Cotton:
   - Buds
   - Wool Balls - Sterile/Non-Sterile

- Wool Rolls

q) Drawsheet,plastic,90x180cm

r) Foley Catheters – Latex/Silicone Size 10, 12 and 14

s) Gauze Absorbent Ribbon

t) Gloves:

- Household Large & Medium
- Surgical Size 6, 6 ½, 7, 7 ½, 8
- Exam, latex, disp, large, medium, small

u) Hand wash Antiseptic Liquid (Hibiscrub)

v) Hand wash Povidone (Betadine)

w) K.Y. Jelly

x) Masks - Nebulizer/Oxygen

y) Masks – Oxygen 40 %

z) N.G Tubes 12, 14, 16

aa) Nail Brushes - Autoclavable/Disposable

bb) Needles:

- Spinal disp, (0.9x90mm),sterile, 20G, 22G, 24G
- Disp,15G, 18G, 21G, 22G, 23G, 25G
- Butterfly 23G

cc) Oxygen T Pieces and Oxygen Tubing

dd) Pads - Sanitary - Maternity

ee) Paper CTG

ff) Face Masks

gg) Razor Medical - Disposable - Single Edge

ee) S.G. Meter (Urine Meters)

ii) Safety Pins Large & Medium

jj) Sharps Containers (Safety Box/used syringes and needles)

kk) Shrouds

ll) Soap,toilet,bar,approx.110g,wrapped

mm) Spray Bottles - Plunger Operated

nn) Surgical Spirits

oo) Sutures (assorted types) Syringes (assorted size):

pp) Adhesive Tapes (assorted types)

qq) Clinical thermometer

rr) Tourniquet, latex rubber,75cm

ss) Tube:

- Endo-tracheal, disp. + connector, neonate mm, w.o balloon
- Endo-tracheal, disp. + connector, balloon, 6.5mm, 7mm, 7.5mm, 8mm
- Suction, L125cm,ster,disp, CH10, CH12, CH16

tt) Umbilical clamp

uu) Umbilical cord tape

6.9.4.28. Operating Suite Renewable/Consumables:

a) Airway Guedel, 00 (neonatal), 3, 4 & 5
b) Plastic, reusable aprons
c) Urine bags, collecting, 2000 ml
d) Survival blanketl,220x140cm
e) Blood Sampling needles and tubes (assorted):
f) Bouffant Nurse Cap
g) Cannula,IV short,ster,disp, 18G, 20G, 22G, 24G
h) Foley and Suprapubic Catheters (assorted sizes):
i) Compresses:
   - Abdominal compress, 40 x 40 cm
   - Compress, Swab, 20x 20 cm
   - Compress,gauze,10x10cm,n/ster/PAC-100
   - Compress,gauze,10x10cm,ster/PAC-5
   - Compress,paraffin,10x10cm,ster/BOX-10
j) Connector, biconical, OD 7-11-7mm
k) Cotton wool,500g,roll,non-ster
l) Drain, wound, CH 12, ster, disp, 450 ml (Redon + Needle), CH12, CH16, CH6
m) Drawsheet,plastic,90x180cm
n) Elastoplasts, 10 cm x 3 m
o) Electrode, Chest, Monitor
p) Extractor,mucus,20ml,ster,disp
q) Gauze (assorted):
r) Gloves: sterile and non sterile, different sizes:
s) I.U.D., copper, T
t) Lancets, blood
u) Mask, Clinical, Disposable (non-woven)
v) Mask, Protection, High Filtration
w) Needle, spinal, 0.9x90mm),ster, disp, 20G, 22G, 24G
x) Obstetrical Pads
y) Oxygen mask, adult
z) Oxygen, nasal cannula
aa) Safety box for .used syrgs/ndls 5lt/BOX-25

bb) Set, Infusion “Y”, Luer lock, air inlet

cc) Scalpel blades (assorted):

dd) Shoe cover, disposable

ee) Surgeon's Cap,

ff) Sutures, assorted types,

gg) Syringe, different sizes

hh) Adhesive Tape, assorted types

ii) Endo tracheal Tubes: different sizes

- Tube,suction,CH08,L50cm,ster,disp, CH08, CH10, CH14, CH16

jj) Umbilical Cord Clamp

6.9.4.29. Operating Room Linen:

a) Apron Surgical, rubber

b) Trousers, Surgical, woven, Small, Medium & Large

c) Top, Surgical, woven, Small, Medium & Large

d) Gown, Surgical, woven(Plain)

e) Cap, Surgical, woven

f) Drapes:

- Drape, Surgical, woven(1 X 1 m)
- Drape, Surgical, woven(1 X 1,5 m)
- Drape, Surgical, woven(1.5 x 1,5 m)(fenestrated
- Drape, Surgical, woven(45 cm X 70 cm)(fenestrated)

g) Bed

h) Sheet, draw, white

i) Cellular Blanket (Recovery and outside blankets)

j) Mayo cover

k) Towel Bath

l) Towel Hand

6.10. Anesthesia Services

6.10.1. Practices

6.10.1.1. There shall be a written policy about administration of regional and general anesthesia in the hospital,

6.10.1.2. Minor regional blocks shall be monitored in accordance with the hospital's policy,

6.10.1.3. Anesthesia services shall be administered in accordance with written policies and procedures that are reviewed at least every three years, and revised more frequently as needed. They shall include at least the following :

(a) Anesthesia care, which includes moderate and deep sedation, is planned and documented in the patient's record.

(b) A pre-anesthesia/sedation assessment shall be done by anesthetist or anesthesiologist prior to the induction of anesthesia.

(c) The patient shall be reassessed immediately prior to induction of anesthesia by an anesthesiologist or anesthetist. The plan shall be consistent with the patient assessment and shall include the anesthesia to be used and the method of administration.

(d) Prior to administration of any pre-anesthesia medication, a written informed consent for the use of anesthesia shall be obtained and documented in the medical record.

(e) Each patient's physiologic status shall be continuously monitored during anesthesia or sedation administration and the results of the monitoring shall be documented in the patient's medical record on an anesthesia form, a minimum of :

- Pulse rate and rhythm.
- Blood pressure.
- Oxygen saturation.
- Respiratory rate.

(f) The anesthesia record includes:

- Fluids administered.
- Medications administered.
- Blood or blood products administered.
- Estimated blood loss.

- The actual anesthesia used.
- Any unusual events or complications of anesthesia.
- The condition of the patient at the conclusion of anesthesia.
- The time of start and finish of anesthesia.
- Signature of the anesthesiologist/ or anesthetists.

(g) The patient shall be monitored during the post-anesthesia/surgery recovery period and the results of monitoring shall be documented in the patient's medical record.

(h) The time of arrival and discharge from anesthesia recovery room shall be recorded.

(i) The observation at recovery room shall be done by qualified registered nurses with training of basic advanced cardio-pulmonary support.

(j) The decision of discharge shall be done by anesthesiologist, or anesthetist or other qualified physician based on the documented results of monitoring during the recovery.

(k) The discharge order from the recovery shall be documented on patients chart and signed by anesthesiologist or anesthetist or other qualified physician before transfer.

6.10.1.4. At all times, at least one anesthetist shall be on-site or on-call and available to reach the hospital within 30 minutes.

6.10.1.5. The anaesthetist shall visit the patient before the operation and assess the general medical fitness of the patient, receives any medication being taken, and assess any specific anaesthesia problems.

6.10.1.6. The anaesthetist shall discuss possible plans of management with the patient and explains any options available, to enable the patient to make an informed choice.

6.10.1.7. Information on any medicines or treatments such as blood transfusion shall be discussed with the patient.

6.10.1.8. The anesthetist shall ensure that all the necessary equipment and medicines are present and checked before starting anesthesia.

6.10.1.9. The anesthetist shall confirm the identity of the patient before inducing anesthesia.

6.10.1.10. The anesthetist shall be present in the operating theatre around the patient throughout the operation and shall be present on-site until the patient has been discharged from the recovery room.

6.10.1.11. The conduct of the anesthesia and operation is monitored and recorded in line with the monitoring standards and formats, to a minimum these shall contain:

a) A continuous display of the ECG,
b) Continuous pulse oximeter, and
c) A written record of the anesthetic shall be kept as a permanent record in the case notes.

6.10.1.12. Pain shall be assessed in discussion with surgeon and/ or the patient and pain control shall be provided.

6.10.1.13. Patients shall be managed in a recovery room, except patients requiring transfer for intensive care in ICU, until overcome effect of anesthetic.

6.10.1.14. Written discharge criteria shall be in place, including satisfactory control of pain and nausea, spontaneous breathing, to determine when patients can be safely discharged from the recovery room, making it clear that the final responsibility is always with the anaesthetist or any qualified physician for transfer.

6.10.1.15. The protocols and guidelines used for anesthesia service shall be available and well understood by the surgical team.

6.10.1.16. Anesthetic agents administered with the purpose of creating conscious sedation, deep sedation, major regional anesthesia, or general anesthesia shall be in accordance with aneasthesia policies and procedures.

6.10.1.17. There shall be a written protocol to assure that surgery shall not proceed when there are disabled alarms on the monitors,

6.10.1.18. The body temperature of each patient under general or major regional anesthesia lasting 45 minutes or more shall be continuously monitored and recorded at least every 15 minutes.

6.10.1.19. Pulse oximetry shall be performed continuously during administration of general anesthesia, regional anesthesia, and conscious sedation at all anesthetizing locations, unless such monitoring is not clinically feasible for the patient. Any alternative method of measuring oxygen saturation maybe substituted for pulse oximetry if the method has been demonstrated to have at least equivalent clinical effectiveness.

6.10.1.20. Blood pressure, pulse rate, and respiratory rates shall be determined and charted at least every five minutes for all patients receiving anesthesia at any anesthetizing location, except for local anesthesia and minor regional blocks.

6.10.2. Premises

6.10.2.1. The general anesthesia service shall be provided in the Operation theatre (OR), together with the surgical services.

6.10.2.2. **Operation theatre;** refer to the standards prescribed under the Surgical service standard

(a) There shall be a mechanism for taking exhaust air from anesthesia machine to outside of OR; important when performing open system for pediatric anesthesia,

(b) There shall be central oxygen system or a system where there is a continuous supply of charged Oxygen cylinders,

6.10.2.3. **Anesthesia store:** refer to the standards prescribed under the Surgical service standard

(a) Shall be well ventilated and illuminated room with shelves and cabinets,

(b) The anesthetic shall be kept on shelves and/ or cabinets, separate from medicines, properly labeled,

(c) There shall be at least 4 electric plugs in the room,

(d) Anesthetic equipments shall be stored clean and being ready for use,

(e) Ambu bags and resuscitation kits shall be kept labeled in easily reachable place,

(f) There shall be separate place for keeping new and rechargeable Batteries and dry cells. Used batteries and cells shall be stored and discarded properly, refer to IP and waste disposal protocol,

6.10.2.4. Staff office with chairs, table, cabinet; refer to the standards prescribed under the Surgical service standard

6.10.2.5. Recovery Room: refer to the standards prescribed under the Surgical service section of these standard

6.10.2.6. Shall be sited within the operating suit and has a minimum of:

a) Two beds with side protection,

b) Resuscitation equipment including a defibrillator on trolley,

c) Oxygen source with face mask and or nasal catheter,

d) Ensures ease of communication and access for anesthesia department staff for close follow up,

6.10.3. Professionals

6.10.3.1. Anesthesia service shall be directed by licensed anesthesiologist or BSc in anesthesiology or anesthetist with experience.

6.10.3.2. All anesthesia providers who administer and/or supervise the administration of general anesthesia, major regional anesthesia, or conscious sedation anesthesia shall maintain current training in Advanced Cardiac Life Support.

6.1.4.2 General or major regional anesthesia shall be administered and monitored only by the following:

a) An anesthesiologist;
b) BSc in anesthesiology;
c) nurse anesthetist; or
d) A physician resident (anesthesiology), a student nurse anesthetist, a student anesthetist under the supervision of a licensed anesthesiologist, BSc in anesthesiology and/or nurse anesthetist.

6.10.3.3. The supervision of general or major regional anesthesia shall be provided by a licensed anesthetist or nurse anesthetist or anesthesiologist who is immediately available. The supervising person may concurrently be responsible for patient care, with the exception of performing major surgery, administering general anesthesia, or major regional anesthesia.

6.10.3.4. Minor regional blocks shall be administered by the following licensed professionals:

a) An Anesthesiologist or BSc in anesthesiology or
b) An anesthetist, or nurse anesthetist, or
c) A physician or podiatrist (foot doctor) or dentist;
d) A medical intern, a physician resident, a dental resident, or a student nurse anesthetist, or student anesthetist, or a health officer, or a registered nurse, midwife, under the supervision of at least nurse anesthetist.

6.10.4. Product:

6.10.4.1. Anaesthesia supplies, equipment and safety systems shall include the following:

a) All medical gas hoses and adapters shall be color-coded and labeled according to current national standards.
b) An oxygen failure-protection device ("fail-safe" system) shall be used on all anaesthesia machines to announce a reduction in oxygen pressure, and, at lower levels of oxygen pressure, to discontinue other gases when the pressure of supply oxygen is reduced.
c) Vaporizer exclusion ("interlock") system shall be used to assure that only one vaporizer, and therefore only a single agent, can be actuated on any anaesthesia machine at one time.
d) To prevent delivery of excess anaesthesia during an oxygen flush, no vaporizer shall be placed in the circuit downstream of the oxygen flush valve.
e) All anaesthesia vaporizers shall be pressure-compensated in order to administer a constant non-pulsatile output.
f) Accurate flow meters and controllers shall be used to prevent the delivery to a patient of an inadequate concentration of oxygen relative to the amount of nitrous oxide or other medical gas.
g) Alarm systems shall be in place for high (disconnect), low (sub atmospheric), and minimum ventilator pressures in the breathing circuit for each patient under general anaesthesia.

6.10.4.2. Anaesthesia supplies, equipment and patient monitoring shall include:

a) A respirometer (volumeter) measuring exhaled tidal volume shall be used whenever the breathing circuit of a patient under general anesthesia allows.
b) A difficult airway container or trolley shall be immediately available in each anesthesia department for handling emergencies. The following items are required to be included in the difficult airway container or trolley:
    - resuscitation equipment like ambu bag, laryngoscope, defibrillator, laryngeal mask and endotracheal tube stylet
    - Airway,
    - emergency medicine,
    - Laryngeal mask airway, and/or other items of similar technical capability.
c) A precordial stethoscope or oesophageal stethoscope shall be used when indicated on each patient receiving anesthesia. If necessary, the stethoscope may be positioned on the posterior chest wall or tracheal area.

d) Supplemental oxygen and a delivery system appropriate to the patient's condition shall be immediately available for patient transport from the operating room to the post anesthesia care /recovery unit.

e) Recording and reporting forms

6.10.4.3. Equipments:

a) Anesthesia machine with ventilator, 2 vaporizers, and gas cylinders
b) Adult and pediatric anesthesia circuits with filters
c) Mechanical ventilators
d) Oxygen cylinders, oxygen trolley and oxygen regulator
e) Worktable with laminated top
f) Resuscitation equipments; Ambu bags (adult/ pediatric/ neonates), with inflatable bag,
g) Refrigerator,
h) Time clock
i) Stools
j) Clips
k) Weight scale; adult & pediatric
l) Resuscitation trolley
m) Syringe pump
n) Defibrillator
o) Blood gas analyzer (optional)
p) Dust bin
q) Blankets
r) Framed boards with pencil trays
s) IV stands, infusion pumps, IV fluid pressure bags, blood warmer and IV fluid warmer
t) Tourniquets, tongue depressors, disposable
u) Operation table with minimum of smoothly adjustable 3 sections and accessories:
    - Pillows, abduction
    - Support, head, operating table
    - Positioner bag, small, medium, large
    - Adjustable Head screen
    - Patient transferring Stretchers

- Suction machines

v) Patient monitor

- ECG monitor
- 12 leads Electrode, Monitor
- Pulse oximeter
- Temperature monitor
- Nerve stimulator
- Dual head stethoscope
- BP apparatus with different size cuffs

w) Intubation gadgets:

a) Airway Guedel, pediatric & adult size: 0, 00, 3, 4 & 5
b) Laryngeal mask set
c) Mask holder
d) Cannula - Nasal-Oxygen,
e) Face mask- Oxygen,
f) Masks – Oxygen 40 %
g) Laryngoscope sets with different size blades (Mackintosh)
h) Magill forceps (adult & pediatrics)
i) Intubation stylet, adult, 15 Ch,/ Endo-tracheal tube guide
j) Mouth gauge
k) Tube, Endo-tracheal, different size with connectors:
l) Tube, Trachea, balloon, different size
m) Tube, Suction,CH08,L50cm,ster,disp, CH08, CH10, CH14, CH16
n) Extractor, mucus,20ml,ster,disp
o) Safety Pins Large & Medium
p) Connector, Biconical, Autoclavable
q) Connector, T/Y
r) Connectors - Plastic – Tapered
s) Masks - Nebulizer/Oxygen
t) Other accessories/ supplies:
u) Braun Splints (Arm)
v) Drawsheet, plastic,90x180cm
w) Clinical thermometer

x) Fridge thermometer

y) Tourniquet, latex rubber,75cm

6.10.4.4. All medicines and supplies shall be available as per the national medicines list for this level of hospital

6.10.4.5. Operating Room Linen:

a) Apron Surgical, rubber
b) Trousers, Surgical, woven; Small, Medium & Large
c) Top(shirts), Surgical, woven; Small, Medium & Large
d) Gown, Surgical, woven(Plain)
e) Caps, Surgical, woven
f) Masks, surgical, woven
g) Pillow case
h) Pillows
i) Sheet, Bed
j) Sheet, draw, white
k) Cellular Blanket
l) Organ protections,
m) Shelves
n) cabinets

6.11. Intensive Care unit (ICU) Services

6.11.1. Practices

6.11.1.1. The ICU service shall be available for 24 hours a day, 7 days a week and 365 days a year with Advanced Life Support (ALS) service round the clock with shift.

6.11.1.2. The ICU shall have written policies and procedures that are reviewed at least once every 3 years and implemented. They shall include at least:

(a) Criteria for admission to ICU,
(b) Criteria for discharge and transfer from the service to general hospitals;
(c) A list of procedures that physicians may or may not perform;
(d) Protocols for transfer and transport of patients within the hospital or from the hospital to another facility including who shall accompany the patient being transferred or transported;
(e) Infection control procedures and/or protocols as indicated under infection prevention standards;
(f) A visitors policy that specifies visiting hours and number which subject to the discretion of the patient's physician or primary care nurse;

(g) A policy on the removal of a patient's life support system;

(h) A policy defining the physician, specialist and consulting physician to be called for patient emergencies, including a response time for physicians to respond to patient emergencies;

(i) Standing orders for patient emergencies;

(j) Policies and procedures which ensure that priority laboratory services will be available to critical care patients at all times if medically indicated;

6.11.1.3. Roles and responsibilities of specialists in management of ICU patients shall be available in written policy or protocol. All ICU patients shall be managed or co-managed by a dedicated trained internist or independent practitioner who is exclusively responsible for patients in one ICU.

6.11.1.4. Nursing care shall be the responsibility of a licensed nurse.

6.11.1.5. Complete medical records shall be kept for each patient: pertinent history, physical examination, diagnosis, diagnostic procedures, medication administration, and treatment to facilitate continuity of care. And the patient's medical service record shall be integrated with the patient's over-all hospital record,

6.11.1.6. A ratio of 2 patients to 1 nurse shall be available at a general ICU.

6.11.1.7. There shall be a means of promoting harmony between critical care providers and families. This 5-part system, known by the mnemonic VALUE, includes:

(a) valuing and appreciating what the family members communicate,

(b) acknowledging their emotions by using reflective summary systems,

(c) listening to family members,

(d) understanding who the patient is as a person by asking open-ended questions and listening carefully to the responses, and

(e) Eliciting questions from the family more effectively than by simply asking "Any question?''.

6.11.1.8. There shall be portable life-support equipment for use in patient transport, both within the hospital and for transfer. All ventilators in use shall be equipped with an integral minimum ventilation pressure (disconnect) alarm. There shall be a system for obtaining immediate emergency replacement or repair of equipment in the critical care service.

6.11.1.9. There shall be a system in the hospital of assuring the functionality of the ICU gadgets/ equipments at least every 3 years and labeling for the check service.

6.11.1.10. There shall be a mechanism in place for the critical care service to have access to nutritional support services for advice on both enteral and parenteral nutritional techniques.

6.11.1.11. There shall be a program of continuous quality improvement for the ICU service that is integrated into the hospital continuous quality improvement program and includes regularly collecting and analyzing data to help identify health-service problems and their extent, and recommending, implementing, and monitoring corrective actions on the basis of these data.

6.11.2. Premises

6.11.2.1. The ICU shall be located in access restricted area of the hospital and well identified.

6.11.2.2. **ICU room**: The size of the room depends on the number of ICU beds. The ICU shall be at least 8m x 10m in size that accommodate a maximum of 2 electrically or manually operated ICU patient beds fitted with full range of monitors and a screen.

a) The header of beds shall be 1 m away from the wall
b) There shall be a 2m wide free traffic area by side of beds and between any of two beds.
c) There shall be a nurse station within the ICU having a computer and a computer point, telephone and telephone point, cabinets and shelves, and lockers for controlled drugs.
d) There should be a separate physical area devoted to nursing management for the care of the intermediate patient (32 sq m area including nurse station).

6.11.2.3. Nurse station in the ICU:

a) Isolated with glass, full visual access to monitor admitted patients on monitors,
b) Equipped with chairs, working laminated top tables, drawers and computers, Linen boards, shelves, lockers
c) Telemetry monitoring for critical or post operative patients with transmitters,
d) Telephone end,
e) Medication boards, controlled drug cabinet,

f) Calculators,
g) Weight scale,
h) Ready to use cardiopulmonary resuscitation (CPR) equipments with defibrillator on trolley,
i) Patient labeling for diet, allergy, etc.,

6.11.2.4. The ICU shall have easily accessible hand wash basin around the entrance-exit door.

6.11.2.5. In addition to the main ICU for critical care, the unit shall have the following spaces (rooms): toilets, nurse room, utility room, store, duty room, cleaner's room, staff tea room, and spacious corridor for stretchers and wheelchairs.

6.11.2.6. **Toilet**: ICU shall have staff and patient toilet and shower facilities.

6.11.2.7. The ICU shall be access to laboratory service, or it shall be equipped with side lab, dedicated and open for 24 hours a day and 365 days a year.

6.11.2.8. **Nurse locker room**: There shall be an ICU staff locker room in proximity with the ICU. The ICU area is generally regarded as a sterile zone and there shall be shoe and cloth change point for staff and attending families.

6.11.2.9. **ICU Utility/ Sluice room**: There shall be soiled utility/sluice room which acts as a storage area for contaminated materials until they are disposed off and temporary station for equipments until disinfected and cleaned. The soiled utility room shall have a deep bowel sink, a hand wash basin with hot and cold water, plus cabinet and shelves.

6.11.2.10. **Store room**: There shall be an ICU supply room (store) at least 4m x 4m in size used for storage of consumables and spare equipments. It shall be equipped with cabinets and shelves. Materials shall be labeled, arranged in order, ready for use (charged) and there shall be ventilation and enough light.

6.11.2.11. **Cleaner's room**: There shall be an ICU cleaner's / janitor's room for an easy access to cleaning equipments and materials or the ICU floor. If there is a mobile cleaning service it can be optional.

6.11.2.12. There shall be a staff tea room in close proximity to the ICU.

6.11.3. Professionals

6.11.3.1. The hospital ICU shall be directed by a licensed anesthesiologist or BSc in anesthesiology or nurse anesthetist or intensivist or ICU trained internist.

6.11.3.2. There shall be a registered professional nurse with administrative responsibility for the ICU or combination of units who is accountable for all critical care nursing rendered in the unit or units.

6.11.3.3. The nursing staff of each unit within the ICU service shall have special training in critical care nursing or took on job training.

6.11.3.4. All practicing nurses in the ICU shall be trained and certified in basic cardiac life support.

6.11.3.5. Nurse staffing shall be determined by the number and acuity of illness of the patients (workload analysis) on the critical care unit.

6.11.3.6. There shall be at least one licensed nurse in the ICU for 24 hours a day and 365 days a year.

6.11.3.7. At least the following professionals are required:

a) Anesthesiologist or BSc in anesthesiology
b) Nurse anesthetist
c) Intensivist or ICU trained internist as appropriate
d) Nurses
e) Cleaners
f) Porters
g) General technician

6.11.4. Products

6.11.4.1. Medicines selected for ICU services by the hospital shall be available at all times

6.11.4.2. The hospital ICU shall have the following equipment, instruments and system:

a) The ICU beds shall have removable side protections; functional wheels; shall be easily adjustable to multipurpose positions
b) Mechanical ventilator to assist breathing through an endotracheal tube or a tracheotomy opening; at least 4; All ventilators shall be equipped with an integral minimum ventilation pressure (disconnect) alarm.
c) Different size endotracheal tubes and tracheotomy sets, at least 4 sets,
d) monitoring equipment, equipment for the constant monitoring of bodily functions;
e) cardiac monitors including telemetry,
f) Standard 12 lead EKG machines,

g) external pacemakers (optional),
h) defibrillators;
i) Reliable Oxygen delivery systems: Oxygen cylinder or oxygen concentrator,
j) Oxygen regulator,
k) pulse oximeter,
l) end-tidal carbon dioxide monitoring,
m) Titrated therapeutic interventions with infusion pumps,
n) A web of intravenous lines for medicines, infusions fluids or total parenteral nutrition,
o) suction pumps,
p) infusion pump
q) Laryngoscopes with different size blades,
r) Ophthalmoscope,
s) Mouth gags, different size
t) Air ways, different size
u) Resuscitation trolleys,
v) Exam coaches,
w) Syringe pump,
x) Endotracheal tubes ,(different sets)
y) Wheel chair,
z) Patient transport stretcher,
aa) Sphygmomanometer, with adult and pediatric cuffs,
bb) Sthethoscopes: pediatric and adult,
cc) Electrical suction machine (at least 1 as a backup),
dd) Pedal suction machine,
ee) Nasal CPAP,
ff) Bed pan, plenty in number, different size
gg) Pacing boxes (at least 2)
hh) X-ray viewer per bed
ii) Wall clock (at least 2)
jj) Soiled cloth hampers
j) Patient screen per bed and
kk) IV stands, at least one per bed

6.12. Mental Healthcare Services

6.12.1. Practices

6.12.1.1. Psychiatry service shall have written policies and procedures that shall include

a) Admission and discharge criteria specific to the service;
b) Visitors policy that allows for 24 hour visitation by designated visitors specifying the number of visitors permitted for each patient at any time
c) Infection control specified under this standard and National and or Hospital IP guideline
d) Transfer and referral of patients
e) Monitoring and follow-up of patients

6.12.1.2. Psychiatric patients shall receive all medical, surgical, diagnostic and treatment services as ordered by a physician

6.12.1.3. There shall be written protocols and procedures for the management of the psychiatry conditions in the hospital

6.12.1.4. There shall be written SOPs regarding the admission, consultation, discharge, transfer and follow-up of psychiatric patients

6.12.1.5. There shall be an integrated psychiatry emergency service for 24 hours a day and 365 day a year in the hospital.

6.12.1.6. There shall be psychiatry follow-up service during working hours

6.12.1.7. There shall be pharmacotherapy and Electro Convulsive Therapy (ECT) services in the hospital

6.12.1.8. There shall be a dedicated outpatient and inpatient services for mental health services

6.12.1.9. The psychiatric team shall be responsible wherever the psychiatric patient is referred and treated for other medical illnesses within the hospital

6.12.1.10. The following services shall be available as part of the program of the psychiatriy care unit;

a) Individual, group and family therapy;
b) Mental rehabilitative services;

c) Psychological services and
d) Recreational therapy
e) Electroconvulsive therapy (ECT)

6.12.1.11. A social worker shall complete a psychosocial assessment for each patient which includes at least the following:
a) Identified problems;
b) Social and family history;
c) Educational and employment history;
d) Financial status; and
e) Present living arrangements.

6.12.1.12. Psychiatric evaluation shall be documented in the medical record and shall include at least the following:
a) The chief complaint;
b) History of present illness;
c) Family history;
d) Pertinent medical history including previous reactions to psychotropic medications;
e) A mental status and;
f) A diagnostic impression

6.12.1.13. An individual, comprehensive, multidisciplinary care plan shall be developed for each patient based on an assessment of the patients' strength and limitations. The written care plan shall include at least the following:
a) A psychiatric diagnosis specifying undercurrent diseases.
b) Observable treatment goals
c) The specific treatment methods to be used and;
d) The responsibilities of each member of the interdisciplinary care team.

6.12.1.14. Nursing services shall be the responsibility of licensed psychiatry nurses and other mental health workers and shall be directed by an experienced professional psychiatry nurse.

6.12.1.15. The multidisciplinary care plan shall be discussed with the patient and/or the patient's next of kin and implemented accordingly.

6.12.1.16. Written discharge plan shall be developed for each patient by the members of a multidisciplinary team, who either meet or make notes individually in the patient's record.

6.12.1.17. There shall be Infection control practices for the day/dining room, equipment and rooms used by more than one patient based on the hospital wide infection prevention and control policies and procedures manual.

6.12.1.18. There shall be Safety and security precautions for the prevention of suicide, assault, elopement and patient injury.

6.12.1.19. There shall be mechanisms for providing immediate security assistance to staff and patients.

6.12.1.20. Patients shall be advised of the reasons for, and expected effects of, medications prescribed for them.

6.12.1.21. There shall be a milieu program that includes patient community meetings and daily activities.

6.12.1.22. Every medical record relevant to psychiatric illness shall be kept for each patient stated under the medical records section of this standard

6.12.1.23. An accurate schedule of activities shall be posted conspicuously in the unit.

6.12.1.24. Authorized security personnel shall have immediate access to locked units.

6.12.1.25. There shall be a system for summoning help from other areas of the unit in an emergency.

6.12.1.26. Disturbed Children and Adolescents shall have access to clinical or general psychological, and clinical or general social works service in addition to psychiatric service every day including emergency service that takes consideration age specific psychiatric conditions among this age group and psychosocial crisis.

6.12.1.27. The hospital shall have addictive substances' detoxification, treatment, rehabilitation services specific to the problem and shall have access to

psychiatry, clinical or general psychological, and clinical or general social works service every day

6.12.1.28. There shall be substance abuse care and follow up service

6.12.1.29. There shall be a pediatric and adolescent psychiatric care and service

6.12.1.30. There shall be a system for clinical staff to refer patients directly to the social works unit.

6.12.2. Premises

6.12.2.1. A private setting shall be available for interviewing patients.

6.12.2.2. There shall be a separate psychiatry emergency room (s). The psychiatry emergency room(s) shall have additional doors through which escape is possible for mental health professional working there in the case of imminent assault by acutely disturbed violent patient. Restraint of such patients shall be carried out by trained paramedical staff so that emergency medication shall be possible

6.12.2.3. The unit shall have access to at least one acute care/seclusion room.

6.12.2.4. Acute care/seclusion rooms shall be at least 9 square meters and shall be large enough to provide access to the patient from all sides of the bed or mattress and have room for emergency life-sustaining equipment.

6.12.2.5. Patients in acute care/seclusion rooms shall be either under direct observation or in a room near the nurses' station.

6.12.2.6. There shall be psychiatric ward dedicated for psychiatry service.

6.12.2.7. There shall be an Electro Convulsive Therapy procedure room with instruments and materials needed together with documentation forms and documentation book and a cupboard for bed sheets and mattresses with pillows the equipment

6.12.2.8. The psychiatry unit shall have a day room/dining room that allows for social interaction, dining, and therapy.

6.12.2.9. Space for structured physical exercise programs shall be available to patients.

6.12.2.10. There shall be space in each patient room for storage of patient's personal belongings. There shall be a system for securing patient's valuable belongings.

6.12.2.11. The outpatient layout shall include the following:

a) Waiting area of the psychiatric wing: room /lobby with public telephone, TV area, drinking tap water, and gender specific toilets

b) Reception and Recording area/desk

c) Dedicated patient examination rooms

d) Room for providing injections

e) Storage place for sterile supplies

f) Utility room for cleaning and holding used equipments and disposing patients specimen

g) Staff room (for changing cloth)

h) Janitors closet

6.12.2.12. The psychiatry service unit shall have a isolation room for treatment of conditions that require isolation for inpatients.

6.12.3. Professionals

6.12.3.1. The Psychiatry service shall be directed by a licensed psychiatrist.

6.12.3.2. A psychiatrist or a licensed independent practitioner and shall be on duty or on call at all times

6.12.3.3. A psychiatrist or licensed independent practitioner shall be responsible for the follow-up clinics.

6.12.3.4. The number, type and skills of clinicians and support staff shall ensure that patients are appropriately treated and cared for at all times.

6.12.3.5. A licensed psychiatry nurse shall be available at all times to assess, evaluate, and follow the nursing care provided

6.12.3.6. In addition;

a) Clinical psychologist or General psychologist with exposure to clinical medicine in hospital for one year should be available
b) Professional nurse with clinical psychiatry experience.
c) Nurses with clinical psychiatric experience
d) A social worker with experience in social work or mental health.

6.12.4. Products

6.12.4.1. The restraint equipment needed by the unit shall be immediately available on the unit and accessible to unit staff.

6.12.4.2. Recreational and therapy equipment and supplies needed for psychiatry care shall be available on the unit and stored in locked storage.

6.12.4.3. Locked storage areas shall be available for supplies and the safekeeping of the individual, ongoing projects of patients.

6.12.4.4. The psychiatric OPD shall have the following supplies and functional equipment in addition to office furniture's

a) Torch,
b) Weighing scales for adults and/or children
c) thermometer
d) Stethoscopes
e) Sphygmomanometer
f) Examination couch
g) Vaccutainer needles with stand for blood drawing for laboratory investigation
h) Hand washing basin
i) Emergency ECT access when inpatient treatment is not possible
j) Spatula, disposable gloves, cotton, gauze
k) Prescription, certificate, and appropriate referral forms, request forms for laboratory, X-ray and other imaging investigations

6.16.3.11. The inpatient service shall have the following supplies and functional equipments

a) ECT machine, gags, electrode application rubbers, electrodes, gel for electrode placement
b) Torch,
c) Weighing scales
d) Tape meter, thermometer, patella hammer

e) Stethoscopes and Sphygmomanometer
f) Examination couch, medicine trolley, Cup board
g) EKG machine,
h) Computerized EEG mach with at least 18 channels
i) Suction machine
j) Drip counters/Infusion pump, Tourniquets and IV stands
k) Oxygen cylinder, Flow-meters for oxygen, Nasal prongs catheters
l) Self inflating bags for respiratory support, Masks, endotracheal tubes,
m) Cannulas, Nasogastric tube
n) Beds for patients and hand washing basin
o) Glucometer

6.12.4.5. The service shall have at least a general follow-up clinic that shall have the following supplies and functional equipments:-

a) Weighing scales
b) Tape meter (optional), thermometer, patella hammer
c) Stethoscopes and Sphygmomanometer
d) Examination couch
e) Gauzes, Vaccutainer needles with appropriate stands for blood drawing
f) Disposable rubber gloves
g) partitioned spaces for Injection
h) hand Washing basin

6.12.4.6. Locked storage areas shall be available for supplies and the safekeeping of the individual, ongoing projects of patients.

6.12.4.7. Psychotropic medications and other drugs shall be available in line with the hospital drug list.

6.13. Dentistry Services

6.13.1. Practices

6.13.1.1. The dental service shall be available during working hours.

6.13.1.2. There shall be written protocols and procedures for the management of dental conditions as well as consultation, referral and transfer of inpatients /outpatients to other services inside/outside the hospital.

6.13.1.3. The dental unit shall be functional for dental for emergency cases on call basis after working hours.

6.13.1.4. Emergency oral and maxillofacial surgery services may be available 24 hours a day and 365 days a year. This includes:

a) Facial and dent alveolar infections (cellulitis)
b) Treatment for facial injuries and associated injuries
c) Lower or upper jaw fractures

6.13.1.5. Non emergency oral and maxillofacial surgery services may be available during the regular working hours. This includes:

a) Treatment for craniofacial and jaw deformities
b) Implants and pre-prosthetic surgery
c) Temporo-mandibular joint therapy
d) Facial cosmetic surgery
e) Surgery for oral pathological lesions, including oral cancer
f) Physical therapy for oro-facial pain
g) Removal of mal-positioned or impacted teeth
h) Surgery for cleft lip and palate (team work)
i) Apicectomia & Cystectomia etc.

6.13.1.6. Non emergency dental services (general dental services) shall be available during the regular working hours.

6.13.1.7. For admitted dental patients, the dental service shall be responsible to arrange availability of care with the surgical department to cover all the shifts.

6.13.1.8. Adequate dental records shall be kept for each patient and the patient's dental service record shall be integrated with the patient's over-all hospital record

6.13.1.9. Information contained in the dental record shall be complete and sufficiently detailed with respect to the patient's history, physical examination, oral (Intra & Extra) examination, diagnosis, diagnostic procedures, medication administration, and treatment to facilitate continuity of care.

6.13.1.10. Informed Consent (written/verbal) shall be complete for every dental procedure in addition to minor & major surgery.

6.13.1.11. The dental service shall be provided in accordance with infection prevention standards

6.13.2. **Premises**

6.13.2.1. The dental service shall be located in the outpatient service unit of the hospital.

6.13.2.2. There shall be an arrangement for in-patient service sharing with surgical department.

6.13.2.3. There shall be a minimum of one room with one dental unit or set up.

6.13.2.4. The number and size of the rooms shall be adequate depending on the volume and nature of the activity in the service unit.

6.13.2.5. There shall be a waiting area for oral health education.

6.13.2.6. There shall be an X-ray mounted dental unit with leaded door and lead apron. The design of rooms for dental x-ray equipment shall be in accordance with the guidelines of Ethiopian Radiation Protection Authority and this standard.

6.13.2.7. There shall be a dental laboratory room for orthodontics and prostodontics

6.13.2.8. In addition to the rooms mentioned above dental services shall have the following rooms:

a) Sterilization area/ Store room with shelves
b) Staff office
c) Room for mini pharmacy
d) Staff toilets, showers and changing room
e) Guarded place or room for air compressor,
f) Places for electric generator, backup
g) Store.

6.13.2.9. The dental service shall use the hospital operation theatre, ICU & anesthesia services.

6.13.3. Professionals

6.13.3.1. The dental service shall be directed by a licensed dental surgeon or a maxillofacial surgeon

6.13.3.2. There shall be adequate qualified dental and auxiliary personnel in the dental service unit available at all times to meet the service needs.

6.13.3.3. The number and type of technical staff shall be determined by the volume and type of work carried out (Work load Analysis).

6.13.3.4. A dental surgeon or doctor shall be available (Physically present) during working time in the dental unit.

6.13.3.5. A dental surgeon or maxillofacial surgeon shall be available on call at all times. The surgeon shall be able to be present at the service unit within thirty (30) minutes upon call.

6.13.3.6. Licensed dental professionals (BDSc. Dental Therapist and dental technician) shall be available during working hours to assess, evaluate, and follow the dental care provided.

6.13.3.7. There shall be adequate support staff available as per the service need.

6.13.3.8. There shall be a mechanism for exchange of scientific knowledge, skills and services in line with upgrading standard of dental services

6.13.4. Products

6.13.4.1. The dental services shall have the following equipment and instrument:

a) The dental unit(s)
   - Air-water syringes
   - Operating light
   - Saliva ejector (oral evacuator system)
   - Dental Chair
   - Operator's stool
   - Assistant stool

b) Instruments for examination
   - Dental mirror, Cotton pliers & Spoon excavator
   - Explorers (different types, number 521,22,17 & number 23)
   - Periodontal pocket probe

c) Instrument for filling treatment
   - Condenser (serrated & plain, Medium, and big size)
   - Beaver tail
   - Burnisher (ball type, football type, interproximal type)
   - Carve (Hollenback,tanner, ward, discoid-cleoid).
   - Trimmers
   - Knife (interproximal, finishing gold foil)
   - Amalgam carriers (doubled ended, guntype)
   - Matrix retainer (different types tofflemire, ziqueland)

- Proximal trimmer

d) Plastic instruments for filling treatment
   - Carriers for restorative materials
   - Carvers
   - Condenser Beaver tail

e) Materials & instruments to keep the area free from moistures & to improve visibility
   - Rubber dam equipment
   - Clamps (different type, posterior & anterior, mandibular & maxillar)
   - Universal rubber-Dam clamps forceps
   - Rubber- dam punch
   - Holder young frame
   - Automation

f) Dental hand pieces with Rotating instruments & hand cutting instruments
   - Hemostats (curved , straight ,mosquito, Kelly needle holder)
   - Crow scissors
   - Ligature scissors
   - Surgical scissors
   - Low speed hand pieces
   - Straight hand pieces
   - Contra angle hand pieces
   - High speed hand pieces
   - Polishing hand pieces unit
   - Ultrasonic Scaler

g) Instruments and Materials for root canal treatment
   - Endodontic probe
   - Straight and curved gutta percha pluggers
   - Broach (smooth and barber type). Spreaders
   - Files (Hedstrom files, K types files, Rat-Tail files
   - Gates Glidden drills
   - Millimeter ruler
   - Glass bead sterilizer
   - Endodontic measureing Gauge

h) Instrument for Oral Surgery
   - Periosteoteme (Periosteal elevator)
   - Root elevators

i) Forceps for Dental Extractions (Deciduous teeth)
   - Maxillary forceps for anterior teeth:
     - Forceps 99 A (Canine forceps)

- Forceps 99 C (incisor forceps)
- Forceps 150 (Universal forceps)
- Forceps 213 (incisor forceps)
- Maxillary forceps for back teeth
- Forceps 18 right and left
- Forceps 24 (universal forceps for molar)
- Forceps 210 (wisdom forceps)

- Mandibular forceps for anterior & posterior teeth extraction
  - Forceps 103-(incisors forceps)
  - Forceps 203 (incisor forceps)
  - Forceps 1519 universal forceps)

j) **Mandibular forceps for posterior teeth:**

- Forceps 16 (1st molar forceps)
- Forceps 23 (1st molar forceps)
- Forceps 297 (2nd molar forceps)
- Forceps 222 (Wisdom forceps)

k) **Right-angled forceps for mandibular Extraction**

- Mead 3 forceps
- Mead 4 forceps

l) Maxillar Forceps for anterior & posterior teeth extraction

m) Forceps for Maxillary and mandibular root extraction

- Forceps 286 (Bayonet forceps)
- Upper frontal milk forceps (forceps 1)
- Upper molar milk forceps (forceps 8)
- Lower frontal milk forceps (forceps 4)
- Lower molar milk forceps (Forceps 5)
- Root forceps (Bayonet)-(forceps 2)
- Forceps 44

n) Periodontal instruments

o) Basic Dental Laboratory Equipments

p) Equipment for Radiology Department

- Dental X-ray unit
- Intraoral X-rays system
- Extraoral X-rays system
- Panoramic radiography (optional)
- View box for radiography (Negatoscope)
- Film processing
- Lead Aprone

q) Equipments for sterilization

- Super heated steam under pressure (Autoclave)

- Dry heat sterilization (Oven)
- Cotton roll sterilizer
- Different pans use for disinfections & sterilization of instruments

r) Equipment used for amalgam restoration:

- Amalgam mixing machine (Amalgamatory)

s) Different operatory cabinets

- Mobile cabinets and\or Fixed cabinet

t) Central Air compressor

u) Other rotating instruments:

- Mandrel (straight and latch type)
- Carborundum, Silica, Crocus, discs and stones

v) Hand cutting instruments:

- Enamel Hatches
- Enamel chisel
- Discoid-cleoid
- Dental Hoe
- Gingival margin Trimmer
- Angle former

w) Other surgical instruments

- Curettes (Angled, Straight, different Sizes)
- Rongeurs (Bone-cutting forceps
- Bone-file
- Scalped and Handle for scalped
- a) Farabeut
- b) 3rd molar retractors
- Mouth props
- Cheek and Tongue retractors
- Bone chisels
- Mallets
- Suture needles
- Irrigation syringe
- Aspirating tip
- Local anesthetic equipment (metal anesthesia syringe
- Pliers flat nose and serrated
- Contouring pliers (Number 112,114,118,800,417

x) Orthodontics instrument

- Band removing pliers
- Band pusher
- Band adapter
- How pliers (straight and curved)
- Bird-beak pliers

- Ligature cutter
- Distal end cutler
- Band removing pliers
- Wire bending pliers-
- Lingual arch forming pliers
- Loop pliers
- Clasp bending pliers
- TP pliers (110,130)
- Assorted orthodontics band
- Preformed edgewise arch wires/

y) Periodontal instruments

- Scalers- different types, sickle, Jaquete, Chisel, Hoe, file scaler
- Curettes (Universal, Gracey)

z) Prosthodontics Instruments:

- Crown remover
- Trays-(perforated, rim lock, acrylic, metallic, different sizes, for the upper & lower jaws)

6.13.4.2. The dental service shall have the following consumable materials:

a) Dental materials: Temporary & permanent fillings
b) Dental films (Periapical, occlusal & panoramic view)
c) Light curing unit with composite materials
d) Local anesthesia (Spray, Cartridge with & without adrenalin)
e) Matrix band (metallic & celluloid, different size for molar & bicuspid)
f) Aticulating paper
g) Wooden wedge
h) Paper pad
i) Glass slab
j) Dental floss
k) Dappen dishes
l) Finishing disc (various sizes and grits)
m) Abrasive stones and disc (green, white)
n) Brushes (prophylaxis type)
o) Rubber disc with abrasives
p) Rubber disc with abrasives
q) Sand paper disc
r) Polishing pastes
s) Mortar and pestle
t) Kit for friction lock retention pin
u) Spatula (various sizes and shapes metallic, plastic)
v) Rubber bowl
w) Sets of performed temporary stainless steel crown
x) Sets or preformed anatomical plastic crown of polycarbonate resin
y) Other consumables (analgesics, disposable syringe & gloves etc)

6.13.4.3. Consumable materials for root canal treatment

a) Paper points
b) Gutta percha points (From 1 to 6 and from 7 to 12)
c) Endodontic kits
d) Rotatory cutting instruments:
e) Burs (carbide, diamonds, plain steel, carborundum for slow hand piece& high hand piece types
f) Round burs (Number ½-11)
g) Pear- shape burs (230-232)
h) Inverted cone burs (31 ½-44)
i) Taper fissure burs (169-171 plain, 699-703)
j) Round- end
k) Fissure burs
l) Flat-end fissure burs (957-959)
m) Cylinder burs
n) Wheel burs (11 ½ -16)
o) End-cutting burs
p) Drills for pin retention
q) Flames burs (242-246)
r) Straight fissure (55 ½-62 plain,556-563 dentate)
s) Composites burs
t) Bud Burs (44 ½-51)
u) Oval burs (218-221)
v) Cone burs (22 ½ -33)

6.14. Otorhinolaryngology (ORL) Services

6.14.1. Practices

6.14.1.1. The ORL service shall have written policies and procedures.

6.14.1.2. There shall be written protocols and procedures for the management of the medical and surgical conditions in the unit as well as consultation and transfer of patients admitted to this unit or other departments.

6.14.1.3. Every medical record shall be kept for each patient as specified in the medical records of this standard.

6.14.1.4. Integrated emergency ORL services shall be available 24 hours a day and 365 days a year.

6.14.1.5. Outpatient and Elective surgical interventions for ORL Service shall be available during working hours.

6.14.1.6. The ORL service shall include the following.

a) Daily outpatient services.
b) Minor and major surgical services.
c) Inpatient services
d) ORL diagnostic tests and procedures.
e) Pre operative investigations and Postoperative follow ups.
f) Outpatient and inpatient consultations from other departments.
g) ORL emergency cases management.

6.14.1.7. Infection prevention standards shall be implemented in the ORL service as per the IP section of this standard.

6.14.1.8. The ORL service shall have access to laboratory, imaging, blood transfusion service, pharmacy, medical record and other services.

6.14.2. **Premises**

6.14.2.1. The ORL service shall have the following:

a) The outpatient ORL service unit shall have at least 3 rooms reserved /allocated at the general OPD or in a separate area. It shall include the following:

- Examination room,
- Staff office (can be shared with general OPD),
- Waiting room/ area for patients (can be the general OPD waiting area),

- Nurses station,
- Toilets for staff and for patients (can be shared with general OPD),

b) In patient ORL service may have its own ward or may be integrated with surgical ward as per the inpatient section of this standard.

c) Nurses' station as per the inpatient section of this standard.

6.14.2.2. The ORL service shall share the operation theatre (OR), Minor OR, ICU, recovery room, changing room and staff room with the general surgical services.

6.14.2.3. There shall be a mechanism for taking exhaust air from anesthesia machine to outside of OR; important when performing open system for pediatric anesthesia,

6.14.3. Professionals

6.14.3.1. The ORL service shall be directed by a licensed ORL**/** ENT specialist.

6.14.3.2. Students and other staff on attachment shall work under the direct supervision of licensed ENT specialist.

6.14.3.3. ORL service staff shall, at all times, perform their functions with adherence to the highest ethical and professional standards of the medical profession

6.14.3.4. The ORL service management shall provide adequate training, continuing medical education or access to further training for technical staff, and assess staff competency at regular intervals.

6.14.3.5. The ORL services shall have the following professionals and staffs to the minimum:

a) licensed ORL specialists,

b) ENT trained or OPD nurses with ENT experience,

c) OR nurses trained in ENT shared with general OR staff,

6.14.4. **Products**

6.14.4.1. The ORL OPD shall have:

a) One ORL diagnostic unit, each integrated with
   - Suction machine
   - Compressed air system
   - Warm water irrigation
   - Cold light source for endoscopes
   - Instrument cabin
   - Container for used instruments.

b) Flexible patient chair.

c) mobile doctor's chair

d) Sterilizer.

e) Table and two chair.

f) X-ray viewer

g) Head light

h) Tongue depressors
i) Rhinoscopes (nasal specula)
j) Otoscopes (ear specula)
k) Laryngeal mirrors
l) Tuning forks (256,512,1000,2000,4000,8000Hzs)
m) Metallic suction tips
n) Aural forceps
o) Packing forceps
p) Minor surgical sets
q) Ear hooks
r) Nasal packing forceps
s) Biopsy forceps (Laryngeal, Nasopharyngeal)

6.14.4.2. Equipments and supplies for ORL inpatient service shall be as per standards prescribed under the surgical service.

6.14.4.3. The ORL surgical service shares the hospital Major OR facilities with the following additions:

- Operating microscope ceiling mounted or mobile
- OR Table flexible in all sides, with Head Rest.
- Cold light source and head lights
- ENT OR stools (mobile)
- ORL Surgical Instrument Sets:
  - Myryngoplasty sets
  - Typanoplasty sets
  - Mastoidectomy sets
  - Surgical drill and tips
  - Otoplasty sets
  - FESS sets
  - Rhinoplasty sets
  - Septoplasty sets
  - Cald –wel- luc sets
  - Nasal polyp sets
  - Total laryngectomy sets
  - Neck dissection sets
  - Laryngoscopy sets(adult)
  - Laryngoscopy set(pediatric)
  - Laser laryngoscopy set(adult)
  - Laser laryngoscopy set (pediatric)
  - Tracheostomy sets
  - Tracheostomy tubes metallic (weith inner canula)
  - Tracheostomy tubes plastic(with inner canmula)
  - Parotidecomy set

- ○ Adeno-tonsillectomy sets
- ○ Suture materials

6.14.4.4. Minor OR shall have (standalone ORL minor OR or shared with the general minor OR)

- ENT OR Table with head rest,
- Light Source & head lights,
- ENT OR stool (Mobile),
- Resuscitation trolley,

6.14.4.5. The ORL diagnostic service shall have the followings:

a) audiometer,

b) tympanometer,

6.15. Ophthalmology Services

6.15.1. Practice

6.15.1.1. The Ophthalmology service shall have written policies and procedures including:

(a) Admission and discharge criteria specific to the service;

(b) Visitors policy

(c) Transfer and referral of patients

(d) Monitoring and follow-up of patients

(e) Infection prevention and control as per the IP section of this standards

6.15.1.2. The Ophthalmology service shall provide at least the following services

(a) Visual acuity testing

(b) Slit lamp examination

(c) Keratometry and ultrasound examinations

(d) Laser therapy

(e) Visual field examination

(f) Minor and major ophthalmologic surgical procedures (Tarsoraphy, cataract, enoculation etc)

(g) Medical management of glaucoma

(h) Optometry service (optional)

6.15.1.3. The ophthalmology service shall have protocols and procedure at least for the following:

(a) Penetrating eye injury

(b) Glaucoma management

(c) Red eye

(d) Corneal laceration

(e) Surgical interventions

6.15.1.4. The Ophthalmology service shall be available during the regular working hours. .

6.15.1.5. Integrate emergency ophthalmology service shall be rendered within the general emergency service at all times.

6.15.1.6. Information contained in the medical record shall be complete and sufficiently detailed relative to the patient's history, physical examination, diagnosis, diagnostic procedures, medication administration, and treatment. Refer to the medical record section of this standard.

6.15.1.7. For admitted patients the medical service shall be organized in a way that it covers all the shifts (24 hours of the day and 365 days a year)

6.15.2. Premises

6.15.2.1. The ophthalmology service shall have outpatient service areas as specified below

(a) Examination rooms

- Visual acuity and Slit lamp biomicroscopy: one room having 6 m length or 3 m with mirror and washing basin facilities

(b) Nurse station

(c) Physicians room

(d) Minor OR room with washing basin

6.15.2.2. The admission corner shall have the following service areas:

(a) The number of rooms and beds shall be determined depending on the nature of the work to be performed.

(b) Admission room shared with other services

6.15.2.3. The Ophthalmology service shall have major facility which may be standalone or shared with the general OR of the hospital.

6.15.2.4. The hospital shall have minor operating theater of ophthalmology service shall have the following:

a) Patient's preparation room
b) Changing room separate for mail & female
c) Scrubbing room with two washing basins
d) Minor operation theater with swinging doors
e) Toilet

6.15.3. Professionals

6.15.3.1. The Ophthalmology Service shall be directed by a licensed ophthalmologist.

6.15.3.2. An ophthalmologist shall be available at all working hours and he/she shall be also available on call at duty hours.

6.15.3.3. Nursing service shall be the responsibility of licensed nurse and shall be supervised by the ophthalmologist.

6.15.3.4. A licensed nurse shall be available at all times to assess, evaluate, and follow up the nursing care provided.

6.15.3.5. Anesthesiologist or nurse anesthetist or anesthetist or BSc in anesthesiology shall be available, as appropriate.

6.15.3.6. The service shall have the following staff

a) Ophthalmologist
b) Ophthalmic nurse
c) Optometrist/refractionist (optional)
d) BSc in ophthalmology or BSc in cataract surgery (optional)

6.15.3.7. The service shall have supporting staff such as cleaners

6.15.4. Products

6.15.4.1. The ophthalmology service shall have the following functional equipment

a) Diagnostic Equipment/Instrument

- Slit lamp
- Trial set with trial frame (children and adult), Cross cylinder
- Slit lamp biomicroscopy with schiotz tonometery
- Snellen test chart (Distance chart)
- Near point Acuity test card
- Color test (Ishara)
- Lang stereo test
- Retinoscopy
- Lensometer
- Torch (light)
- Ophthalmoscope (direct)
- Gonioscopy lens
- Lacrimal dilator and probe
- Probung set
- BP apparatus
- Glucometer
- Tonometer /Schiotz
- Autoclave,
- examination bed

b) Therapeutic Equipment/Instrument

- OR microscope
- Cataract set
- Glaucoma operation set
- Tarsotomy set
- Chalazion set
- Enuclation set
- IOL (both Posterior chamber and anterior chamber lenses of different diopters)
- Suture different size (3.0, 4.0, 9.0, 10.0)

- Viscoelastic
- Eye pad
- Ringer, saline
- Ambu bag and oxygen cylinder

c) Diagnostic Medicines

- Phenynephrine
- Tropicamide eye drops
- Atropin drops
- Fluorescein strips /drops
- Cyclopentlate drops
- Tetracaine drops

6.15.4.2. Consumables

- Intraocular lens, extraocular lens, povidone Iodine, Alcohol 70 %, gloves of different size, syringes, cotton, gauze, plaster and other commonly applicable consumables

6.15.4.3. Both emergency and non-emergency medicines and supplies shall be available in line with hospitals medicines list.

6.16. Dermatology Services

6.16.1. Practice

6.16.1.1. Dermatological services shall be available during working hours.

6.16.1.2. There shall be written procedures patient admission, discharge, referral, appointment, care, management and ward rounds of patients.

6.16.1.3. There shall be an agreed definition of a day case and recognition of the time required to perform the various surgical procedures.

6.16.1.4. The dermatologist who is responsible to direct and coordinate the service shall ensure that there is full medical cover for inpatients at all times.

6.16.1.5. There shall be a system for the handover of clinical problems when other practitioners take over the care of patients.

6.16.1.6. There shall be a system in place to ensure that the dermatologist is consulted when there is any problem that needs his/her expertise.

6.16.1.7. Thorough, contemporaneous records shall be kept and systems are in place to ensure continuity of care when patients are transferred between assessment and admission units or from other wards and hospitals.

6.16.1.8. Dermatologists shall give information to patients in a way they can understand and ensure that patients give informed consent to their clinical care.

6.16.1.9. There shall be a teamwork involving other disciplines when necessary.

6.16.1.10. The outpatient services shall have general skin disease clinic.

6.16.1.11. The inpatient service for dermatology shall be integrated with Medical and pediatric wards.

6.16.1.12. Dermatologic interventions shall be rendered by licensed dermatologists

6.16.1.13. There shall be a mechanism that ensures consultation of a dermatologist out of duty hours.

6.16.1.14. There shall be consultation with the pharmacy services for the preparation of topical medicaments.

6.16.2. Premises

6.16.2.1. The dermatology service shall at least have an outpatient and impatient service parts shared with the internal medicine and pediatric services.

6.16.2.2. The dermatology examination room shall have the following requirements:

a) Good natural light and illumination.

b) Well shaded patient waiting area.

6.16.2.3. There shall be staff office.

6.16.3. Professionals

6.16.3.1. The dermatology services shall be directed by a licensed dermatologist

6.16.3.2. The following professionals shall be available:

a) Dermatologist
b) Nurse
c) General Practitioners

6.16.4. Products

6.16.4.1. The following products shall be available to provide dermatological services

a) Dermatology examination kit
b) Examination lamp
c) Cautery machine,
d) Cryotherapy machine,
e) Wood lamp
f) Dermojet,
g) Dermatoscope,
h) Magnifying glass
i) Specula
j) Punch biopsy set and minor set
k) Phlebotomy set and others
l) Examination couches.
m) Surgical packs of appropriate instruments
n) Equipment for electrocautery
o) Equipment for cryosurgery and storage for liquid nitrogen
p) weighing scale (pediatric and adult),
q) Thermometer,
r) BP apparatus (different size),
s) Bed screen

6.17. Oncology Services

6.17.1. Practices

6.17.1.1. The oncology outpatient services shall include:

(a) New patient services**,**

(b) Follow-up services,

(c) Radiotherapy planning services,

(d) Radiotherapy treatment sessions,

(e) Weekly Radiotherapy treatment checks,

(f) Chemotherapy sessions,

(g) Oncologic emergency services including emergency procedures,

(h) Health education on cancer related topics

(i) Pain clinics if possible,

6.17.1.2. The oncology inpatient services shall include:

(a) Delivering chemotherapy sessions,

(b) Nursing care according to individual patient's needs

(c) Brach therapy (Low dose rate or high dose rate, preferably high dose rate sources)

6.17.1.3. There shall be a multidisciplinary cancer committee, chaired by a physician that is responsible for at least the development of oncology policies and procedures, tumor review, and tumor registry.

6.17.1.4. The multidisciplinary team shall consist of clinical oncologist, surgeon who deals with the respective tumor type, pathologist, radiologist, depending on the type of malignancy, oncology nurse and there shall be meetings on a regular basis.

6.17.1.5. The service shall have written policies and procedures that are reviewed at least once every three years, revised more frequently as needed, and implemented. They shall include at least:

a) Criteria for admission

b) Guidelines for mixing chemotherapy, when performed on the unit,

c) Guidelines for administering chemotherapy

d) Training of nursing and housekeeping staff in the disposal of chemotherapeutic agents;

e) Use, handling, storage, and disposal of specific chemicals, agents, and body wastes;

f) Assuring informed consents to chemotherapy; and

g) Psychological/social and spiritual aspects of patient care.

6.17.1.6. There shall be a formal mechanism for communication between the oncology service and each of the following clinical areas: nursing, dietary, social work, nuclear medicine and pharmacy.

6.17.1.7. All patients with cancer shall be managed by a multidisciplinary process. It includes diagnosis and all aspects of treatment and care, including symptom management and end-of-life care. It considers each individual patient's need and preference for care and treatment. The multidisciplinary process shall include the followings:

a) There shall be a multidisciplinary management protocols covering systems for referral (including to medical, surgical, oncology and palliative care services), investigation, diagnostics, staging for treatment, treatment, follow-up and end-of-life care for patients with cancer.

b) All patients shall have access to palliative and supportive care appropriate to their needs

c) There shall be written local protocols for discharge planning, which includes details for pre-discharge, actual discharge and post-discharge arrangements.

d) All patients with cancer shall have individualized care plans, developed jointly and agreed between the patient and members of the multidisciplinary care team, documenting clinical and non-clinical issues and the proposed action to address such issues.

e) A comprehensive, single care plan shall be available to the patient and members of the multidisciplinary care team including health professionals

6.17.1.8. Care, support and services for cancer shall be provided in partnership with patients and care givers. There shall be a clear record of what the patient or care givers has been told about the condition, treatment and care options, outcomes, risks and side-effects.

6.17.1.9. Patients with cancer shall be enabled and supported to make decisions throughout their care experience. All patients with cancer shall have access to a healthcare worker with experience and knowledge of their current care needs and the skills to facilitate informed decision-making.

6.17.1.10. Patient and family teaching shall be provided in any case where the patient and family are in need of and able to receive instruction.

6.17.1.11. Criteria shall be developed in consultation with the social work department for identifying patients in need of social work services and/or discharge planning and making referrals as needed.

6.17.1.12. There shall be a system to refer patients, family, and staff to in-house and community support groups and services.

6.17.1.13. There shall be a program of continuous quality improvement for oncology that is integrated into the hospital continuous quality improvement program and includes regularly collecting and analyzing data to help identify health-service problems and their extent, and recommending, implementing, and monitoring corrective actions on the basis of these data.

6.17.1.14. There shall be a pain clinic if possible, but there should be the national pain management guidelines and be utilized properly and accordingly.

6.17.1.15. Pain shall be considered as a 5th vital sign. The Oncology nurse shall utilize appropriate pain assessment tools and will encourage the patient "self-report" of pain.

6.17.1.16. Principles of pain management including non-pharmacological methods of pain management may be taught.

6.17.1.17. The oncology nurse shall document pain assessment and interventions.

6.17.1.18. The patient will be protected from infection and cross contamination according to infection prevention standards mentioned in this document. Nursing personnel shall institute specific precautions to prevent infection in patients with an absolute neutrophil count (ANC) of less than 1,000

6.17.1.19. Medications shall be administered per written policies and procedures.

a) Chemotherapy shall be administered as per written procedures.
b) The pharmacist and nursing staff shall wear protective gloves and approved chemotherapy gowns when compounding/preparing and administering chemotherapy to patients
c) Treatments, medications, and IV's ordered by the physician shall be instituted

6.17.1.20. Patients shall be admitted to patient care areas according to their physical and psychosocial needs, unit admission criteria, and bed availability.

6.17.1.21. Nursing personnel shall provide information to patients regarding administered chemotherapeutic agents

6.17.1.22. Nursing staff shall seek input from the patient and other health care professionals to plan and implement care. Oncology nursing staff shall utilize the nursing process to provide for the physical, emotional, and spiritual needs of oncology patients and make referrals as appropriate.

6.17.1.23. The nurse shall utilize available resources to facilitate an optimal transition between health care settings. The patient or family who is complex, unable to cope, or being discharged which requires coordination by the multidisciplinary team will be followed by Integrated Case Management.

6.17.1.24. Patient's comfort level shall be assessed and comfort measures/pain management will be provided to meet patient needs.

6.17.1.25. Consent for procedure and patient understanding shall be verified prior to implementation.

6.17.1.26. Additional information regarding advance directives shall be provided as requested by patient.

6.17.1.27. Patient's spiritual and cultural beliefs shall be considered when planning and implementing care. The nursing staff shall utilize the nursing process to assess the patient and family's ability to cope with his/her diagnosis and treatment of disease. Interventions shall be congruent with the patient/family belief system.

6.17.1.28. Available resources shall be utilized to maximize patient's support and care giver as needs are identified. Patients who are assessed by oncology staff as unable to cope shall be referred to the social worker or appropriate support group.

6.17.1.29. Chemotherapy

a) All chemotherapy regimens shall be given according to the treatment guidelines
   - Staff dealing with cytotoxic medicines shall follow the safety guidelines;
   - Goggles, masks, gloves shall be worn when dealing with chemotherapy.
   - Office of Occupational Medicine shall be used to develop procedures for preparing chemotherapy. Example using Fume hood for chemotherapy mixing

b) Inpatient chemotherapy shall only be given in wards where it is agreed as the whole of, the wards allowed activities.

c) Out-patient chemotherapy shall only be given in outpatient areas where it is agreed as part of, or the whole of, that areas allowed activity.

d) While out-patient chemotherapy is being given the area shall only be used for this purpose and other aseptic treatments and procedures on cancer patients.

6.17.1.30. Radiotherapy

a) The safety standards of radiotherapy shall be according to the IAEA standards
b) The radiotherapy technician can deliver Radiation in the presence of a radiation oncologist

6.17.1.31. There shall be one oncologist available during working hours and on call basis at all times for consultation.

6.17.1.32. As the patient's condition or nursing interventions warrant, the bed will be kept in the low position with the wheels locked and upper side rails in the up position and call light within reach of patient. Oncology nursing staff will implement thrombocytopenic precautions for patients with platelets less than or equal to 20,000

6.17.1.33. An allergy label shall be placed on the front of each patient's chart with "Allergies" or "No Known Allergies" listed as appropriate. Allergies" or "No Known Allergies" will be entered into the patient's medical record (Care vision) during the admission process and updated as appropriate

6.17.1.34. Vital signs shall be completed, unit routine, physician order, or as patient condition warrants.

a) Patients receiving blood or blood products shall have vital signs monitored
b) Patients with neutropenia shall have vital signs taken

6.17.1.35. Psychological and psychiatric services shall be available in the premises

6.17.1.36. Chaplin or related religious counseling may be facilitated upon patient request

6.17.2. Premises

6.17.2.1. Buildings and rooming styles shall generally be in accordance with the Ethiopian Radiation Protection Authority's standards

6.17.2.2. Minimal requirements for outpatient section

a) Nurses office in between the examination rooms
b) Staff offices
c) Two examination rooms with indirect laryngoscope head lights, spirit lamps & screen, a gynecology examination coach in at least one of the rooms
d) Radiotherapy planning room with planning coach & measuring utensils
e) Dedicated Chemotherapy room with reclining chairs

6.17.2.3. Minimal requirements for radiotherapy treatment rooms

a) Therathrone
b) Simulation room , optional
c) Brach therapy room , optional
d) Staff toilets (male and female)

6.17.2.4. Minimum requirements for inpatient section

(a) Nurses office
(b) Single bed rooms with ensuite bath room with toilets. the single bedrooms shall be available as needed to accommodate patients with Neutrogena, or critically ill patient and the other single bed room will be a septic room for those with offensive smelling wounds, that needs wound care
(c) Room(s) with multiple beds (maximum of 4 beds per room with a minimum of one meter between the beds and wall)
(d) Duty rooms for nurses
(e) Shared toilets for the patients (separate for male and female)
(f) Separate toilets for staff
(g) Molding Room
(h) Physics Laboratory with planning computers

6.17.3. Professionals

6.17.3.1. The oncology service shall have at least the following licensed professionals

a) Clinical oncologist
b) General practitioners with adequate on job training in the care of malignancies
c) Medical physicist
d) Radiotherapy technicians
e) Maintenance technicians , optional
f) Oncology trained nurse
g) Nurses with adequate on job training: #10

6.17.3.2. Other core allied registered health professionals required as optional are:

a) Dietitian
b) Physiotherapist
c) Speech therapist
d) Occupational therapist

6.17.3.3. Designated social worker who is a member of social work services of the hospital shall be assigned to the unit to provide psychosocial services, assist with discharge planning, and provide information regarding social aspects of care

6.17.3.4. One data manager for the service is required

6.17.4. Products

6.17.4.1. Supplies

a) Lead Bars (supply)
b) Goggles for chemotherapy
c) Orfit Packs 5 per year
d) Molding foams
e) Leaded Aprons at least 3, for RT planning, and simulation and C-Arm imaging

6.17.4.2. Equipments

a) Teletherapy machines
   - CO-60 machine
   - Linac Accelerator, optional
   - CT simulator, optional
   - C-Arm machines

b) Brach therapy machines
   - High dose rate source of CO-60 or low dose rate Cesium source
   - Immobilization devices
   - Breast Board Minimum 2, Plastic head rests A, B, C, D, E, F Total Two Sets, head and neck uniframe immobilizer set
   - Digitizer
   - Molding Machine(cutter)
   - Planning computers with color printers and with backup system
   - Boiler for orfit preparation
   - Lead Melting machine for molding lead
   - Fume hood for chemotherapy mixing
   - Perfuser

6.18. Nuclear Medicine Services

6.18.1. Practices:

6.18.1.1. The hospital shall have written procedure for in vitro techniques such as radio-immunoassay (RIA) and immuno-radiometric assay (IRMA). However, more advanced activities of RIA/IRMA like radio-iodination of antigens and antibodies shall not be carried out at this level of practice.

6.18.1.2. The hospital shall have written procedure for the diagnosis of different health problems using radiopharmaceuticals or radionuclides for both in vivo imaging and non-imaging diagnostic techniques.

6.18.1.3. Any loaner unit that is in use for more than one month will be required to submit evidence of testing by a qualified medical physicist within 90 days of installation. If the loaner is in place for longer than six months, the facility must submit the unit for accreditation evaluation, including clinical and phantom image assessment and the corresponding fee.

6.18.1.4. Acceptance tests shall be performed based on written procedures. The procedures shall address the followings:

a) Major nuclear medicine instruments like Rectilinear Scanner, Whole Body Scanner, Planar Gamma Camera, SPECT or SPECT/CT shall be tested during installation.

b) A qualified practicing nuclear medicine physicist, nuclear medicine technologist or medical physicist shall perform these tests using internationally accepted protocols.

c) The test results shall be reviewed by the qualified medical physicist and documented in the annual survey report. Based on this report the supervising physician is responsible for assuring compliance with the recommendations of the medical physicist.

d) At least annually thereafter, the performance tests listed below shall be performed on all units as per the NEMA and/or the IAEA QC protocols:

- Intrinsic Uniformity
- System Uniformity
- Intrinsic or System Spatial Resolution
- Image Resolution Test

- Linearity Test
- Sensitivity
- Center of Rotation Test and Calibration
- Energy Resolution
- Count Rate Parameters
- Formatter/Video Display
- Overall System Performance for SPECT Systems
- System Interlocks
- Dose Calibrators (Radionuclide Calibrator) - Performed as per the protocol of NEMA or/and the IAEA to verify that readings from this instrument are accurate (accuracy test). All basic measurements of performance must be done at the time of installation and repeated after major repair. This test must be done according to protocols accepted by the appropriate National Regulatory Authority (Ethiopian Radiation Protection Authority (ERPA)).
    - "Test" measurement of battery voltage (if applicable)
    - Zero adjustment (if applicable)
    - Background adjustment
    - Accuracy and precision tests with NIST traceable standard
    - Linearity
    - Geometry
    - Constancy test
    - Operational Checks (Check of Reproducibility and Background Response)
- Thyroid Uptake Probe and Other Counting Systems for gamma radiation measurements for in vitro (e.g. Gamma spectrometers/well-type scintillation counters) - performed to verify, integral background count rate, function of scalar timer/rate meter, energy calibration, energy linearity, energy resolution, sensitivity, and reliability (Chi-squared test) for the measurement of organ function, the assay of patient samples and for counting of other related radioactivity sources using short and long lived radionuclides like:
    - I-123 or I-131 capsule
    - Tc-99m and

- long-lived standard calibration sources (e.g. Cs-137, Co-57)

6.18.1.5. The nuclear medicine technologist shall be responsible for verifying day-to-day operation of instruments and performing a few additional tests on a quarterly basis.

6.18.1.6. The following quality control tests shall be made by the nuclear medicine technologist:

a) Intrinsic or System Uniformity (each day of use)
b) Intrinsic or System Spatial Resolution (weekly)
c) Center-of-Rotation or Multiple Detector Registration Calibration/Test for SPECT Systems (monthly).
d) High-Count Floods for Uniformity Correction for SPECT Systems (frequency as recommended by a qualified medical physicist).
e) Overall System Performance for SPECT Systems (quarterly).
f) Dose Calibrators (daily, quarterly, and semiannual)
    - Daily - Tests are performed to verify that the calibrator is accurate and reliable for the assay of doses administered to patients.
    - Quarterly - A linearity test must be performed to document that accurate readings are provided through the entire range of activities used clinically. Other qualified personnel may do these tests.
    - Semiannual - All non-exempt radionuclide sources shall be tested to verify that radioactivity is not leaking from the sources. Other qualified personnel may also do these tests.
g) Thyroid Uptake and Counting Systems (each day of use) - Standards are measured to verify energy calibration and sensitivity for the measurement of organ function and the assay of patient samples.

6.18.1.7. Documentation of compliance with all quality control tests and corrective action shall be required as part of the application process.

6.18.1.8. Policies and procedures related to quality, patient education, infection control, and safety shall be developed and implemented in accordance with the IAEA Policy on Quality Control and Improvement, Safety, Infection Control and Patient Education Concerns.

6.18.1.9. The site shall have a quality assurance program that incorporates the following two elements:

a) Physician Peer Review: Examinations should be systematically reviewed and evaluated as part of the overall quality improvement program at the facility using written procedures.

b) Appropriateness/ outcomes analysis: The results of an appropriateness/outcomes analysis and the actions taken to correct any deficiencies should be maintained as quality assurance records at the facility. Policy and procedures should be in place to look at the diagnostic accuracy and outcome of nuclear medicine examinations. Documentation may be requested as part of an on-site survey.

6.18.1.10. Data shall be collected and processed according to the instructions provided in the testing package. The procedures may differ from those normally used by the applicant but were designed to minimize the variability in the images submitted by different facilities.

6.18.1.11. All films or colored hard copies or/and burned CDs are an important part of the medical record. The following shall be permanently recorded on each image of the study: patient name, patient age (or date of birth), patient identification number, date of exam, and institution name. The technologist's name, initials, or other means of identifying the technologist who performed the study shall also be indicated.

6.18.1.12. A corresponding, dated physician report that clearly states the type of examination performed and the clinical history shall accompany all examinations. The parameters that will be scored on the clinical images include: radiopharmaceutical biodistribution, image acquisition, processing, and display, as well as film and report identification. Patient films or/and the corresponding hard copy or burned CDs shall be returned as required with the final report.

6.18.1.13. The hospital shall notify the regulatory body if they have permanently withdrawn (i.e., removed) a unit from service, if they have replaced that unit with a new one or have added another unit.

Radio pharmacy Services

6.18.1.14. The hospital shall have written procedure(s) for the preparation/labeling and administration of various radiopharmaceuticals.

6.18.1.15. The hospital shall involve only in simple formulations like labeling of pharmaceutical agents with radionuclides and not in complicated radiopharmaceutical compounding like radiopharmaceutical synthetic activities and kit preparation.

6.18.1.16. The hospital shall ensure the quality of radiopharmaceuticals being used at its level.

6.18.1.17. Radiopharmaceuticals/Radionuclides used only with scintillation camera (planar gamma camera and SPECT) shall be used.

6.18.1.18. The labeling and dispensing area for radioactive medicines shall be separate from that of non-radioactive medicines, and shall be secured from unauthorized personnel.

6.18.1.19. In addition to any labeling requirements for non-radioactive medicines, the immediate outer container of a radioactive medicines to be transported, stored and/or dispensed shall also be labeled with:

a) The standard radiation symbol;
b) The phrase "caution - radioactive material";
c) The radionuclide;
d) The chemical form;
e) The amount of radioactive material contained, in millicuries or microcuries;
f) If a liquid, the volume;
g) The calibration time for the amount of radioactivity contained;
h) The expiration time; and
i) The name, address, and telephone number of the nuclear pharmacy practice site.

6.18.1.20. The immediate container shall be labeled with:

a) The standard radiation symbol;
b) The words "caution - radioactive material";
c) The name of the medicines; and
d) The medical or prescription order number.

6.18.1.21. The amount of radioactivity shall be determined by radiometric methods for each product immediately prior to dispensing.

6.18.1.22. A nuclear pharmacy practice site shall conduct and keep proper records of appropriate internal test assessments on all radiopharmaceuticals, with interpretation of the resulting data to determine suitability for use in humans.

6.18.1.23. A nuclear pharmacy practice site shall conduct authentication of product history by identifying and keeping proper records of the purchasing source, the ultimate fate, and any intermediate handling of any component of a radiopharmaceuticals.

6.18.1.24. Products shall be protected from unintended discharges arising during its preparation and the environment shall be protected from unintended discharge of radioactive materials from the radiopharmacy

6.18.1.25. The hospital shall have written procedure for the management and disposal of radiopharmaceutical and other nuclear medicine wastes.

6.18.2. Premises

6.18.2.1. Adequate facilities shall be provided for the overall service delivery so that patient comfort, safety, dignity, and privacy are ensured as well as staff comfort and safety. Areas must have sufficient space, be well maintained and be clean. This includes:

(a) Interpretation areas
(b) Patient records, reports, and digital data storage areas
(c) Administration records and support areas
(d) Equipment/supply storage areas
(e) Therapeutic procedures areas, if applicable
(f) Waiting, reception, and patient/staff bathrooms
(g) Radioactive materials use and storage areas
(h) Diagnostic imaging and processing areas which shall include adequate space and proper orientation to eliminate "cross talk" (counts being acquired from other than the patient being imaged) into images from other patients, radioactive materials, or radioactive waste.
(i) Patient education, consultation and examination areas including accessible hand washing for staff
(j) Performance of stress procedures within appropriate proximity of the imaging area including adequate space for performing resuscitation in case of emergency

6.18.2.2. Adequate space, facility configuration, and doorways for the emergency transport of patients from patient care areas and for emergency exit of staff.

6.18.2.3. Adequate utilities shall be available, based upon the types of procedures and workload. These include water taps, lighting, electrical outlets, emergency power, telephones, heating/cooling and ventilation.

6.18.2.4. All surfaces of Radiopharmacy: walls, floors, benches, tables and seats shall be smooth, impervious and non-absorbent, to allow for easy cleaning and decontamination.

6.18.2.5. Adequate space shall be provided for the storage of digital data. The storage must ensure confidentiality of data and should be safe from fire/flood.

6.18.2.6. In-vitro section of the nuclear medicine shall have a minimum of 24 meter square space to conduct all RIA/IMRA procedures.

6.18.2.7. A nuclear pharmacy practice site shall contain adequate space, commensurate with the scope of services required and provided.

6.18.2.8. All pharmacy practice sites handling radiopharmaceuticals shall provide adequate radioactive storage and product decay area, preferably at the hot laboratory. Besides, there shall be the simple formulation/compounding, dispensing, quality control/assurance and office areas.

6.18.2.9. Radiopharmacy shall have a minimum of 30 m2 space with two rooms.

6.18.2.10. Imaging section of the nuclear medicine service shall have a minimum of 30 meter square space to install and use one SPECT machine

6.18.2.11. Additionally, minimum space requirement for examination room 20 m2, patient waiting area 20 m2, injection room 10 m2 and office rooms 30 m2

6.18.3. Professionals

6.18.3.1. The nuclear medicine shall be directed by a licensed nuclear medicine physician

6.18.3.2. The human resource requirement of nuclear medicine service shall be based on the level of the laboratory as per the International Atomic Energy Agency (IAEA) standard.

6.18.3.3. The nuclear medicine service of the hospital shall have

a) nuclear medicine physician or medical doctor properly trained in nuclear medicine
b) Licensed pharmacist trained in nuclear pharmacy assisted by rediopharmacy technician.
c) Licensed BSc. radiographer properly trained in nuclear medicine or one nuclear medicine technologist.
d) RIA/IRMA expert who may or may not be assisted by RIA technician for in vitro nuclear medicine service.

e) Physicist and biomedical engineer.
f) licensed nurse trained in nuclear medicine

6.18.4. Products

6.18.4.1. The following shall be minimum equipment requirements for RIA/IMRA work:

a) Refrigerator
b) Deep freezer
c) Centrifuge to hold 60-100 tubes
d) Thermostatically controlled water bath
e) Ice bath
f) RIA Counter
g) Distilling or de-ionizing water
h) Voltage stabilizer,
i) Precision balance
j) Semi-analytical balance
k) Magnetic stirrer with Teflon coated stirring bars,
l) Vortex mixer,
m) Automatic pipette washer,
n) Scientific calculator
o) Ultrasonic cleaner
p) Foot-operated dustbin
q) Air conditioner
r) Centrifuge
s) Radiation monitor

6.18.4.2. The following equipment shall be needed for the QC of Scintillation Gamma Camera (Planar gamma camera and SPECT camera):

a) Sufficient Supply of Tc-99m Generators
b) Co-57 Flood Source
c) Four Quadrant Bar Phantom
d) SPECT Phantom
e) Disposable; Petri dish, Capillary tubes
f) The following Equipments are also recommended in order to follow good work practices:
    - Refillable flood source
    - Copper plates for evaluation of count rate response
    - Computer generated test image

6.18.4.3. The following shall be the list of equipment and instrumentation used in the imaging and clinical nuclear medicine section:

a) At least one SPECT or planar gamma camera

b) Dose calibrator or decay correction calculation system
c) Imaging/counting equipment
d) Radiation monitoring devices including
    - portable survey meter (required)
    - removable contamination counting equipment (as applicable)
    - fixed area survey meter for dose preparation/storage areas (as applicable)
e) Resuscitation equipment and supplies (appropriate to the types of procedures being performed)
    - oxygen
    - defibrillator/AED (as applicable)
    - emergency medicines (including a master list; all unexpired)
f) Exercise equipment (as applicable)
g) ECG equipment (as applicable)
h) Ancillary monitoring equipment (as applicable)
i) Infusion pumps/automated injectors (as applicable)
j) Glucometers (as applicable)
k) Hood for volatile radionuclides or cell handling (as applicable)
l) Xenon (or other gas) trap (as applicable)

6.18.4.4. Each nuclear pharmacy practice site at this level shall contain at least the following list of products (equipment):

a) Radiopharmaceuticals and non-radioactive supplies as per the national medicines list
b) Dose calibrator
c) Gamma spectrometer
d) Analytical balances and PH Meters
e) Lead pot, lead syringe carrier and lead bencher with glasses
f) Refrigerator
g) Radiation exposure monitor;
h) Portable survey meter;
i) Fume hood
j) Lead apron
k) Eye goggles

6.19. Rehabilitation Services

6.19.1. Practices:

6.19.1.1. The following services shall be available in the hospital:

(a) Physical therapy/ physiotherapy: treatment aimed at the attainment or recovery of optimal neuro-musculoskeletal function to help ones strength, mobility and fitness,

(b) Occupational therapy: therapy aimed at giving people "skills for the job of living" or "the skills for employment." to help with ones daily activities,

(c) Vocational Rehabilitation: The continuous and coordinated process of rehabilitation which involves the provision of vocational guidance, vocational training and selective placement, designed to enable a person with a disability to secure and retain suitable employment

6.19.1.2. There shall be specific treatment and/or procedure protocols for each service available and rendered in the unit,

6.19.1.3. There shall be a policy for patient referral and inter discipline consultation,

6.19.1.4. There shall be a policy that the therapist (physical therapist/ physiotherapist) shall document the entire plan in the patient's medical records. A note shall be entered into the medical record at least weekly or more frequently if there is a significant change in the patient's status or treatment needs.

6.19.1.5. The physical therapist shall discuss the plan of care with the patient and family, if possible.

6.19.1.6. The physical therapy service shall be available during working time.

6.19.1.7. Visual and Auditory privacy shall be offered and provided to all patients during evaluation and treatment.

6.19.1.8. There shall be a policy that states written orders shall be given to patients when patients are discharged with exercise or treatment to continue at home.

6.19.1.9. There shall be a protocol or policy for safety and ethical practice of physical therapy, identifying six precepts for health care, namely, that the health care system must be: safe, effective, patient-centered, timely, efficient, and equitable.

6.19.1.10. There shall be patient education on prevention of:

a) pressure sores in clients with sensory loss,

b) contractures in clients with limb and/or trunk paralysis,

c) phantom limb pain for amputees

6.19.1.11. Prosthetics-orthotics workshops service:

a) there shall be a division where prosthetic services are rendered: prosthetics are produced and adapted to individual patients with need,
b) there shall be service of correction and adjustment of prosthesis with routine activity of the patient,
c) for patients who need brace (orthotic service), there shall be a measurement, preparation and adaptation of brace to individual patients: brace, collars, corsets, etc.,
d) there shall be service for preparation and adjustment of shoes fittings (ortho-shoes services),
e) there shall be production of different kinds of walking aids,

6.19.2. Professionals:

6.19.2.1. The service shall be directed by a licensed physical therapy practitioner graduated or certified from recognized university or college.

6.19.2.2. The hospital shall have the following:

(a) Physical therapist or physiotherapist,
(b) occupational therapist
(c) orthosis- prosthesis technicians,
(d) Social worker (pull from the hospital).

6.19.2.3. There shall be multidisciplinary team approach in the rehabilitation service to plan for individual patients. Referring physician shall be involved in the process.

6.19.2.4. Continued improvement of technical skills and knowledge shall be encouraged and such opportunities shall be facilitated for professionals by the hospital or health facility.

6.19.2.5. Trained and certified therapist shall be available and supervise daily sessions of physiotherapy.

6.19.3. Premises

6.19.3.1. There shall be physically separated room or area for rehabilitation and therapy,

6.19.3.2. There shall be at least one room designated for each service unit

(a) Examination Room,
(b) Exercise therapy section:
(c) Traction section:

(d) Procedure section:

(e) Work shop for orthosis- prostheses with necessary machineries,

(f) Health education/ waiting area with shade,

6.19.3.3. Staff room for developing documentation and storing reference books and personal items shall be available.

6.19.3.4. There shall be direct access to inpatients and outpatients with clear labels marked.

6.19.3.5. The premises shall be person with disability friendly and smooth pavement rail for wheelchairs.

6.19.3.6. There shall be enough space for assistive devices and appropriate accessories.

6.19.3.7. Private room/area for patients and staff when they need to change clothing before and after treatment shall be available.

6.19.3.8. Separate toilet with hand washing facility in an accessible location, handicapped accessible, handicapped adapted and well-ventilated shall be available.

6.19.3.9. Call bells shall be provided to patients in the physical therapy service who are not under visual supervision.

6.19.3.10. Workshop for production of orthosis- prostheses, walking sticks: axillary and/or elbow crutches shall be available.

6.19.4. Product:

6.19.4.1. Equipment shall be clean and functional, stored in a safe and accessible place and shall not be stored in a public walkways and hallways.

6.19.4.2. Equipment which shall be available for rehabilitation services include:

(a) Physiotherapy mats,

(b) Massaging coach,

(c) Splinting materials,

(d) Bobath balls,

(e) Balance boards,

(f) Mirror,

(g) Waking rail/ parallel bars,

(h) Quadriceps exercising chair,

(i) Pressure garment materials,

(j) Goniometers,

(k) Spring,

(l) Rollers,

(m) Infrared,

(n) Paraffin wax bath,

(o) Ultraviolet/ blue lamp,

(p) Muscle stimulator,

(q) Ultrasound therapy equipment,

(r) Diathermy,

(s) Electro-massage apparatus for hands, legs, spine,
(t) Organ protection pad,
(u) Educational toys,
(v) Specific assessment tools for occupational therapy, speech therapy and physiotherapy
(w) Screening audiometer,
(x) Developmental screening charts for detecting speech abnormality,
(y) Wall bar,
(z) Children walking frame,
(aa) Material for making assistive devices for daily living functions,
(bb) Sticks,
(cc) Crutches,
(dd) Walking aids/ walking frames, (adjustable)
(ee) Dumbbells set with different weight,
(ff) Timers,
(gg) Pillows, different size
(hh) Pulley,

6.19.4.3. Consumables includes:

(a) Disposable glove,
(b) Cotton roll,
(c) Plastic apron,
(d) POP
(e) PVC
(f) Microspore rubber,
(g) Timber, "Tawlla"

6.20. Radiology Services

6.20.1. Practices

6.20.1.1. The radiology service shall have written policies and procedures that are reviewed at least once every three years and implemented. These policies and procedures shall include at least:

a) Safety practices;
b) Emergencies;
c) Adverse reactions;
d) Management of the critically ill patient;
e) Infection control, including patients in isolation;
f) Timeliness of the availability of diagnostic imaging procedures and the results
g) Quality control program covering the inspection, maintenance, and calibration of all equipment

6.20.1.2. Policies and procedures for radiology services shall be available to all staff in the radiology unit.

6.20.1.3. There shall be a written protocol for managing medical emergencies in the radiological suite. All radiological staff shall be instructed in this protocol and know their roles in the case of such an emergency.

6.20.1.4. Radiologists shall supervise and interpret all radiological procedures, unless performed by clinical practitioners in specialty areas who are trained and experienced in the procedures.

6.20.1.5. All radiological examinations shall be interpreted on a preliminary basis within eight hours at all times. Emergency examination shall be given as early as possible.

6.20.1.6. Ultrasound service shall be given by a radiologist or any health professional trained and certified on ultrasound

6.20.1.7. The radiology service of the hospital shall have the following services at all times

a) Digital X-Ray service

b) Ultrasound service
c) Computer tomography service, CT (optional)
d) Magnetic resonance imaging, MRI (optional)
e) Certain interventional procedures.(optional)

6.20.1.8. The radiology staffs shall make every effort to ensure that patients waiting for radiology services or transport from radiology are comfortable while waiting and that the service responsible for transporting the patient back to the unit is notified when the patient is ready to be returned.

6.20.1.9. The radiology service unit shall be free of hazards to patients and personnel.

6.20.1.10. Proper safety precautions shall be maintained against fire and explosion hazards, electrical hazards, and radiation hazards.

6.20.1.11. The hospital shall get approval from the Ethiopian Radiation Protection Authority through periodic inspection and hazards shall be promptly corrected if identified

6.20.1.12. Radiation workers shall be checked periodically for amount of radiation exposure by the use of exposure meters or badge tests and this shall be documented

6.20.1.13. With fluoroscopes, attention shall be paid to modern safety design and operating procedures and records all fluoroscopes' output shall be maintained.

6.20.1.14. Signed reports shall be filed with the patient's medical record and duplicate copies kept in the service unit.

6.20.1.15. Requests by the attending physician for x-ray examination shall contain a concise statement of reason for examination.

6.20.1.16. Reports of interpretations shall be written or dictated and signed by the radiologist.

6.20.1.17. Reporting form shall have minimum information such as date, patient name, age, gender, findings and name and signature of radiologist

6.20.1.18. X-ray reports and roentgenographies shall be preserved or microfilmed.

6.20.1.19. X-ray films shall be labeled with minimum information such as date, name, age, gender, right/left mark, name of the institution and name of radiology professional who took the film.

6.20.1.20. A radiation safety program including timely reporting of radiation safety findings shall be in place, followed, and documented.

6.20.1.21. The professional/practitioner who delivered the radiology service shall be responsible for claims arising from wrong findings

6.20.1.22. Radiology services shall be accessible to all requiring medical service units.

6.20.1.23.

6.20.1.24. Safety provision shall be available based on minimum criteria set by the Ethiopian Radiation Protection Authority and these standard

6.20.1.25. Radiological equipment quality assurance/control test shall be available

6.20.2. Premises

6.20.2.1. Design requirements for radiology rooms shall be according to Ethiopian Radiation Protection Authority guidelines and this standard.

6.20.2.2. The hospital shall have policies and procedures for the availability of digital image archiving and printing

6.20.2.3. The radiology service shall have the following minimum number and size of rooms

Type of premises	Number required	Size(m^2) Each
Digital X-Ray room	1	As per the Ethiopian Radiation Protection Authority standards
Fluoroscopy room	1	
CT room (optional)**	1	
MRI room (optional)**	1	
Mammography room	1	
Ultrasound room	2	
Patients toilets (female and male)	2	
Patient dressing rooms (female and male)	2	

Waiting room/area	1	
Reporting room	1	
Doctors room	1	
Duty room	1	
Store room	1	
Conference and data room	1	

** The number of rooms shall depend on the requirement of the specific equipment.

6.20.3. Professionals

6.20.3.1. The radiology service shall be directed by a licensed radiologist or radiology technologist.

6.20.3.2. A radiologist may be available in the hospital during working hours all the time or if on call shall arrive within 30 minutes of being summoned

6.20.3.3. A licensed radiology technologist or radiographer shall be present in the hospital at all times.

6.20.3.4. A licensed professional nurse may be available in the radiology service to administer medications and perform other nursing care.

6.20.3.5. A receptionist, cleaners shall be available in radiology service as full time.

6.20.4. Products

6.20.4.1. Equipment which shall be available for radiology services includes:

a) Color duplex ultrasound machines for general purpose
b) Dedicated echocardiography ultrasound machine with cardiac probe (optional)
c) Simple gray scale ultrasound machine.
d) Digital x-ray machine and standard fluoroscopy machine or combined x-ray machine with fluoroscopy
e) Mobile x-ray machine
f) Standard CT machine (optional)

g) Standard MRI machine (optional)
h) Mammography machine(optional)
i) Resuscitation equipments
j) Quality control kits
k) Dark room with accessories as appropriate
l) A refrigerator
m) Procedure sets
n) Actinic marker

6.20.4.2. All diagnostic equipment shall be regularly inspected, maintained, and calibrated, and appropriate records are maintained.

6.20.4.3. Radiology service equipments shall be installed at central areas to all clinical services

6.20.4.4. At least the following radiation protection equipments shall be available in radiology services:

a) lead gloves
b) lead apron**s**
c) Gonadal shield
d) Other shields eg for pregnant women if highly indicated
e) Dosimeter

6.20.4.5. Safety procedures during practices and disposal of unfit for use equipments shall be installed as per the requirements set by the Ethiopian Radiation Protection Authority and this standard.

6.21. Medical Laboratory Services

6.21.1. Practices

6.21.1.1. The laboratory shall have written policies and procedures and include at least the followings:

a) Procedure manuals (Standard Operating Procedure, SOP) or guidelines for all tests and equipment
b) Report times for results (Established turnaround time)
c) Quality assurance and control processes
d) Inspection, maintenance, calibration, and testing of all equipment
e) Management of reagents including requesting from hospital medical store, mini storage, and testing for accuracy as per the hospital medical store SOP
f) Procedures for collecting, identifying, processing, and disposing of specimens
g) All normal ranges for all tests shall be stated
h) Laboratory safety program, including infection control
i) There shall be documentation of quality control data (internal and external quality control), calibration report, refrigerator readings and so on.

6.21.1.2. The hospital shall have policies and procedures for the availability of paper based or electronic laboratory information management system (LIMS). The data management system shall include the followings:

a) Periodic reporting(monthly, quarterly)
b) Preliminary analysis and utilization of results
c) Collection of useful and appropriate information
d) Archiving and retrieval

6.21.1.3. The hospital shall have standardized data collection instruments and including at least the followings:

a) Laboratory request forms
b) Laboratory report forms
c) Laboratory specimen and results registers

d) Quarterly/monthly reporting forms including

- Summary of tests conducted
- Summary of tests referred
- Summary of quality assurance report

e) Equipment and supplies inventory registers

f) Quality assurance record forms

g) Referral forms

6.21.1.4. The hospital shall develop monitoring and evaluation tools to assess activities including:

a) adherence to SOPs

b) adherence to safety guidelines

c) QA activities

d) Laboratory performance and workload

e) Laboratory services

6.21.1.5. The hospital shall get consultation from laboratory service unit on selection, quantification, procurement and storage of medical laboratory equipment and supplies.

6.21.1.6. The hospital shall have policies and procedures for the availability of laboratory services including the emergency services for 24 hours a day and seven days a week, including holidays.

6.21.1.7. The laboratory shall have procedures or (SOP) for proper specimen collection that address specific collection requirements such as:

a) Preferred sample type (venous, arterial, capillary, urine, spinal fluid)

b) Type of anticoagulant

c) Sample volume considered acceptable

d) Patient identification

e) Requirements for patient preparation and storage of specimens.

6.21.1.8. Policies and procedures shall be documented and communicated to all personnel.

6.21.1.9. The laboratory shall have a policy for making amendments and corrections to laboratory procedures and all amended laboratory procedures shall be reviewed and approved for use.

6.21.1.10. Test procedures developed by the laboratory (in-house procedures) must be validated and fully documented before being put into use. All procedures shall be in a language commonly understood by laboratory staff.

6.21.1.11. The laboratory shall follow standard operating procedures (SOP) and conduct routine quality assessments to ensure reliable and cost-effective testing of patient specimens.

6.21.1.12. Laboratory management shall review all operational procedures at regular intervals. The frequency should be every four month (at least annually).

6.21.1.13. The process of analysis shall be specified by validated written or electronic procedures maintained in and by the laboratory. Procedures may be written by the laboratory staff or may be adapted from previously published materials including, but not limited to, product inserts, procedure or instrument manuals, textbooks, journals, or international guidelines.

6.21.1.14. Laboratory staff shall test quality control materials every eight hour and document in combinations suitable to detect analytical error.

6.21.1.15. The right patient with the right request form shall be identified during collection and delivery of result.

6.21.1.16. Requests for testing shall provide:

a) The name of the ordering physician or other person authorized to order testing
b) The clinician's working address
c) Type of primary sample collected
d) The anatomic site where appropriate
e) The test requested
f) Patient gender
g) Age
h) Pertinent clinical information as appropriate for purposes of test interpretation (Clinical Diagnosis)
i) Date and time of sample collection and receipt in the laboratory

6.21.1.17. There shall be SOP or criteria developed for acceptance or rejection of clinical samples.

6.21.1.18. Laboratory shall monitor the transportation of samples to the laboratory such that they are transported, within time frame, within temperature interval specified in the primary sample collection manual or SOP and in a manner that ensures safety for carrier.

6.21.1.19. The laboratory shall maintain a record of all samples received.

6.21.1.20. Laboratory shall have a procedure for storage of clinical samples if it is not immediately examined.

6.21.1.21. Patient samples shall be stored only for as long as necessary to conduct the designated tests (or other permitted procedure) according to fixed storage times, and shall be destroyed safely and confidentially after storage.

6.21.1.22. Once a sample is used, it shall be maintained in the laboratory for a specified period of time (or as required by regulation) and at a temperature that ensures stability of the sample in the event the sample is needed for retesting.

6.21.1.23. Provision shall be made to carry out adequate clinical laboratory examinations including chemistry, microbiology, hematology, coagulation, general immunology, and clinical microscopy either in the hospital or licensed outside laboratory based on contractual agreement See the table below (section 4.8) for the minimum tests required at general hospital

6.21.1.24. The laboratory should establish an external quality control system with accredited agencies and should participate nationally or internationally in EQA at least once yearly.

6.21.1.25. Laboratory report

a) All laboratory test result/reports shall have reference (normal) ranges specific for age and gender.

b) Copies or files of reported results shall be retained by the laboratory such that prompt retrieval of the information is possible. The length of time that reported data are retained shall be 5 years for legal reason minimal errors or loss of patient test results.

c) Reports shall be filed with the patient's medical record and duplicate copies shall be filed in the laboratory in a manner which permits ready identification and accessibility and with appropriate backup.

d) In the case of laboratory tests performed by an outside laboratory, the original report from such laboratory shall be contained in the medical record.

e) Quality assured test results shall be reported on standard forms to the physician with the following minimum information:

   a) Patient identification (patient name, age, gender,)
   b) Date and time of specimen collection
   c) The test performed and date of report.
   d) The reference or normal range
   e) The laboratory interpretation where appropriate,
   f) The name and initial of the person who performed the test, and the authorized signature of the person reviewing the report and releasing the results.
   g) Hospital address

f) Laboratory results shall be legible, without transcription mistakes and reported only to persons authorized to receive them such as the ordering physician or nursing staff in a hospital environment

g) The laboratory shall have policies and procedures in place to protect the privacy of patients and integrity of patient records whether printed or electronic. Policies shall be established which define who may access patient data and who is authorized to enter and change patient results, correct billing or modify computer programs.

6.21.1.26. When reports altered, the record shall show the time, date and name of the person responsible for the change.

6.21.1.27. Safe disposal of samples shall be in line with standards prescribed under infection prevention

6.21.1.28. No eating, drinking, smoking or other application of cosmetics in laboratory work areas or in any area where workplace materials are handled.

6.21.1.29. No food and drink to be stored in the laboratory (may be stored in the rest area)

6.21.1.30. Wearing of protective clothing of an approved design(splash proof), always fastened, within the laboratory work area and removed before leaving the laboratory work area

6.21.1.31. At regular intervals, the laboratory shall review any contracts for services to its clients (including but not limited to clinicians, health care bodies, pharmaceutical

companies, other departments such as pharmacy or nursing within the hospital structure) to ensure that the laboratory can meet the contractual requirements such as methodologies, turn-around times, availability of expert opinion, etc. Records of these reviews shall be kept and maintained by the laboratory, including deviations from contracts.

6.21.1.32. The medical laboratory shall have safety guideline. In addition, the laboratory shall protect the environment and public by assuring the health laboratory waste is disposed of legally and an environmentally friendly manner.

6.21.1.33. Where services are provided by an outside laboratory, the conditions, procedures, and availability of services offered shall be in writing and available in the hospital.

6.21.1.34. The laboratory shall meet regularly with clinical staff regarding services and clinical interpretations.

6.21.1.35. The laboratory must keep a record of the complaint. The record shall include the nature of the complaint, the date of occurrence, individuals involved, any investigations undertaken by the laboratory and resolution.

6.21.2. Premises

6.21.2.1. The hospital shall have a well organized, adequately supervised and staffed clinical laboratory with the necessary space, facilities and equipment to perform those services commensurate with the hospital's needs for its patients.

6.21.2.2. The laboratory working environment shall be kept organized and clean, with safe procedures for handling of specimens and waste material to ensure patient and staff protection from unnecessary risks at all time.

6.21.2.3. The laboratory shall have space allocated so that its workload can be performed without compromising the quality of work, quality control procedures, and safety of personnel or patient care services.

6.21.2.4. The laboratory shall have adequate space and a safe environment to perform testing. It must provide adequate lighting, ventilation, water, waste and refuse disposal. Work areas shall be clean and well maintained. Precautions must be taken to prevent cross contamination.

6.21.2.5. The laboratory shall have controlled temperature of refrigerator for reagents, blood sample, calibrator, control materials which affect the analytical results.

6.21.2.6. Facilities shall provide a suitable environment to prevent damage, deterioration, loss or unauthorized access.

6.21.2.7. The laboratory shall be located and designed to

a) provide suitable, direct access for patients
b) allow reception of deliveries of chemicals
c) Allow safe disposal of laboratory materials and specimens.

6.21.2.8. Doors shall be located in places where entry and exit is easy and does not interfere with the laboratory benches or equipment. Laboratory doors shall not be less than 1 m wide to allow easy access of equipment. In some areas, double doors, 1.2 m wide, shall be provided for passage of large equipment, such as deep-freezes. All doors shall be opened towards the corridor.

6.21.2.9. There shall be effective separation between adjacent laboratory sections in which there are incompatible activities.

6.21.2.10. The general hospital laboratory shall have the following premises setup.

a) Working room for recording and reporting
b) Specimen collection room
c) Medical Microbiology room
d) Serology room
e) Clinical Chemistry room,
f) Parasitology and urinalysis room
g) Hematology room
h) Sterilization, disinfection and media preparation room
i) Store-room
j) Staff room/office
k) Separate Toilets for patients (male and female)
l) Separate Toilet for staff (male and female)
m) There shall be emergency shower

6.21.2.11. The laboratory facilities shall meet at least the following:

a) The laboratory shall have a reliable supply of running water. At least two sinks shall be provided in each room, one for general laboratory use and the other reserved for hand washing and shall have access to hospitals reserve tank whenever there is water interruption

b) Continuous power supply
c) Working surface covered with appropriate materials
d) Suitable stools for the benches. Bench tops shall be impervious to water and resistant to moderate heat and the organic solvents, acids, alkalis, and chemicals used to decontaminate the work surface and equipment.
e) Internal surfaces, i.e. of floors, walls, and ceilings shall be :
   - Smooth, impervious, free from cracks, cavities, recesses, projecting ledges and other features that could harbor dust or spillage
   - Easy to clean and decontaminate effectively
   - Constructed of materials that are non-combustible or have high fire-resistance and low flame-spread characteristics
f) Laboratory furniture is capable of supporting anticipated loading and uses. Spaces between benches, cabinets, and equipment are accessible for cleaning.
g) Lockable doors and cupboards
h) Closed drainage from laboratory sinks (to a septic tank or deep pit)
i) Deep pit to discard contaminated material or access to a simple incinerator
j) Separate toilets/latrines for staff and patients
k) Emergency of safety services such as deluge showers and eye-wash stations, fire alarm systems and emergency power supplies shall be included in the laboratory services design specifications

6.21.3. Professionals

6.21.3.1. All laboratory services shall be directed by a licensed medical laboratory technologist or microbiologist.

6.21.3.2. Medical Laboratory staff shall be present at the hospital to provide laboratory service at all times.

6.21.3.3. Students and other staff on attachment shall work under the direct supervision of a registered medical laboratory technologist.

6.21.3.4. The Laboratory service shall have and maintain job descriptions, including qualifications to perform specific functions.

6.21.3.5. The Laboratory management shall provide adequate training, continuing education or access to training for technical staff, and assess staff competency at regular intervals.

6.21.3.6. Laboratory staff shall, at all times, perform their functions with adherence to the highest ethical and professional standards of the laboratory profession.

6.21.3.7. The general hospital laboratory shall have the following minimum staffing requirements.

a) Six Medical Laboratory Technologist (BSc) for general services
b) One Microbiologist
c) Medical Laboratory Technicians (optional)
d) One Medical Laboratory Technologist (BSc) for QC/QA
e) Supportive staff (clerk, cleaner, trained sample collector)

6.21.4. Products

6.21.4.1. Laboratory shall be furnished with all items of equipment required for the provision of services.

6.21.4.2. All equipment shall be in good working order, routinely quality controlled, and precise in terms of calibration.

6.21.4.3. Laboratory shall establish a programme that regularly monitors and demonstrates proper calibration and function of instruments, reagents and analytical system. It shall also have a document.

6.21.4.4. When equipment is removed from the direct control of the laboratory or is repaired or serviced, the laboratory shall ensure that it is checked and shown to be functioning satisfactorily before being returned to laboratory use.

6.21.4.5. Laboratory shall have a documented and recorded programme of preventive maintenance which at a minimum follows the manufacturer's recommendation.

6.21.4.6. Equipment shall be maintained in a safe working condition. This shall include examination of electrical safety, emergency stop devices. Whenever equipment is found to be defective, it shall be taken out of service and clearly labeled.

6.21.4.7. There shall be a written chemical hygiene plan that defines the safety procedures to be followed for all hazardous chemicals used in the laboratory. The plan defines at least the following:

a) The storage requirements
b) Handling procedures
c) Requirements for personal protective equipment
d) Procedures following accidental contact or overexposure

e) The plan is reviewed annually, and updated if needed, and is part of new employee orientation and the continuing education program.

6.21.4.8. The following minimum equipments and consumables shall be required

Tests	Major Equipment

Clinical chemistry:
• Blood glucose
• Lipid profile
  o Cholesterol
  o Triglyceride
  o LDL
  o HDL
• Serum electrolytes
  o Na+,K+,Cl-
• Liver function tests
  o ALKP
  o AST
  o ALT
  o δ GT
  o Total bilirubine
  o Direct bilirubine
  o Total protein
  o Albumin
• Renal function tests
  o Urea
  o Creatinine
  o Uric acid
• Cardiac function tests
  o LDH
  o CK-MB
  o Troponine
  o CPK
• Hormonal tests
  o T3
  o T4
  o TSH
  o FSH
  o LH
	• Autoclave
	• Timer
	• Clinical chemistry analyzer(Automated) and/or chemistry analyzer (semi automated)
	• Glucometer
	• PC and a printer
	• Power surge protectors
	• Weighing balance
	• Micropipettes of different volumes
	• Timer with alarm
	• Hormonal assay analyzer

Parasitology: • Stool microscopy • Blood film for malaria and other hemoparasite/ Malaria Rapid Test • Occult blood	• Binocular microscope • Slide • Staining reagents • Rapid test kits • Occult blood test kits
Urine and body fluid analysis: • Urinalysis • CSF analysis	• Binocular microscope • Slide • Staining reagents • CSF analysis reagents

<table>
<tr><td>Mycology:
KOH test</td><td>Binocular microscope
Slide
KOH</td></tr>
<tr><td>Hematology:
Haemoglobin
Total WBC count
Differential white cell count
Peripheral blood film
ESR
Hematocrit
Platelet count
Bleeding time
Reticulocyte count
prothrombin time</td><td rowspan="2">Haemoglobinometer
Hematology analyzer (Automated)
Blood roller/mixer
Water bath
Coagulometer
Refrigerator
Binocular microscope x10, x40, x100
Haemocytometer
Microhematocrit centrifuge
Microhematocrit reader
Differential counter
Tally counter
Deep freezer
Centrifuge
Timer
Vortex mixer
Distillation unit
All serological test kits
Shaker</td></tr>
<tr><td>Serology:
H.Pylori
Troponin
HBs Ag
HCV
Toxoplasma latex
ASO
RF
RPR
TPHA
CRP
Salmonella Typhi-O
Salmonella Typhi-H
Proteus-OX19
HIV-test
HCG
Blood Group
Anti-A
Anti-B
Anti-D
Compatibility testing
Cross match</td></tr>
</table>

Bacteriology: • Gram stain • Ziehl Neelson stain • India Ink • Culture	• All necessary microbiology equipments has to be mentioned

6.22. Pathology Services

6.22.1. Practices

6.22.1.1. There shall be written procedures and protocols for pathology service.

6.22.1.2. The pathology service shall be available for at least during working hours

6.22.1.3. In the absence of a pathology service in the hospital, there shall be an established procedure for sending all tissues requiring examination to a pathologist outside the hospital.

6.22.1.4. All tissues removed during surgery and sent to pathology unit shall be subjected to examination by the pathologist macroscopically, and/or microscopically.

6.22.1.5. A list of tissues which routinely require microscopic examination shall be developed in writing by the pathologist or designated physician with the approval of the medical staff All pathology result reports shall be signed by the pathologist

6.22.1.6. All pathological reports shall be signed by pathologist

6.22.1.7. Signed reports of tissue examinations shall be sent back to the requesting physician to be filed in the patient's medical record and duplicate copies kept in the pathology service unit.

6.22.1.8. A tissue file paraffin blocks and slides shall be maintained in the hospital.

6.22.1.9. There shall be quality assurance system for pathological investigations.

6.22.2. Premises

6.22.2.1. The hospital shall have an organized separate pathology service area including

(a) Reception and recording room

(b) Specimen reception and Sectioning room

(c) Preparation/tissue processing and staining room

(d) Cytology examination room

(e) Reading room, as required

(f) Chemical Reagent Store

6.22.2.2. The service shall have the following offices

(a) Pathologists office

(b) Photography room

(c) Laboratory staff room with lockers

(d) Toilets for staff and patient (male and female)

6.22.3. Professionals

6.22.3.1. The pathology service shall be directed by a licensed pathologist.

6.22.3.2. The pathology service shall have the following staffing

(a) Pathologist

(b) Laboratory technologist or technician with training in tissue processing

(c) Receptionist

6.22.3.3. The number and type of technical staff shall be determined by the volume and type of work carried out (Workload Analysis).

6.22.4. Products

6.22.4.1. The pathology service shall have the following|:

(a) Reception and Record Room:

- Laboratory table or counter
- Shelf

(b) Gross Room:

- Dissection table with cold and warm water
- Wheeled chair

(c) Tissue Processing Room:

- Embedding system laboratory tables
- Tissue processor –vacuum processor and Rotary processor
- Dry air oven

(d) Microscopy Reading Room:

- microscope
- 2 metal stools

(e) Chemical Reagent Store:

- Fume extractor
- Tissue shelf store
- Lidded garbage container
- Refrigerator
- Microtones
- Water bath
- HE staining table
- Fume extractor
- Knife sharpener

- shelf

6.22.4.2. Cytology Examination room:

- Coach table
- Microscope
- Office table
- Reading table
- Mobile examination light
- Rotary chair
- Locker

6.22.4.3. Office facilities and furniture

6.23. Pharmaceutical Services

6.23.1. Practices

Dispensing and Medication Use Counseling

6.23.1.1. Standard operating procedure for dispensing and medication use counseling shall be established to ensure patients' safety and correct use of medications.

6.23.1.2. Dispensers shall make sure that prescriptions are legible, written by authorized prescriber and complete. Prescription papers shall be standardized and must contain at least the following information and the prescriber and dispenser shall complete all these information:

- **a)** Name of patient, sex, age, weight and card number
- **b)** Diagnosis and allergy
- **c)** Name of the medicines, strength, dosage form, dose, frequency, and route of administration
- **d)** Duration of treatment
- **e)** Prescriber's name, qualification, license number and signature
- **f)** Dispenser's name, qualification, license number and signature
- **g)** Hospital name and address

6.23.1.3. The pharmacist shall check the correctness of prescriptions in terms of appropriateness for the patient, dosage, and medicine interactions based on approved standard treatment guidelines before use.

6.23.1.4. All medicines shall be dispensed with adequate and appropriate information and counseling to patients for correct use of their medications.

6.23.1.5. Pharmacists shall be required to make an in-depth professional judgment to make sure that each medicine and its dosage form has all of its attributes of quality and an acceptable ratio of safety.

6.23.1.6. The containers used for dispensing shall be appropriate for the product dispensed and all containers intended for medicine shall be protected and kept free from contamination, moisture and light.

6.23.1.7. All medicines to be dispensed shall be labeled and the labels shall be unambiguous, clear, legible and indelible. The following minimum information shall be indicated on the label/sticker:

a) The generic name of the medicine;
b) The name of each active ingredient for compounded preparations;

c) The strength, dose, frequency of administration and total quantity;
d) The name of the person for whom the medicines are dispensed;
e) The directions for use and route of administration tailored to patient or caregiver literacy and language;
f) The name and business address of the dispenser;
g) Date of dispensing;
h) Expiry date/beyond use date and
i) Special precautions as applicable

6.23.1.8. Filled prescriptions shall be signed and accountability must be accepted by the dispensing pharmacist.

6.23.1.9. Each hospital shall establish and implement policies, guidelines and procedures for reporting any errors or any suspicion in administration or provision of prescribed medications. Errors shall be reported to the prescriber in a timely manner upon discovery and a written report of the error prepared and documented. Any suspicion or error shall be communicated to the prescriber and clarified/corrected before dispensing without affecting patient's confidence on medical practices.

6.23.1.10. The pharmacy shall keep individualized information for patients with chronic illnesses medication program using standardized information tracking formats and update patient medication profile during each refill visit.

6.23.1.11. The counseling of patients or their caregivers shall be undertaken to promote the correct and safe use of medicines. The responsible pharmacist must ensure that patients are counseled before they receive medicines that they are to self-administer.

6.23.1.12. The pharmacist shall assess each patient's ability to understand the information imparted by question and answer and must be able to modify his/her approach accordingly. Care shall be taken with counseling where understanding is likely to be a problem.

6.23.1.13. Cautionary instructions and ancillary information about medications shall be communicated in writing to the personnel responsible for administering medications.

6.23.1.14. The general hospital shall establish Policies and procedures to control the administration of narcotic drugs and psychotropic substances with specific reference to the duration of the order and the dosage in accordance with relevant laws.

6.23.1.15. A record of the stock on hand and of the dispensing of all these drugs shall be maintained in such a manner that the disposition of any particular item may be readily traced.

6.23.1.16. All controlled substances (narcotic and psychotropic drugs) shall be dispensed to the authorized health professional designated to handle controlled substances by a licensed pharmacist in the hospital. When the controlled substance is dispensed, the following information shall be recorded into the controlled substances (proof-of-use) record.

a) Name and signature of pharmacist dispensing the controlled substance
b) Name and signature of designated licensed person receiving the controlled substance.
c) The date and time controlled substance is dispensed.
d) The name, the strength, and quantity of controlled substance dispensed.
e) The serial number assigned to that particular record, which corresponds to same number recorded in the pharmacy's dispensing record.

6.23.1.17. When the controlled substances are not in use, they shall be maintained in a securely locked, substantially constructed cabinet or area. All controlled substance storage cabinets shall be permanently affixed. Controlled substances removed from the controlled substance cabinet shall not be left unattended.

6.23.1.18. The administration of all controlled substances to patients shall be carefully recorded into the standard record for controlled substances and returned back to the pharmacist upon refill of controlled substances. The following information shall be recorded during administration to patients.

a) The patient's name, card number
b) The name of the controlled substance and the dosage administered.
c) The date and time the controlled substance is administered.
d) The signature of the practitioner administering the controlled substance

e) The wastage of any controlled substance, if any.
f) The balance of controlled substances remaining after the administration of any quantity of the controlled substance
g) Day-ending or shift-evening verification of count of balances of controlled substances remaining and controlling substances administered shall be accomplished by two (2) designated licensed persons whose signatures shall be affixed to a permanent record.

6.23.1.19. All partially used quantities of controlled substances shall be registered in to the control substance record and returned back to the responsible pharmacist for control substances for disposal.

6.23.1.20. All unused and unopened quantities of controlled substances which have been removed from the controlled substance cabinet shall be returned to the cabinet by the practitioner at the end of each shift.

6.23.1.21. Any return of controlled substances to the pharmacy in the hospital shall be documented by a registered pharmacist responsible for controlled substance handing in the hospital.

6.23.1.22. The hospital shall implement procedures whereby, on a periodic basis, a registered pharmacist shall reconcile quantities of controlled substances dispensed in the hospital against the controlled substance record. Any discrepancies shall be reported to the Director of the respective medical services and to the Chief Clinical Officer/Chief Executive Officer of the hospital. Upon completion, all controlled substance records shall be returned to the hospital's pharmacy by the designated responsible person.

6.23.1.23. The hospital shall submit regular report to the appropriate organ regarding the consumption and stock of controlled drugs.

Hospital Based Medicine Preparations

6.23.1.24. Written procedures/SOPs for hospital based pharmaceutical preparations shall be established for preventing errors, medicine/medicine interactions and medicine contamination. This SOP shall contain an approved Master Formula for each type of preparation that shows the list of ingredients and their quantities required for the formulation of a specified amount of the preparation

6.23.1.25. licensed pharmacists shall be responsible for the preparations of various pharmaceutical formulations such as eye drop preparations, dosage form

changes, extemporaneous preparations, IV infusions and IV admixture when deemed necessary by the hospital.

6.23.1.26. The hospital shall have a pharmacy-based intravenous infusion admixture program, which includes services related to preparation of total parenteral nutrition, antineoplastic agents, and large and small, continuous or intermittent volume products for infusion. A pharmacist licensed to practice pharmacy shall prepare, sterilize if necessary, and label parenteral medications and solutions.

6.23.1.27. The pharmacist responsible for medicine preparations shall ensure that quality is built into the preparations of products.

6.23.1.28. Ingredients used in preparations shall have their expected identity, quality, purity and shall be from legally registered sources.

6.23.1.29. medicine preparations shall be of acceptable strength, quality, and purity, with appropriate packaging and labeling, and prepared in accordance with good compounding practices, official standards, and relevant scientific data and information. Labels on compounded products for individual patient shall have a minimum of the following information:

h) Patient's name
i) Name of the compounding pharmacist
j) Name and address of the compounding institution
k) A complete list of ingredients and preparation name
l) Strength
m) Quantity of each ingredients and total quantity
n) Directions for use
o) Date of preparation
p) Beyond-use date
q) Storage condition
r) Batch number

6.23.1.30. Critical processes shall be validated to ensure that procedures, when used, will consistently result in the expected qualities in the finished preparation.

6.23.1.31. Appropriate stability evaluation shall be performed or determined using international standards for establishing reliable beyond-use date to ensure that the finished preparations have their expected potency, purity, quality, and characteristics, at least until the labeled beyond-use date.

6.23.1.32. Written procedures and records shall exist for investigating and correcting failures or problems in compounding, testing, or in the preparation itself.

6.23.1.33. Medicine preparations compounded in the hospital shall be packaged in containers meeting standard requirements mentioned under the official national or international standards for such preparations.

Clinical Pharmacy Services

6.23.1.34. The hospital through drug and therapeutic committee shall establish policies and procedures for the provision of clinical pharmacy services

6.23.1.35. Depending on the number of beds available and convenience for service delivery, the hospital shall have inpatient pharmacy or ward pharmacies each managed by a registered clinical pharmacist or a registered pharmacist trained on clinical pharmacy practice.

6.23.1.36. The responsible pharmacist for clinical pharmacy services shall have access to patient specific medication therapy information

6.23.1.37. Patient-specific medication therapy information must be evaluated and a medicine therapy plan shall be developed by the pharmacist mutually with the patient, the prescriber and nurse.

6.23.1.38. The pharmacist shall review, monitor and propose for modification of the therapeutic plan in case of adverse effects, patient noncompliance, evidence based efficacy problem and as appropriate, in consultation with the patient, prescriber and nurse.

6.23.1.39. Through prescription and medication history monitoring, the pharmacist shall identify problems or opportunities for optimizing treatment and hence safeguard the patient and ensure the optimal use of medicines

6.23.1.40. The processes of prescribing, dispensing and administering medicines are inherently risk-laden and hence the clinical pharmacy services shall take responsibility for ensuring safe, appropriate and effective use of medicines (minimizing risk) at all stages of the patient medication journey.

6.23.1.41. Medication education shall be delivered to patients or their caregivers upon discharge by the clinical pharmacist.

6.23.1.42. The pharmacist shall make sure that the patient has all supplies, information and knowledge necessary to carry out the medicine therapy plan.

6.23.1.43. As a member of the health care team, the pharmacist shall attend and participate at multidisciplinary ward rounds/morning meetings and contribute to patient care through the provision of medicine information, dose calculations and adjustment, assisting in the rational prescribing decision, alternative regimens and reducing the frequency and duration of medication errors.

a) The drug and therapeutic committee of the hospital shall develop/adopt and implement antimicrobial prescribing, dispensing and usage policy

Emergency Pharmacy Services

6.23.1.44. Emergency pharmacy service shall be opened for 24 hours and directed by a licensed pharmacist who is accountable to the emergency unit of the hospital.

6.23.1.45. Orders received by words of mouth or through telephone during emergency (in case of immediate administration is necessary, no appropriate alternative treatment is available and when it is not reasonably possible for the physician to provide a written prescription prior to dispensing) shall latter be endorsed by the prescriber and be documented in writing within 24 hours. The quantity shall be limited to emergency period only.

6.23.1.46. The responsible pharmacist shall take the duty to coordinate and prepare emergency medicines lists and ambulance kits for the hospital and he/she has to exert all the necessary efforts to ensure continuous availability of medicines for emergency unit and hospital ambulances.

6.23.1.47. The emergency pharmacy, in addition to supply of medicines, shall record patient medication information and ensure correct use of medications

Adverse Drug event, ADE/ Pharmacovigilance

6.23.1.48. The general hospital pharmacy shall appoint an ADE (adverse drug event) focal person responsible for the collection, compilation, analysis and communication of adverse drug reaction, medication error and product quality defects related information to the DTC and then to FMHACA.

6.23.1.49. Health professionals of the hospital shall be responsible to report suspected ADE cases to the ADE focal person.

6.23.1.50. DTC shall discuss and make necessary recommendations to the hospital management for decision on adverse drug event reported within the health facility.

6.23.1.51. The general hospital pharmacy shall consistently update the safety profile of medicines included in the formulary list for immediate medicines use decisions and consideration during the revision of the list.

6.23.1.52. Adverse medication effects shall be noted in the patient's medication record.

6.23.1.53. All the ADE reports, patient identity, reporters and medicine trade names shall be kept confidential.

6.23.1.54. The reporting of ADE shall be done by the national ADE prepaid yellow form prepared by FMHACA

Medicine Supply and Management

6.23.1.55. A drug and therapeutics committee (DTC) representing different service units of the hospital shall be in place for selection of pharmaceuticals and other medical items and developing the formulary list as well as policies and guidelines on managing medicines based on the general hospitals medicines list..

6.23.1.56. The purchase of pharmaceuticals shall be the responsibility of a pharmacist who is assigned to manage and control the hospital central medical store.

6.23.1.57. The general hospital shall have written policies for the procurement of medicines from government and private suppliers shall be available in the pharmacy. These policies shall be prepared by the DTC and approved by the management/board of the hospital. The procurement policy must ensure at least:

a) The right source of medicines
b) Medicines availability
c) Safety, quality and efficacy of medicines
d) Transparency of the procedure and documentation
e) Minimal decision points
f) Flexibility to respond for emergency situations
g) Compatibility with the state and national laws of the country
h) Effective batch recall of medicines when necessary

6.23.1.58. A pharmacist shall not purchase any medicinal product where he/she has any reason to doubt its safety, quality or efficacy.

6.23.1.59. The pharmacist shall ensure that both the supplier and the source of any medicine purchased are reputable and licensed by the appropriate organ.

6.23.1.60. The hospital central medical store shall be responsible to display or disseminate new arrivals or alternative medicines to each service delivery points.

6.23.1.61. The hospital shall introduce and maintain stock control system (manual and/or computerized system) in the central medical store and dispensaries.

6.23.1.62. The hospital shall be responsible to make sure that medicines promotion made by suppliers or manufacturers in the hospital premises is made by a registered pharmacist in accordance with the relevant medicine related laws.

6.23.1.63. The hospital shall be responsible to make sure that donation of pharmaceuticals has been made in accordance with the country's laws.

6.23.1.64. There shall be a pharmacist assigned as medicine Supply Management Officer that is responsible for the procurement, stock management, warehouse management, distribution of medicines and disposal of medicine waste. There shall be also a responsible pharmacy personnel assigned for receiving, storage, issuing, recording, monitoring and reporting

6.23.1.65. The storage condition shall provide adequate protection to the medicine from all environmental factors until the medicine is delivered to the patient.

6.23.1.66. The responsible pharmacist must ensure that all areas where medicines are stored are of acceptable standards (palletized or shelved, ventilated, easy for movement, rodent free, temperature and moisture controlled and others) for a medicine store.

6.23.1.67. The responsible pharmacist shall ensure that all medicine storage areas are inspected regularly to ensure that:

a) medicines are stored and handled in accordance with the medicines manufacturer's requirements and this standard
b) expired or obsolete pharmaceuticals are stocked separately until disposition
c) medicines requiring special environmental conditions shall be stored accordingly
d) Temperature and humidity are maintained according to manufacturer's requirement
e) stock levels are adequate to ensure the continuous supply and acceptability of medicine at all times, including the availability of essential medicine

f) inflammable substance are stored separately and in an appropriate manner
g) disinfectants and preparations for external use are stored separately from medicines for internal use

6.23.1.68. Special storage conditions shall be maintained for pharmaceuticals requiring cold chain system, controlled substances, radiopharmaceuticals and medical gases.

6.23.1.69. Firefighting equipment or system shall be installed to medicines storage places

6.23.1.70. Distribution of medicines within a hospital shall be under the direction and control of a pharmacist and must be in accordance with the policy developed by DTC. All issuing activities shall be made using official and serially numbered vouchers.

6.23.1.71. There shall be written SOPs on how supplies of stock are to be obtained from the medical store. Procedures must define normal action to be taken by pharmacy staff for routine stock replacement and action to be taken in the case of incomplete documentation or other queries.

6.23.1.72. Written procedures shall be available for the return of expired, damaged, leftover and empty packs from outlets to medical store to prevent potential misuse.

6.23.1.73. The hospital shall maintain stock control system (manual and/or computerized system) in the central medical store and dispensaries.

6.23.1.74. The responsible pharmacist shall ensure that adequate control procedures are in place for all stock circulating at all outlets within the hospital.

6.23.1.75. Daily medicine consumption at different outlets of the hospital shall be recorded, compiled and analyzed for the appropriate supply and use of medicines.

6.23.1.76. The hospital pharmacist who is responsible for the management of medicines should conduct regular medicine use studies to ensure maximum patient benefit.

6.23.1.77. The general hospital shall make every attempt to minimize the amount of medicines waste generated in the hospital.

6.23.1.78. The DTC should be responsible for developing policies and guidelines on how to organize and conduct medicine use studies.

Medicine/Drug Information Services

6.23.1.79. The hospital shall establish a medicine information center which provides medicine information services and shall be directed by a licensed pharmacist trained in the provision of medicine information services.

6.23.1.80. The medicine information pharmacist shall be member of the hospital DTC

6.23.1.81. The medicine information service shall be part and parcel of the day-to-day activities of a health facility and shall provide objective and unbiased information to health care professionals and the public. It shall receive and respond to medicine information queries as per written SOPs and provide continuing education on medicine-related topics to health professionals.

6.23.1.82. Provision of medicine information services to patients and community shall be in accordance with the standard operating procedures that will be developed by the Authority and adopted by the hospital. Procedures shall include:

h) Details of standards of practice;
i) Range of services provided;
j) Availability of service;
k) Procedures for enquiry receipt and retrieval of data;
l) Details of available resources;
m) Quality assurance practices;
n) Job descriptions for all staff and local practices including site-specific regulations or procedures.

6.23.1.83. The medicine information center shall provide reference materials such as medical and medicine related books, journals, medicines profiles, electronic information, CD-ROM, relevant formularies and manufacturers' information and updated list of drugs available in the hospital central medical store to health care professionals

6.23.1.84. The service shall be available at least during normal working hours.

Medicine Waste Management and Disposal

6.23.1.85. The disposal of medicine wastes shall be in compliance with the medicines waste management and disposal directives issued by FMHACA.

6.23.1.86. Hospital pharmacy shall take responsibility, through supportive policies and procedures for the environmental and societal safety by efficiently managing the medicine wastes.

6.23.1.87. All personnel involved in medicines waste handling shall be trained and/or well informed about the potential risks of hazardous medicines waste and their management

6.23.1.88. All personnel involved in medicine waste handling shall wear protective devices like apron, plastic shoes, gloves, head gears and eye glasses when appropriate.

6.23.1.89. General wastes shall be collected daily from the pharmacy and placed in a convenient place outside the pharmacy to facilitate coordinated disposal by the hospital.

6.23.1.90. Solid wastes from the pharmacy shall be categorized as "hazardous" and 'non-hazardous" and shall be collected separately for proper treatment.

6.23.1.91. All hazardous chemicals spills shall be immediately reported to head of the pharmacy or responsible person for safety (if available) to minimize the risk and take immediate action.

6.23.1.92. Spillages of low toxicity shall be swept into a dust pan and placed into a suitable container for that particular chemical and dispose accordingly.

6.23.1.93. medicines in single dose or single use containers which are open or which have broken seals, medicines in containers missing medicine source and exact identification (such as lot number), and outdated medications shall be returned to the pharmacy for disposal.

6.23.1.94. The hospital shall form a medicine disposal committee to ensure safety, accountability and transparency.

6.23.1.95. Disposal of medicine wastes shall be supported by proper documentation including the price of the products for audit, regulatory or other legal requirements.

6.23.1.96. Those items which can't be disposed by the capacity of the hospital shall be managed by one central body (e.g. radiopharmaceuticals).

Recording

6.23.1.97. Each hospital shall maintain records to assure that patients receive the medications prescribed by a prescriber and maintain records to protect medications against theft and loss.

6.23.1.98. There shall be a standardized Prescription Registration Book for recording prescriptions and dispensed medicine. A computerized dispensing and registration system with backup can be used instead if available.

6.23.1.99. Each patient with a chronic disease shall have a separate Patients Medication Profile Card (PMP) that should be filled appropriately with all the relevant information for each patient. A computerized system with backup can be used instead if available.

6.23.1.100. Controlled and non-controlled prescriptions shall be documented and kept in a secure place that is accessible only to the authorized personnel for at least five and three years respectively.

6.23.1.101. Patient and medication related records and information shall be documented and kept in a secure place that is easily accessible only to the authorized personnel

6.23.1.102. Every transaction related with medicines should be recorded on stock control cards and/or computerized stock control system in the medical store and dispensaries.

Billing

6.23.1.103. Medicines shall be received and issued using standard receiving and issuing vouchers with serial number registered by the appropriate finance bureau of the government. Issuing and receiving of medicines has to be signed by both the receiver and issuer and approved by an authorized pharmacist. Receiving and issuing vouchers shall have the following minimum information.

a) Name of medicines received and issued
b) Unit of measurement, quantity and source (supplier's or manufacturer's name) of medicines
c) Expiry date and batch number
d) Unit and total prices
e) Date received and issued
f) Name and signature of receiver and issuer
g) Address of the hospital

6.23.1.104. All medicines issued from the dispensary shall be dispensed/sold using standard sales ticket with serial number registered by the appropriate finance bureau. Sales tickets have to be signed and stamped.

6.23.1.105. Dispensing pharmacies shall use a standard stamp and seal for approving legal transactions

6.23.1.106. Writing one bill for two clients shall be forbidden

6.23.1.107. The consumer has the right to know the exact price of a prescription before it is filled

6.23.1.108. The hospital shall ensure that each customer has the right to get receipt which has the following minimum information about medicines dispensed.

a) Name of patient
b) Name and dosage form of medicines dispensed
c) Unit of measurement and quantity
d) Unit and total prices
e) Date
f) Signature of dispenser and cashier
g) Address of the hospital

Organization Management and Quality Improvement

6.23.1.109. A multidisciplinary drug and therapeutic committee chaired by the medical director and supported by a registered pharmacist representing the hospital pharmaceutical services as a secretary must be functional for the overall improvement of pharmaceutical services in the hospital

6.23.1.110. The pharmaceutical services shall be represented by a licensed senior pharmacist in every management meetings of the hospital.

6.23.1.111. Customer satisfaction survey on pharmaceutical services shall be conducted at least once in a year and measures shall be taken in accordance with survey findings.

6.23.1.112. There shall be a program of continuous quality improvement for the pharmaceutical service that is integrated into the hospital continuous quality improvement program and includes regularly collecting and analyzing data to help identify pharmaceutical service problems and their extent, and recommending, implementing, and monitoring corrective actions on the basis of these data.

6.23.1.113. The pharmaceutical service shall have in effect a patient profile system for monitoring medicine therapy. This system shall be used by the hospital to identify inappropriate prescribing practices and develop interventions.

6.23.1.114. The medicines supply and management officer shall inspect all patient care areas in the hospital, where medicines intended for administration to patients are

stored, dispensed, or administered at least once every two months. The pharmaceutical service shall maintain a record of the inspections and action taken for identified problems.

6.23.1.115. A quality improvement program of the pharmaceutical service shall monitor, at a minimum, the use of medicines, including medication errors and use of antibiotics. Serious or consistent patterns of medication error shall be reported to the drug and therapeutics committee or its equivalent for correction and this must be documented

6.23.2. Premises

6.23.2.1. The design and layout of the pharmacy shall permit a logical flow of work, effective communication and supervision and ensure effective cleaning and maintenance and must minimize the risk of errors, cross-contamination and anything else which would have an adverse effect on the quality of medicines and service delivery.

6.23.2.2. The area(s) of counseling shall be arranged or constructed in such a manner that it provides adequate space, have professional look and ensure reasonable privacy to the patient at all times and eliminate background noise as much as possible.

6.23.2.3. Dispensing counter shall be designed to secure patient privacy and confidentiality

6.23.2.4. All parts of the premises shall be maintained in an orderly and tidy condition.

6.23.2.5. The external appearance of pharmacies shall be painted white and inspire confidence in the nature of the health care service that is provided and portray a professional image.

6.23.2.6. Entrances, dispensing counters and doorways shall be accessible to persons with disability.

6.23.2.7. The dispensing environment (dispensing counter and counseling area) shall ensure confidentiality and allow simultaneous service delivery for multiple customers by multiple providers.

6.23.2.8. A waiting area(s), which is under cover, shall be situated near the dispensing area, areas for counseling/consultation and the provision of information.

6.23.2.9. The pharmacy premises shall be clearly demarcated and identified from the premises of any other business or practice. The location of the pharmacy premises shall take into account patient convenience and ease of loading and unloading of medicines.

6.23.2.10. Careful consideration shall be given to the overall security of the pharmacy. It must be lockable and shall prevent any unauthorized entry.

6.23.2.11. A security policy shall be implemented which is designed to ensure the safety of both staff and medicines, and shall take account of local crime prevention advice.

6.23.2.12. The responsible pharmacist of a pharmacy shall ensure that every key which allows access to a pharmacy is kept only with him/her or the designated personnel.

6.23.2.13. A procedure shall be in place to ensure access to pharmacy premises in an emergency situation.

6.23.2.14. Compounding premise shall be maintained adequate, clean and ventilated.

6.23.2.15. Ceilings and walls of dispensaries and store shall be constructed to protect safety of medicines from burglary, rodents, direct sunlight, moisture and damages.

6.23.2.16. Medicines shall be shelved a minimum of 20cm above the floor, 1m wide between shelves and 50cm away from the wall and ceiling.

6.23.2.17. Medicines shall be shelved a minimum of 20cm above the floor, 1m wide between shelves and 50cm away from the wall and ceiling. If pallets are used, there shall be 20cm above the floor, one meter between pallets and 50cm away from the wall.

6.23.2.18. The pharmacy premises shall have the following minimum space at different service delivery points.

a) Waiting area
b) Inpatient dispensing room
c) Outpatient dispensing with counseling room
d) Emergency dispensing room
e) Compounding room, as appropriate
f) Cold room, optional
g) Medicine information center room(s), as appropriate
h) Cashier room

i) Medical store intended for medicines, vaccines, lab reagents and medical equipment storage
j) Office and duty room
k) Staff toilet (female and male)

6.23.3. Professionals

6.23.3.1. The overall hospital pharmaceutical service shall be directed by a licensed pharmacist

6.23.3.2. In addition, the hospital shall have the following licensed pharmacists.

a) Outpatient pharmacy,
b) Inpatient pharmacy (including ward or satellite pharmacies),
c) Emergency pharmacy,
d) Compounding service,
e) Medicines information center, and
f) Central medical store and overall medicine supply management.

6.23.3.3. Pharmacy technicians as appropriate

6.23.3.4. The pharmacist who is working at the inpatient pharmacy shall serve as ADR focal person for the hospital.

6.23.3.5. The hospital shall have written policies and procedures for pharmacy workforce determination for additional pharmacy staff based on the workload analysis to ensure quality service standard.

6.23.3.6. The hospital pharmacy shall have an accountant from finance division, pharmacy clerks, cashiers, cleaners and porters.

6.23.3.7. The responsible pharmacist shall ensure that written job descriptions are prepared for all staff and that all staff are acquainted with their job descriptions and responsibilities.

6.23.3.8. All staff shall receive appropriate training, information and orientation at the time of appointment to any position in the pharmacy

6.23.3.9. The requirements of the national/state medicine related laws with respect to persons handling medicines and related products shall be adhered.

6.23.3.10. Pharmacists responsible for the practical training of pharmacy students shall comply with the necessary duties and responsibilities stated in the country's medicine related laws.

6.23.3.11. The pharmacy personnel shall wear white gown or any color accepted by the hospital with easily readable name tag (badge) that include their name and status, such as junior pharmacist, senior pharmacist, pharmacy technician or any other.

6.23.3.12. A pharmacist shall be on duty or on call at all times outside working hours.

6.23.4. Products

6.23.4.1. The hospital may have its own medicine list within the framework of the general hospital's medicine list prepared by the FMHACA.

6.23.4.2. There shall be adequate, suitable dispensing equipment in the dispensary. Each item must be clean, in good repair and of suitable material. Equipment shall be specific for each service which may be provided in the pharmacy.

6.23.4.3. The hospital's outpatient, inpatient and emergency pharmacies and its central medical store shall have fire extinguisher, refrigerators, deep freezers, security alarms and racks/shelves.

6.23.4.4. Equipment used for measuring and weighing shall be designed and maintained in such a way as to be suitable for its intended use; facilitate thorough cleaning when necessary; minimize any contamination of medicines and their containers; and minimize the risk of confusion or the omission of a processing step such as filtration or sterilization.

6.23.4.5. There shall be a suitable, clean wash hand basin made of a smooth, washable and impermeable material which is easy to maintain in a hygienic condition and has a source of hot and cold tap water and a closed drainage system.

6.23.4.6. The medicine information center shall be equipped with furniture and equipment including a dedicated telephone, computer, internet and lockable filing cabinets, current collection of reference materials such as books, journals, medicine profiles, electronic information, relevant formularies and manufacturers' information.

6.23.4.7. Toilet facilities shall be kept clean and in good order. Hand-washing facilities shall be provided in the toilet area together. Facilities must include readily available water, soap and clean towels or other satisfactory means of drying the hands.

6.23.4.8. The hospital pharmacy shall be provided with consistent electricity, telephone, internet services (optional) and office facilities such as computers, furniture and other necessary supplies.

6.23.4.9. In general, minimum standard for pharmacy equipment and facilities at different service delivery points shall be as follows.

6.23.4.10. In general, minimum standard for pharmacy equipment and facilities at different service delivery points shall be as follows.

Equipment and facilities	*Pharmaceutical Service Delivery Points*				
	Inpatient Pharmacy	*Outpatient Pharmacy*	*Emergency Pharmacy*	*Medical Store*	*Compounding Pharmacy*
1. Working bench: Level, smooth, impervious, free of cracks and crevices and non-shedding; covered with protector sheets of plastic, rubber or absorbable paper when appropriate					x
2. 5. Mortar and pestle: 250 ml capacity or more; glass type and porcelain type					x
3. 6. Water distiller: Stainless steel of 20 liter capacity or more					x
4. 7. Water bath: Stainless steel of 4 openings or more					x
5. 8. Electrical hotplate: Various Sizes and Features					x
6. 9. Evaporating dish: Stainless steel (glazed inside) and porcelain type; with/without handling					x
7. Spatula: Stainless steel and plastic type, flexible and non-flexible, different blade lengths.					x

8. Gloves: disposable, non-sterile					X
9. Glass rod: Different length and thicknesses					X
10. Wash bottle: 250ml capacity, polyethylene					X
11. Funnel: Glass type and plastic type (polyethylene)					X
12. Beakers: Glass type; different capacity					X
13. Volumetric flask: Glass type; different capacity					X
14. Balances: Prescription, torsion, manual triple beam, electronic; capacities of not less than 300 gm; sensitivity of not less than 0.1 mg.					X
15. Ointment tile: Glass type					X
16. Micropipettes: Glass type; different capacities (less than 1ml); with pipette bulb					X
17. Glass type; different capacities (1ml-100ml); with pipette bulb					X
18. Cylindrical graduate: Glass and plastic type; different capacity					X
19. Conical graduate: Glass and plastic type; different capacity					x
20. Weighing dishes: Plastic, aluminum, stainless steel type					x
21. Weighing paper: Normal paper; grease-proof for semisolids					x
22. Refrigerators and deep freezers with thermometer	X	x	x	x	x

23. Wall thermometers	X	x	x	x	x
24. Ventilator or AC as required	X	x	x	x	x
25. Hygrometer	X	x	x	x	x
26. Tablet counter	X	x	x		
27. Scientific calculator	X	x	x	x	x
28. Table and chair	X	x	x	x	x
29. Scissors	X	x	x	x	x
30. Adult and pediatric weighing balance	X	x			
31. Electric light	X	x	x	x	x
32. Tape water access	X	x	x	x	x
33. Toilet and shower					
34. Telephone line	X	x	x	x	
35. Internet facility access (optional)					

6.24. Blood Transfusion Services

6.24.1. Practices

6.24.1.1. The hospital shall have blood transfusion services 24 hours a day and 365 days a year

6.24.1.2. Transfusion of blood and blood products shall be provided or readily available consistent with the size and scope of operation of the hospital.

6.24.1.3. Blood shall be prescribed by a licensed physician.

6.24.1.4. There shall be written procedure for blood typing, cross-matching, risk assessment and testing, storage and transportation activities

6.24.1.5. There shall be written procedure for laboratory investigation of blood transfusion reactions.

6.24.1.6. The hospital shall maintain a minimum stock of blood supply at all times and there shall be a mechanism to access blood supply from nearest blood bank quickly.

6.24.1.7. Blood shall be transported in appropriate containers that can maintain the cold chain system from the centre to the hospital.

6.24.1.8. Blood storage facilities in the hospital shall have a functional alarm system in case of power failure and out of range temperature, which is regularly inspected and is otherwise safe and adequate.

6.24.1.9. Records shall be kept on file indicating the receipt and disposition of all blood provided to patients in the hospital.

6.24.1.10. Samples of each unit of blood used at the hospital shall be retained for further retesting in the event of reactions. Blood which has exceeded its expiration date shall be disposed promptly.

6.24.1.11. There shall be a hospital transfusion committee that shall review all transfusions of blood or blood products and make recommendations concerning policies governing such practices.

6.24.1.12. The hospital transfusion committee shall receive patient complaints and investigate all transfusion reactions occurring in the hospital and make recommendations to the medical staff regarding improvements in transfusion procedures

6.24.1.13. A hospital transfusion committee shall report all transfusion reactions occurring in the hospital at least on quarterly basis to the Chief Clinical Officer/Medical Director

6.24.1.14. Written Consent shall be signed before blood transfusion by the recipient or care giver in case the recipient is incompetent and this shall be recorded in the patient medical record.

6.24.1.15. Facilities and testing procedures to ensure safety of blood shall be installed in the hospital

6.24.1.16. The hospital shall make sure that bloods are properly labeled with all the appropriate identifications, date of collection and expiry date.

6.24.1.17. There shall be written procedure for the disposal of unfit-for-use blood as per the waste management section of this standard.

6.24.1.18. There shall be a standardized blood request paper prepared and approved by the hospital.

6.24.2. Premises

6.24.2.1. The hospital shall have a minimum of one room for blood storage unit that can accommodate the cold chain facilities

6.24.2.2. The blood storage unit shall be clearly demarcated and identified from the premises of any other business or practice.

6.24.2.3. The hospital blood storage unit shall have record keeping and documentation facility

6.24.2.4. The hospital blood storage unit shall have consistent electricity, telephone and water supply

6.24.2.5. Toilet facilities shall be kept clean and in good order. Hand-washing facilities shall be provided in the toilet area together.

6.24.3. Professionals

6.24.3.1. A licensed laboratory technologist shall be responsible for blood typing and cross-matching (pull from the hospital medical laboratory)

6.24.3.2. A licensed laboratory technician shall be assigned to manage the blood storage unit and its stock management.

6.24.3.3. There shall be a mechanism to utilize laboratory staff to clean blood storage unit.

6.24.4. Products

6.24.4.1. The hospital blood storage unit shall have at least the following equipment and facilities:

a) Two refrigerators which is specially designed for blood storage
b) A deep freezer
c) Incubator
d) Thermometer
e) Timer
f) Pipette
g) Reagent dispenser
h) Cold boxes
i) Anti A antisera
j) Anti B antisera
k) Anti D (RH Typing)
l) Antihuman globulin
m) One heating block
n) One water bath for cross-matching

6.25. Ambulance Services

6.25.1. Practice

6.25.1.1. The ambulance service shall be provided to every emergency patient who needs the service without any prerequisite and discrimination

6.25.1.2. The ambulance service shall be available 24 hrs a day and 365 days a year

6.25.1.3. The ambulance service shall provide the following services to patients with urgent need of medical attention or in a medical emergency

(a) Transportation service to the hospital and from the hospital to other health facilities

(b) Clinical examinations including brief history, vital signs, very pertinent physical examination and glucose test when needed

(c) Clinical life saving support that includes:

- Fluid resuscitation
- Bleeding control
- Air way cleaning , oxygen administration, severe asthma management
- Attending labor
- Immobilizing a fracture
- Providing anti-pain
- Managing seizure

- Providing emergency medicines like adrenaline, hydralazine, glucose etc

6.25.1.4. The ambulance service shall comply with the patient rights standards stated under this standard.

6.25.1.5. Every procedure, medication and clinical condition shall be communicated to the patient or family member or caregivers or next of kin

6.25.1.6. Up on arrival to the hospital the ambulance staff shall transfer the patient to the emergency service. The handover of patients shall be accompanied by written a document which at least includes identification, date, time and services provided until arrival to the hospital.

6.25.1.7. If death happens on the way to a hospital the dead body shall be taken to the hospital and death shall be confirmed. Dead body care shall be provided as per the standards stated under this standard.

6.25.1.8. Ambulances of the hospital shall serve only for designated emergency medical services

6.25.1.9. After providing a service the vehicle shall be cleaned and made standby.

6.25.1.10. The ambulance kit shall be checked every time after providing a service

6.25.2. Premise

6.25.2.1. The parking of the ambulance car shall be within the hospital around emergency service.

6.25.2.2. The hospital ambulance shall have telephone/radio communication means with the emergency service unit.

6.25.2.3. The hospital shall have ambulance service unit under the emergency service of the hospital equipped with a telephone/radio to communicate with the public and the ambulance team

6.25.2.4. The ambulance car shall have adequate space for accommodating the following:

(a) A couch

(b) One family attendant and

(c) At least two nurses

(d) Medical items needed for providing immediate life saving support

6.25.2.5. The vehicle shall be labeled and have a siren

6.25.2.6. The vehicle shall have adequate internal light and ventilation

6.25.2.7. The vehicle shall fulfill requirements of road transport authority

6.25.3. Professional

6.25.3.1. Minimum standards for personnel of the ambulance service shall include:

(a) nurses pulled from emergency service unit

(b) Licensed drivers for all shifts

(c) Telephone operator

6.25.3.2. The nurses shall be trained on emergency medical services

6.25.3.3. The driver shall be oriented on emergency situation management

6.25.4. Products

6.25.4.1. The ambulance service shall include the following medicines, supplies and medical equipments:

(a) Medicines: Anti pains, adrenaline, hydralazine, IV fluids (all types), dextrose 40%, diazepam inj., phenytoin inj., atropine inj., etc.

(b) Supplies

- IV cannula, IV stand, syringe with needle, tourniquet, plaster, gauze, bandage, spatula, antiseptic solution, catheters
- Personal protective devices (gown, mask, gloves, goggles)
- Waste disposing containers
- Support material for immobilization purpose

(c) Equipment:

- Minor surgical set (forceps, scissors, kidney dish, stitch, sterile gauze, needle holder) in a drum
- Oxygen supply, ambubag, suction machine
- Stethoscope, sphygmomanometer, thermometer
- Portable radio or telephone
- Emergency trachiostomy (wide bore needle insertion), air way, laryngeal mask, intubation set
- Glucometer

(d) Log book (stating time of call, time of arrival, time of return)

(e) Bed (couches) with fixed chair that is designed for ambulances, wheelchair, emergency light

(f) Standby ambulances (depending on the workload):

SECTION SEVEN: OTHER HOSPITAL SERVICES

7.1 Infection Prevention

7.1.1 Practices

7.1.1.1 All activities performed for infection prevention shall comply with the national infection prevention guidelines.

7.1.1.2 Infection prevention and control shall be effectively and efficiently governed and managed.

7.1.1.3 The hospital shall identify the procedures and processes associated with the risk of infection and shall implement strategies to reduce infection risk.

7.1.1.4 Infection risk-reduction activities shall include:

a) equipment cleaning and sterilization, in particular, invasive equipment;
b) laundry and linen management;
c) disposal of infectious waste and body fluids;
d) the handling and disposal of blood and blood components;
e) kitchen sanitation and food preparation and handling;
f) Operation of the mortuary and postmortem area;
g) Disposal of sharps and needles;
h) Separation of patients with communicable diseases from patients and staff who are at greater risk due to immunosuppression or other reasons;
i) management of hemorrhagic (bleeding) patients; and
j) Engineering controls, such as positive ventilation systems, biological hoods in laboratories, and thermostats on water heaters.

7.1.1.5 The following policies and procedures shall be maintained

a) Hand hygiene
   - Standard precautions for hand hygiene
   - Personal protective measures
   - Monitoring and surveillance of hand hygiene practices
b) Transmission-based precautions
   - Contact precautions
   - Droplet precautions

- Airborne precautions

c) Post-Exposure Prophylaxis programs (PEP) for some communicable diseases like rabies, HIV, meningitis, hepatitis
   - Standard precautions to follow
   - PEP policy
   - Procedures for PEP

d) Environmental infection prevention
   - General hospital hygiene
   - Structural infection prevention
   - Physical hospital organization

e) Waste management
   - Cleaning medical instruments
   - Implementation of a disposal system
   - Handling medical waste
   - Waste removal

7.1.1.6 Standard precautions shall be practiced and the hospital shall have it own guidelines including the following:

a) Hand hygiene shall be performed after touching blood, body fluids, secretions, excretions, and contaminated items, both immediately after removing gloves and between patient contacts.
   - Consider every patient infectious:
   - Thorough hand washing:
   - Use high-level disinfectants:
   - Standard procedure for using a high-level anti-septic cleaner:

b) Personal protective equipment shall include gloves, mask, eye protection (goggles) and face shield

c) Gloves shall be worn in the following situations but not limited to:
   - When there is direct contact with exposed wounds, blood, body fluids, body organs or any type of lesion.
   - When drawing blood or handling medical instruments involved with invasive procedures (catheters, IV insertion, probes, etc.).
   - When there is contact with a patient who might be infectious.

- When handling contaminated items.
- When cleaning patient areas.

d) Gowns shall be worn when but not limited to:
    - Performing surgical procedures,
    - Splattering of blood or body fluids is possible,
    - Handling bulk soiled linen (housekeeping),
    - Performing waste collection for infectious waste,
    - Handling any type of medical waste, and
    - Conducting hospital laundry washing.

e) Masks, goggles, or other types of face shields shall be worn when but not limited to:
    - Splattering of blood or body fluids to the face is possible,
    - Handling biohazardous, soiled linens, and
    - Performing waste collection for hazardous or non-hazardous waste.

f) Soiled patient-care equipment, textiles, and laundry shall be handled appropriately

g) Any type of face shield that is apparently soiled or splattered with body fluids shall be washed and sterilized with a disinfectant.

h) Procedures shall be developed and implemented for routine care, cleaning, and disinfecting environmental surfaces, especially frequently touched surfaces in patient care areas.

i) Used needles shall not be recapped, bent, broken, or manipulated by hand. Handed scoop technique only shall be used when recapping is required.

j) Safety features shall be used when available and used "sharps" shall be placed in a puncture-resistant container specially designated bin for hazardous waste.

7.1.1.7 There shall be transmission-based precautions and the hospital shall have its own guideline for the followings:

a) Contact precautions as described in article 7.1.1.6.

b) Droplet precautions

c) Airborne precautions(for diseases like SARS ,TB, Swine flu, etc)
    - Isolation room
    - Negative pressure in relation to surrounding areas
    - A minimum of 6-9 air exchanges per hour

- Air discharged outside the building and away from intake ducts, or through a high-efficiency filter if re-circulated
- Door kept closed whether or not patient is in the room
- After discharge door kept closed until sufficient time has elapsed to allow removal of airborne organisms
- Patient confined to room
- Room shall have toilet, hand washing and bathing facilities

7.1.1.8 The hospital shall train all staff on how to minimize exposure to blood-borne infections. These includes:

a) Immediate first aid
b) Reporting exposures
c) Counseling and testing for exposed staff
d) Reporting and monitoring protocols
e) Evaluate PEP program.

7.1.1.9 The hospital shall have procedures in place to minimize crowding and manage the flow of patient's & visitors. This shall include:

a) Patient crowd control
b) Assess urgent and non-urgent cases
c) Patient sign-in
d) Caregiver and visitor control.

7.1.1.10 The hospital shall provide regular training on infection prevention and control practice to staff, patients, and as appropriate, to family, visitors and caregivers including the followings.

a) Prevention of the spread of infections,
b) Improving the quality of patient care,
c) Promoting safe environment for both patients and staff

7.1.2 Premises

7.1.2.1 There shall be the following facilities:

(a) Working Office for IP officer
(b) Meeting rooms for IP-committee

7.1.2.2 The hospital shall have a designated sterilization room

7.1.3 Professionals

7.1.3.1 The hospital shall have an IP committee coordinated by a full-time infection prevention and control officer.

7.1.3.2 The officer shall be a licensed infectious diseases specialist or IP trained health professional (physician or health officer or BSc nurse), or a public health specialist knowledgeable of infection prevention principles and hospital epidemiology.

7.1.3.3 IP committee shall be trained on infection prevention as well as hospital epidemiology

7.1.3.4 The IP committee shall be composed of professionals at least from the following service units

a) Nursing care
b) Medical services
c) Environmental health
d) Housekeeping
e) Administration
f) Pharmacy
g) Laboratory
h) Laundry
i) Kitchen
j) Instrument sterilization and supply
k) Occupational health and safety
l) Quality management

7.1.3.5 The infection prevention committee or designate shall have written protocols, procedures and shall oversee the following activities and this shall be documented:

a) Developing the health facility annual infection prevention and control plan with costing, budgeting and financing
b) Monitoring and evaluating the performance of the infection prevention program by assessing implementation progress as well as adherence to IPC practice
c) Conducting surveillance to monitor nosocomial infections, antimicrobial resistance, antimicrobial use, and outbreaks of infectious diseases.

d) Formulating a system for surveillance, prevention, and control of nosocomial infections.
e) Reviewing surveillance data, reporting findings to management and other staff and identifying areas for intervention
f) Assessing and promoting improved practice at all levels of the hospital
g) Developing an IEC strategy for health-care workers
h) Ensuring the continuous availability of supplies and equipment for patient care management
i) Monitoring, providing data and measuring the overall impact of interventions on reducing infection risk
j) The hospital's overall quality improvement program and shall receive formal advice from all other services upon its request.

7.1.4 Products

7.1.4.1 The hospital shall insure that equipment & supplies necessary for infection prevention are available

7.1.4.2 The hospital shall have the following adequate supplies and equipment needed for infection prevention and control practice.

a) Waste management equipment and supplies:
- Incinerator
- Placenta pit
- Wheelbarrows
- Ash pit
- Burial pit
- Garbage bins
- Large garbage bin
- Plastic garbage bags (optional)
- Safety boxes

b) Cleaning
- Mop
- Bucket
- Broom
- Dust mop
- Cleaning cloth
- Detergent
- Bleach

c) Laundry
- Washing machine
- Sink

- Washing basin (for decontamination of linens)
- Drying rack/line
- Dryers
- Irons
- Wheelbarrows (to transport linens to/from wards)
- Detergent
- Bleach

d) Instrument processing

- Autoclaves and steam sterilizers,
- Test strips
- Chemicals
- Commercial steamer
- Boiler
- Oven
- 0.5% chlorine solution (diluted bleach)
- Storage shelves for the medical equipment
- Disinfectant chemicals
- Brushes (tooth brush for small items)

e) Hand hygiene

- Sinks (ward and other areas)
- Water container with faucet
- Soap
- Alcohol based hand rub
- Personal Towels
- Paper Towels

f) Personal Protective Equipment

- Heavy duty glove
- Surgical glove
- Examination glove
- (latex or nitrile)
- Other types (ex. those worn by cleaning and laundry staff)
- Eye shield
- Goggle
- Visors
- Dust mask
- Surgical/Disposable
- Respiratory mask
- Other type of face mask
- Plastic apron
- Other types
- Boots
- Nurse shoes
- Other protective shoes
- Caps
- Face shield

7.2 Medical Recording

7.2.1 Practices

7.2.1.1 Medical record shall be maintained in written form for every patient seen at all points of care including emergency, outpatient, labor & delivery, inpatient and operation theatre.

7.2.1.2 The hospital shall maintain individual medical records in a manner to ensure accuracy and easy retrieval. A patient shall have only one medical record in the hospital.

7.2.1.3 The medical information of a patient during ambulance service including medication administered shall be documented and attached into the medical record

7.2.1.4 The hospital shall establish a master patient index with a unique number for each patient

7.2.1.5 Each piece of paper that contains a medical record shall have the appropriate identification on the paper

7.2.1.6 The hospital shall have a written policy and procedure that are reviewed at least once every three years which include at least:

(a) Procedures for record completion

(b) Conditions, procedures, and fees for releasing medical information

(c) Procedures for the protection of medical record information against the loss, tampering, alteration, destruction, or unauthorized use.

7.2.1.7 When a medical record is taken out and returned to the record room it shall be documented to create a good tracking mechanism

7.2.1.8 Any medical record shall be kept confidential, available only for use by authorized persons or as otherwise permitted by law.

7.2.1.9 All entries in the patient's medical record shall be written legibly in permanent ink, dated, and signed by the custodian/recording person.

7.2.1.10 The medical record forms shall be prepared in line with the national/state guideline and approved by the hospital management.

7.2.1.11 Each medical record shall at least contain the following information:

(a) Identification (name, age, sex, address)

(b) History, physical examination, investigation results and diagnosis

(c) Medication, procedure and consultation notes

(d) Name and signature of treating physician

(e) Consent form where applicable which shall be signed by the patient. In case where someone other than the patient signs the forms, the reason for the patient's not signing it shall be indicated on the face of the form, along with the relationship of the signer to the patient.

7.2.1.12 Any consent form for medical treatment that the patient signs shall be printed in an understandable format and the text written in clear, legible, non technical language.

7.2.1.13 There shall be a mechanism for medical record controlling and tracing, whenever patients medical records are taken from and returned to the central medical record room.

7.2.1.14 There shall be a mechanism to make medical records with appointment ready for use and return seen cards back to the central medical record room within 24hrs.

7.2.1.15 The patient's death shall be documented in the patient's medical record upon death.

7.2.1.16 Original medical records shall not leave hospital premises unless they are under court order or in order to safeguard the record in case of a physical plant emergency or natural disaster.

7.2.1.17 If a patient or the patient's legally authorized representative requests, in writing, a copy of the medical record shall be given.

7.2.1.18 If the patient is provided with medical certificates, copies of certificates and other records shall be documented and/or recorded on the original medical record

7.2.1.19 If the patient is transferred to another hospital on a non emergency basis, the hospital shall maintain a transfer record reflecting the patient's immediate needs and send a copy of this record to the receiving hospital at the time of transfer.

7.2.1.20 If the hospital ceases to operate, the regulatory body shall be notified in writing about how and where medical record will be stored at least 15 days prior to cessation of operation. The patient choice on where to transfer his/her medical record shall be respected. Patient will get information from the regulatory body regarding the location of their medical records.

7.2.1.21 The hospital shall establish a procedure for removal of inactive medical records from the central medical record room.

7.2.1.22 Medical records shall be destroyed as per the law by using techniques that are effective enough to assure confidentiality of medical records. However, records which are active for more than ten years shall not be destroyed.

7.2.2 Premises

7.2.2.1 There shall be a separate medical record room

7.2.2.2 The premises shall have one meter wide space in between and around shelves. The medical records shall be shelved 20-30cm above from the floor.

7.2.2.3 The medical record room shall have adequate space to accommodate the following:

(a) Central filing space
(b) Work space
(c) Archive space
(d) Supply/Storage room

7.2.2.4 The medical record room shall have adequate light and ventilation

7.2.2.5 The medical record room shall be built far from fire sources

7.2.2.6 There shall be a room for archiving dead files until they are permanently destroyed

7.2.3 Professionals

7.2.3.1 There shall be a full-time custodian/medical record personnel (Health Information Technician) with basic computer skill and ability to organize medical records responsible for medical records management

7.2.3.2 Other additional staffs (like card sorter and runner) to perform patient registration, retrieving, filing and recording chart location.

7.2.3.3 The actual number of staff shall be determined based upon the total number of active charts in a day (Workload analysis)

7.2.3.4 The hospital shall provide basic training on medical record keeping to the staffs

7.2.4 Products

7.2.4.1 The Medical record room shall have:

(a) Shelves
(b) Master patient index boxes
(c) Computer
(d) Cart
(e) Ladder

(f) Patient folder
(g) MPI Cards
(h) Log book
(i) Fire extinguisher

7.3 Food and Dietary Services

7.3.1 **Practices**

7.3.1.1 The hospital shall provide nutritionally adequate meals, food supplemental supplies for inpatients and staffs on duty

7.3.1.2 The dietary service shall be available for 24 hours a day and 365 days a year

7.3.1.3 The dietary service shall have written policies and procedures for all dietary services including

a) Preparation and handling
b) Meal distribution and/or request and receive special event service for inpatients.
c) Special diet order
d) Holidays
e) A diet manual detailing nutritional and therapeutic standards for meals and snacks, and a nutrient analysis of menus.
f) Nutritional assessment guide for patients' nutritional needs for food and food supplements.

7.3.1.4 There shall be a policy to promote the participation of the dietary service in meetings of multidisciplinary health care teams to assess patients.

7.3.1.5 All new admissions shall be listed with the dietary service.

7.3.1.6 Each patient's diet shall be recorded in the medical record. records of diet instructions shall include:

a) The diet instruction provided to the patient and/or responsible person.
b) Patient response, participation and understanding.
c) Written instructional material provided to the patient and/or responsible person.

7.3.1.7 A physician shall write a specific dietary order and /or nutritional supplements for each patient.

7.3.1.8 All diets shall be prepared in conformity with the hospital's dietary manual.

7.3.1.9 At least three meals (breakfast, lunch and dinner) shall be served daily, and no more than 15 hours shall elapse between dinner and breakfast.

7.3.1.10 Nourishment may be provided between meals and at night.

7.3.1.11 Changes in physician orders for diets shall be effected by the next mealtime.

7.3.1.12 The dietary service shall follow the policies and procedures developed by the drug and therapeutics committee regarding possible food/medicine interactions.

7.3.1.13 There shall be a mechanism for evaluating patients on each nursing unit to ensure they are being adequately nourished.

7.3.1.14 There shall be a mechanism for the dietary service to be informed if the patient does not receive the diet that has been ordered, or is unable to consume the diet.

7.3.1.15 There shall be a mechanism for patients and their families to interact with the dietary service.

7.3.1.16 Patients with special dietary needs, based on criteria established by the hospital, shall receive dietary instruction from a physician during hospitalization.

7.3.1.17 The dietitian shall provide diet information to the Canteen staff to help the nursing / rehabilitation staff guide appropriate purchase selections of food items.

7.3.1.18 The dietitian shall provide nutrition information as requested by the patient, family, or treatment team including

a) diet instructions,
b) written instructional material,
c) community dietary referrals regarding special diets
d) current diet order,
e) nutritional problems,
f) appetite,
g) nutritional counseling,
h) comprehension of diet instruction,

7.3.1.19 The dietitian shall provide timely discharge diet instructions upon notification with a physician-ordered diet consultation or as planned by the treatment team.

7.3.1.20 Inpatient's or discharged patient's diet instructions shall include education involving:

a) therapeutic or modified diets
b) food- medicines interactions
c) nutritional care for certain diagnoses/conditions
d) recommendations for changes in diet order,
e) treatment plan,

f) significant food allergy (lactose, wheat gluten, soya ,egg, dairy)

7.3.1.21 Nutrition consultations

a) The dietitian shall provide nutrition consultations upon notification with a physician-ordered consultation. The order shall include a brief reason for the consultation.

b) Nutrition consultations shall be completed immediately after physician's order.

c) Nutrition consultations shall be individual or group, and may include family and/or responsible person.

d) The dietitian shall determine the type and frequency of follow-up care after the initial consultation. Follow-up consultation may include evaluation of nutritional care, diet education, or other nutritional concerns.

7.3.1.22 Treatment Planning

a) Therapeutic goals related to nutritional needs shall be based on the following standards

- Standard Height/Weight
- Dietary Reference Intakes
- Nutrition-related laboratory values
- Body Mass Index for Adults

7.3.1.23 Diet Orders and Nutritional Supplements

a) Physician diet orders shall be legible, concise, and written in an understandable manner. The following information shall be included in diet orders:

- Patient Name
- Unit
- Date
- Specific diet order; including food allergies/intolerances
- Physician's signature

b) Dietary services shall receive written notification of:

- New diet orders
- Change in diet order
- Discontinued or canceled diet orders
- Unit transfers

- Isolation or special trays

c) All written diet orders shall be sent to dietary services immediately.

d) Special requests for meals or supplemental foods shall be provided as ordered to accommodate alterations in diets or meal service schedules due to new admissions, personal dietary needs, or other circumstances.

e) Diabetic and Calorie-Controlled diet orders shall include the calorie level desired.

f) The dietitian shall recommend appropriate nutritional food supplements according to physician orders.

g) An electronic or manual spreadsheet of all diet orders shall be maintained by the dietitian to provide a current resource of all regular and therapeutic diets.

h) Dietary and nursing services shall be responsible to ensure dietary compliance and quality nutritional care of patients.

7.3.1.24 There shall be appropriate food safety and sanitations to ensure safe food service for the patients

7.3.1.25 Dry or staple food items shall be stored at least 12 inches off the floor in a ventilated room which is not subject to sewage or waste water back-flow, or contamination by condensation, leakage, rodents or vermin.

7.3.1.26 All perishable foods shall be refrigerated at the appropriate temperature and in an orderly food safety manner (cold and hot holding principle).

7.3.1.27 Each refrigerator shall contain a thermometer in good working order.

7.3.1.28 Foods being displayed or transported shall be protected from contamination.

7.3.1.29 Three compartments dish washing procedures and techniques shall be developed and carried out in compliance with the national hotel and restaurants sanitary control guideline.

7.3.1.30 All garbage and kitchen refuse which is not disposed of shall be kept in leak proof non-absorbent containers with close fitting covers and be disposed of routinely in a manner that will not permit transmission of disease, a nuisance, or a breeding place for flies.

7.3.1.31 All garbage containers shall be thoroughly cleaned inside and outside each time emptied.

7.3.1.32 Requests for alternative food supplies shall be considered on an individual basis.

7.3.1.33 Foods shall be transported and served as close to preparation/ Re-thermalization time as possible. Maximum cold food temperatures shall be 5°C and minimum hot food temperatures shall be 60° C at time of service.

7.3.1.34 Dietary Services shall ensure prescribed diet compliance as well as minimize food-borne illness.

7.3.1.35 Cancellations of ordered diets shall be made as soon as possible to avoid possible spoilage and/or waste of food items.

7.3.1.36 Hospitals may provide dietary services by one of the followings:

a) In traditional configuration where the kitchen is located in the hospital premise;
b) Provide the service directly, but may prepare the bulk of the meals in a kitchen owned by the hospital, located off-site; and
c) Contract out for dietary services through an off-site vendor and the contract shall be documented. However, regardless of how the hospital provides the service, the hospital shall ultimately be responsible for meeting the dietary service standards.

7.3.1.37 When dietary services are provided from an off-site location, the hospital shall be responsible to ensure:

a) Compliance with the quality assurance system,
b) Compliance with the infection prevention standards
c) Compliance with the dietetic policies and procedures in regards to meal service for off hours' admissions, late trays, food substitutions, reasonable meal schedules, posting of current menus in the hospital as well as in the off-site kitchen, tray accuracy, food handling safety practices, emergency food supplies and deliveries, staffing and patient satisfaction,
d) The presence of a current therapeutic diet manual approved by the dietitian and medical staff,
e) The presence of nutritional assessment indicating nutritional needs are in accordance with recognized dietary practices as well as with orders of the practitioners responsible for the care of the patients.

7.3.1.38 Catering hygiene shall fulfill the following conditions

a) There shall be guidelines for pest control and restricting the presence of animals (eg. cats, dogs etc) visibly posted in the kitchen.

b) There shall be a system to screen and control the health of kitchen personnel.

c) The responsible kitchen personnel health shall be controlled for:

- Personal hygiene including uniform (protective clothes)
- Periodical medical check-up for acute and chronic diarrhea and other infectious diseases
- Those with infected open skin lesions are not allowed to work as kitchen personnel.

7.3.2 Premises

7.3.2.1 The following minimum facilities shall be available for dietary services

a) Food preparation room

- All cooking appliances shall have ventilating hood
- Dish washing sink with three compartment
- Pot washing sink
- Cart cleaning sink
- Can wash sink

b) Storage room

c) Cart storage.

d) Dietitian's office.

e) Janitor's closet

f) Personnel toilets with hand washing facilities

g) Approved automatic fire extinguisher system in range hood.

h) Continuous electricity (power) supply

i) safe and adequate water supply

7.3.3 Professionals

7.3.3.1 The hospital shall have an organized dietary service unit directed by licensed dietitian or catering chef or food science personnel.

7.3.3.2 In addition, the hospital shall have the following food personnels:

(a) Meal distributor

(b) Chef cooker

(c) Kitchen workers

(d) Store keeper

(e) Bakers

(f) Dishwashers

7.3.3.3 The adequate number of personnel, such as cooks, bakers, dishwashers and clerks shall be available in the hospital (based on workload analysis).

7.3.3.4 There shall be procedures to control dietary employees with infectious and open lesion.

7.3.3.5 Food handlers shall meet routine health examinations according to the Ethiopian Food Handlers' Hygiene Guideline for food service personnel.

7.3.3.6 There shall be an in-service training program on proper handling of food and personal grooming to dietary employees.

7.3.3.7 All kitchen workers shall wear protective kitchen clothes according to the Ethiopian Food Handlers' Hygiene Guideline.

7.3.3.8 Written job descriptions for all dietary employees shall be given, oriented and documented.

7.3.4 Products

7.3.4.1 The following products shall be available for dietary services:

a) Refrigerator
b) Kitchen utensils
c) Pots
d) Jars
e) Carts
f) Dishes
g) Oven
h) Knives
i) Detergent materials
j) Pressure cooker
k) Stoves
l) Working closes (like apron, boots, hair cover, gown, hand gloves)
m) Barrel (garbage containers) for kitchen rest handling
n) Lockers convenient to, but not in the kitchen proper

7.4 Sanitation and Waste Management

7.4.1 Practices

7.4.1.1 The hospital environment shall be sanitary, clean and safe environment and there shall be access to continuous, safe and ample water supply.

7.4.1.2 There shall be written procedures for the use of aseptic techniques and procedures in all areas of the hospital and the procedures and techniques shall be regularly reviewed and documented by the infection prevention committee as per the infection prevention section of these standard.

7.4.1.3 There shall be a written policy and procedures for ground water treatment.

7.4.1.4 Infectious medical wastes shall be handled and managed according to the recent Health Care Waste Management National Guideline.

7.4.1.5 Infectious and non infectious medical waste containers shall be leak proof, have tight-fitting covers and be kept clean and in good repair until disposal.

7.4.1.6 Infectious and non infectious medical waste management and disposal shall be done as per recent Health Care Facility Waste Management National Guideline and this standard.

7.4.1.7 Placenta disposal pit shall be available in the hospital and shall be secured

7.4.1.8 Wastes shall be segregated and segregation of healthcare waste shall include the following procedures,

a) Separate different types of waste
b) The hospital shall provide colored waste receptacles specifically suited for each category of waste
c) Segregation shall take place at the source, like ward bedside, OR, laboratory etc
d) There shall be 3 bin systems used to segregate different types of waste in the hospital

Segregation category	Color	Container
Non risk waste	Black	bag or bin
Infectious waste	Yellow	bag or bin
Sharp waste	Yellow	safety box
Heavy Metal	Red	secure container
medicine vials, ampoules	White	bag or bin
Hazardous medicines and cytotoxic wastes	yellow	bag or bin

7.4.1.9 Treatment or disposal of infectious medical waste shall be performed according to *Health Care Facilities Waste Management National Guideline* by one of the following methods:

a) By incineration
b) By steam sterilization
c) By discharge via approved sewerage system
d) Recognizable human anatomical remains shall be disposed of by incineration or internment, unless burial at an approved landfill is authorized.
e) Chemical sterilization
f) Gas sterilization (shall be handled safely)

7.4.1.10 The hospital shall routinely clean and sanitize patient areas and waiting rooms at least twice daily and more when ever needed.

7.4.1.11 Medical waste which is not infectious shall be disposed according to *Health Care Waste Management National Guideline* by one of the following methods:

a) By incineration
b) By sanitary landfill,

7.4.1.12 In order to maintain a clean and safe environment, the hospital shall have an organized method for the transport and washing of linens.

7.4.1.13 The hospital shall have an organized waste disposal and removal system and shall ensure the safe handling of all waste

7.4.1.14 Chemicals and radioactive wastes shall be disposed according to national guidelines or directives up on approval appropriate organ.

7.4.1.15 All generators of infectious medical waste and general medical waste shall have a medical waste management plan that shall include the following:

a) Storage of medical waste
b) Segregation of medical waste
c) Transport of medical waste
d) Disposal of medical waste

7.4.1.16 Sewage disposal shall be according to *Health Care Waste Management National Guideline* and fulfill the following conditions:

a) Hospitals shall have a functional sewerage system

b) Hospitals shall dispose of all sanitary waste through connection to a suitable municipal sewerage system
c) The hospital shall have only flushing toilet system
d) The hospital shall have a designated waste storage room for solid waste or septic tank for liquid waste
e) There shall be written procedures defining instrument processing procedures (disinfection and sterilization).
f) There shall be written procedures to govern the use of aseptic techniques and procedures in all areas of the hospital.
g) All fixtures located in the kitchen, including the dishwasher, shall be installed so as to empty into a drain which is not directly connected to the sanitary house drain.
h) Kitchen drain shall empty into a manhole or catch basin having a perforated cover with an elevation of at least 24 inches below the kitchen floor evaluation, and then to the sewer.

7.4.2 Premises

7.4.2.1 Placenta disposal pit shall have dimension of height 2.5m, width 2.5m and lateral to the disposal pit the two sides shall be filled with concrete.

7.4.2.2 In addition, the hospital sanitary system shall have

a) Functional sewerage system
b) Flushing toilets
c) Plumbing setup stores
d) Kitchen
e) Laundry
f) Sanitary office
g) Incinerator
h) Dumpster (Genda for solid waste accumulation)

7.4.3 Professionals

9.1.1.1 Hospital sanitation shall be administered by a licensed environmental health professional or any related professional trained on sanitary sciences

9.1.1.2 The hospital shall have the following personnels.

a) Environmental health professional
b) Housekeeping staff such as cleaners and waste handlers
c) Laundry staff
d) Gardeners
e) Incinerator operator

f) Instrument processors (disinfector and sterilizer)

9.1.1.3 All staffs shall be trained on waste handling and management, and personal protection methods.

7.4.4 Products

7.4.4.1 The hospital shall have the following equipment and supplies required for sanitation activities:

a) Incinerator
b) Ash pit
c) Burial pit
d) Placenta pit
e) Garbage bins
f) Safety boxes
g) Trolley to transport waste
h) Dumpster (Genda) shall be placed in a clean isolated and fenced area.
i) PPE (personal protective equipment)
j) Autoclave
k) Pressure cooker
l) Cleaning supplies (detergents, disinfectants
m) and other cleaning solutions etc
n) Laundry washers,
o) Laundry dryers,
p) Mops and dust bins

7.5 Housekeeping, Laundry and Maintenance Services

7.5.1 Practices

7.5.1.1 The housekeeping service shall have the following sanitary activities.

a) Basic cleaning such as dusting, sweeping, polishing and washing

b) Special cleaning of

- Different types of floors
- Wall & Ceiling
- Doors & Windows
- Furniture & Fixtures
- Venetian Blinds

c) Cleaning and maintenance of toilet.

d) Water treatment, filtering & purification.

7.5.1.2 In the housekeeping service, the types and sources of unwanted odors in hospital premises shall be identified, controlled and removed

7.5.1.3 Collection, transportation and disposal of hospital wastes shall be supervised and controlled

7.5.1.4 The safety of fire, electrical and natural hazards in the risk areas in the hospital shall be supervised and controlled and shall work closely with hospital fire brigade and safety committee.

7.5.1.5 The designee/ environmental health professional shall identify, supervise and organize the control and eradication of pests, rodents and animal nuisance in the hospital.

7.5.1.6 The housekeeping staffs shall create pleasant environment to patients, staffs and visitors

7.5.1.7 The housekeeping staffs shall ensure proper lighting and ventilation in different hospital areas.

7.5.1.8 The following LINEN services shall be provided in the hospital

a) Maintain an adequate supply of clean linens at all times

b) Obtain linen from stores and laundry.

c) Ensure proper storage of linen.

d) Supervise washing, sterilization in the laundry.

e) Maintain linen properly

f) Issues linen in service units like wards.
g) Keep proper accounting of linen.
h) Ensure proper sorting of linen.
i) Understand different color scheme.

7.5.1.9 There shall be 24 hours maintenance service for the facilities

7.5.1.10 The Hospital shall conduct regular routine, preventative and corrective maintenance for all facilities and operating systems (e.g., electrical, water, ventilation).

7.5.1.11 Regular surveillance of overhead and underground tank, proper cover, regular chlorination and cleaning shall be undertaken

7.5.1.12 Maintenance shall consider the infection prevention and control principles and measures.

7.5.1.13 The maintenance staffs shall ensure proper lighting, water supply, fire safety and ventilation in hospital.

7.5.1.14 Potable water and electrical services shall be available 24 hours a day and 365 days a year through regular or alternate sources.

7.5.1.15 There shall be a hospital plant safety maintenance organization as described below:

a) A multidisciplinary safety committee that develops a comprehensive hospital-wide safety program and reviewed.
b) A mechanism to report all incidents, injuries and safety hazards to the safety committee.
c) The multidisciplinary safety committee shall review all reports and be responsible for ensuring that all reports are referred appropriately and follow-up action is documented.

7.5.1.16 Facility maintenance services

a) The building maintenance service shall have written policies and procedures that are reviewed for routine maintenance, preventive maintenance and renovation maintenance.
b) The standby emergency generator shall be checked weekly, tested under load monthly, and serviced in accordance with accepted engineering practices.
c) Floors, ceilings, and walls shall be free of cracks and holes, discoloration, residue build-up, water stains, and other signs of disrepair.

d) Routine inspections of elevators shall be conducted.

7.5.1.17 Construction and renovation

a) Whenever construction and renovation projects are planned in and around a health care facility, a risk assessment shall be conducted to determine the impact of the project on patient areas, personnel, and mechanical systems.

b) The infection control program shall review areas of potential risk and populations at risk.

7.5.1.18 There shall be written protocols and procedures for medical equipment maintenance including:

a) Plan for equipment maintenance (both preventive and curative), replacements, upgrades, and new equipments

b) Safe disposal procedures

c) An effective tracking system to monitor equipment maintenance activity.

d) A monitoring method that ensures diagnostic equipment operates with predicted specificity and sensitivity.

7.5.1.19 The maintenance personnel including the management of the hospital shall take basic trainings on the following issues and this shall be documented.

a) Building fabrics and utilities

b) Building services and economics

c) Planning maintenance demand

d) Preventive and routine maintenance practice

e) Maintenance with regard to IP and hygiene

7.5.1.20 Fire and emergency preparedness

a) The hospital shall comply with the National Fire Protection standard

b) All employees, including part-time employees shall be trained in procedures to be followed in the event of a fire and instructed in the use of fire-fighting equipment and patient evacuation of hospital buildings as part of their initial orientation and shall receive printed instructions on procedures and at least annually thereafter.

c) A written evacuation diagram specific to the unit that includes evacuation procedure, location of fire exits, alarm boxes, and fire extinguishers shall be posted conspicuously on a wall in each patient care unit.

d) Fire extinguishers shall be visually inspected at least monthly; fully inspected at least annually, recharged, repaired and hydro-tested as required by manufacturer's instructions; and labeled with the date of the last inspection.

e) Fire detectors, alarm systems, and fire suppression systems shall be inspected and tested at least twice a year by a certified testing agency. Written reports of the last two inspections shall be kept on file.

f) There shall be a comprehensive, current, written preventive maintenance program for fire detectors, alarm systems, and fire suppression systems that includes regular visual inspection. This program shall be documented.

7.5.1.21 If the hospital does not have its own housekeeping, laundry and maintenance services; it may have a contract agreement with external organizations. The hospital shall check and maintain the sanitary standards of the hospital regarding the processing of its linens and shall maintain a satisfactory schedule of pickup and delivery.

7.5.1.22 If the hospitals contract out for housekeeping, laundry and maintenance services there shall be documentation for a contractual agreement.

7.5.1.23 Housekeeping equipment or supplies used for cleaning in isolation or contaminated areas shall not be used in any other area of the hospital before it has been properly cleaned and sterilized.

7.5.1.24 All areas of the hospital, including the building and grounds, shall be kept clean and orderly.

7.5.1.25 There shall be frequent cleaning of floors, walls, woodwork and windows.

7.5.1.26 The premises shall be kept free of rodent and insect infestations.

7.5.1.27 Accumulated waste material and rubbish shall be removed at frequent intervals.

7.5.1.28 No flammable cleaning agents or other flammable liquids or gases shall be stored in any janitor's closet or other area of the hospital except in a properly fire rated and properly ventilated storage area specifically designed for such storage.

7.5.2 Premises

7.5.2.1 If the hospital maintains its own laundry, it shall have separate areas for:

a) Collection of soiled linens.
b) Washing, drying and ironing.
c) Clean linen storage and mending area.

7.5.2.2 The laundry design and operation shall comply with the manufacturer's requirements and/or institutional sanitation guideline

7.5.2.3 Clean linen storage shall be readily accessible to nurses' stations

7.5.2.4 Soiled linen storage shall be well ventilated and shall be located convenient to the laundry or service entrance of the hospital. The storage of appreciable quantities of soiled linens is discouraged.

7.5.2.5 There shall be separate space provided for the storage of housekeeping equipment and supplies

7.5.2.6 A separate office shall be available for the maintenance personnels and the housekeeper.

7.5.2.7 Adequate space shall be available for service specific janitor's closets and cleaning equipment & supplies which shall be maintained separately for the following areas (shall not be used for cleaning in any other location):

f) Surgical Suites.
g) Delivery Suites.
h) Newborn Nursery.
i) Dietary Department.
j) Emergency Service Area.
k) Patient Areas.
l) laboratories, radiology, offices, locker rooms and other areas

7.5.2.8 Exits, stairways, doors, and corridors shall be kept free of obstructions.

7.5.2.9 The hospital shall have an alternate emergency power supply. If such emergency power supply is a diesel emergency power generator, there shall be enough stored fuel to maintain power for at least 24 hours.

7.5.2.10 There may be a workshop as appropriate.

7.5.3 Professionals

7.5.3.1 The housekeeping, maintenance and laundry functions of the hospital shall be under the direction of a licensed environmental health professional or engineer.

7.5.3.2 The designated officer shall plan, organize, co-ordinate, control and monitor all housekeeping, maintenance and laundry activities.

7.5.3.3 The housekeeping, maintenance and laundry personnels shall take basic trainings on the following issues and this shall be documented in their personal profile.

a) Basic principles of sanitation and peculiarity to hospital environment.
b) Basic principles of personal hygiene
c) Basic knowledge about different detergent and disinfectants
d) Different cleaning procedures applicable to different hospital areas
e) Basic knowledge about cleaning equipments operation techniques and their maintenance.
f) Different processes of water treatment & purification, removing bacteria.
g) Basic principals of ventilation, composition of Air, Air flow, Humidity and temperature.
h) Common types of odors and their sources of origin, identification and control.
i) Removal and control technique of different types of odors.
j) Various equipments and materials used for odor control operation.
k) Hospital Waste, Source and generation of waste
l) Hazards of hospital waste to hospital population and community.
m) Principles of collection of different types of hospital wastes
n) Operational procedures of equipments
o) Safety measures in operation
p) Infection prevention principles
q) Hospital lay out, configuration work, flow of men, material and equipment in different hospital areas. Air, water, noise, pollution, causes of pollution and their control and prevention in hospital.

7.5.3.4 The following professionals shall be available depending on the work load analysis

a) Engineer (electrical, civil) or architect as appropriate
b) Plumber or Painter.
c) Maintenance technician or Biomedical engineer for equipment maintenance
d) Cleaners

7.5.4 Products

7.5.4.1 There shall be appropriate tools and testing equipments for medical equipment maintenance, calibration and validation.

7.5.4.2 The hospital shall have the following tools, equipment & raw materials for housekeeping services.

a) Equipment

- Reserve electrical generator
- Floor cleaning brush air
- Floor wiping brush
- Hockey type brush
- Counter brush.
- Ceiling brush
- Glass cleaning / wiping brush.
- Scrappers
- Dustbins paddles.
- Waste paper basket.
- Plastic Mug
- Plastic Bucket
- Plastic drum
- Wheel barrow
- Water trolley
- Ladder
- Scraping pump
- Spraying pump
- Flit pump.
- Rate trapping cage
- Gum boots
- Gown, Masks & Gloves
- Torch
- Manual sweeping machine.
- Floor scrubbing/polishing machine
- Wet vacuum cleaner.
- Dry vacuum cleaner portable
- Fumigation machine (Oticare)
- Bed pan washer.

b) Cleaning material

c) Deodorants & disinfectant

d) Laundry cleaning material

e) Insecticides & rodenticides

f) Stain removal

7.5.4.3 Workshop equipment and tools shall be available

7.6 Social Work Services

7.6.1 Practices

7.6.1.1 The hospital shall provide social work service.

7.6.1.2 There shall be an organizational chart or alternative documentation clearly delineating the lines of responsibility, authority and communication for the social services.

7.6.1.3 The social work service shall have written policies and procedures that are reviewed at least once every five years, or revised more frequently as needed, and implemented.

7.6.1.4 The policies and procedures concerning the social work services shall address the following areas:

a) Counseling,
b) Discharge management and planning,
c) Social work assessment
d) Consultation and referral to support groups, centers and/or organizations
e) Patient advocacy
f) Community liaison and education.

7.6.1.5 The social work service shall have a protocol to ensure that social work services are offered to all needy patients.

7.6.1.6 Patient directory shall be available in the hospital and shall be updated regularly.

7.6.1.7 The social work services shall have criteria for identifying at the time of admission and promptly assessing high-risk patients in need of psychosocial intervention and/or discharge planning.

7.6.1.8 The social work service shall participate in the development and review of the hospital's agreements with extended and long-term care facilities.

7.6.1.9 There shall be a system for clinical staff to refer patients directly to the social work service

7.6.1.10 The social worker shall consult members of other disciplines providing patient care and services.

7.6.1.11 Each patient who has received social work intervention shall be informed that he or she may call the social work service unit for questions after discharge.

7.6.1.12 Patient's families or guardians should be included in services provided by the social work service unit, where indicated.

7.6.1.13 The social work service unit shall assist patients directly or indirectly in identifying the need for implementing and verifying guardianship as part of discharge planning.

7.6.1.14 The social work service unit shall report victims of abuse to the appropriate body.

7.6.1.15 When a patient is transferred or linked to another health care facility after discharge, the social work service unit shall assure that relevant social work service documentation or information is provided to the facility in order to assure continuity of care.

7.6.1.16 When social work intervention is provided, a record shall be kept in accordance with standards in the medical record. The record shall have at least the following information

a) The reason for intervention;
b) The name (s) of social workers involved and dates of intervention;
c) A social work assessment;
d) A treatment plan and referrals; and
e) Notes reflecting interventions before discharge.

7.6.1.17 Patients' files, at social work service unit, shall be kept physically secure and confidential.

7.6.1.18 All reasonable efforts shall be made for privacy in patient and family interviews and in the handling of confidential phone calls by social workers.

7.6.1.19 The hospital shall have a program of continuous quality improvement for social work that is integrated into the hospital continuous quality improvement program and pertains to the scope of social work services provided.

7.6.1.20 Adoptions by individuals or groups shall abide the laws and regulations of the country.

7.6.2 **Premises**

7.6.2.1 The hospital shall have a well organized, adequately staffed separate social work service unit or area for Patient and family interview, Handling of confidential phone calls & archive

7.6.3 Professionals

7.6.3.1 All social work services given by the hospital shall be under the direct supervision of a social worker graduated from a recognized College/University or psychologist or licensed nurse psychiatrist or a professional nurse with experience in social work.

7.6.3.2 All the social work staff shall be given multidisciplinary patient care training and the information about their training shall be documented.

7.6.4 Products

7.6.4.1 The social work service unit shall have the following products and facilities:

a) Telephone
b) The necessary forms and documenting means for referral, adoption and transfer
c) Computer
d) Filing cabinet

7.7 Morgue Services

7.7.1 Practices

7.7.1.1 The hospital shall have written policies and procedures for morgue (dead body care) services. These policies shall delineate the responsibilities of the medical staff, nursing, and morgue services staff, and shall include procedures for at least the following:

a. Confirmation of death by physician, Identification of the body, recording and labeling;
b. Safe and proper handling of the body to prevent damage and this shall be according to the patient religion and culture;
c. Safeguarding personal effects of the deceased and release of personal effects to the appropriate individual or family;
d. Proper handling of toxic chemicals by morgue and housekeeping staff;
e. Infection control, including disinfection of equipment as per IP standard;
f. Identifying and handling high-risk and/or infectious bodies;
g. Release of the body to the family shall be as immediately as possible;
h. Autopsy service if available

7.7.1.2 There shall be a death certificate issued by authorized physician for each death and this shall be documented.

7.7.1.3 The service shall be available for 24 hours a day and 365 days of a year

7.7.1.4 Any dead body shall pass through morgue after the confirmation of death by the physician

7.7.1.5 Dead body discharge shall be through the morgue exit

7.7.2 Premises

7.7.2.1 The morgue shall be equipped with refrigerated space or cold chain room to store at least two bodies. Hospitals with more than 100 beds shall provide additional space using a ratio of one space to every additional 100 beds.

7.7.2.2 In addition, the morgue premises shall fulfill at least the followings:

(a) Dead body care taking room
(b) Postmortem room if autopsy service available
(c) Adequate Water supply
(d) Well ventilated
(e) Adequate supply of light

(f) Attendant office

7.7.3 Professionals

7.7.3.1 There shall be a licensed pathologist, in hospitals where autopsy service is available,

7.7.3.2 Morgue attendant and cleaner

7.7.4 Products

7.7.4.1 Refrigerated spaces in the morgue shall be maintained at temperatures between 32 and 45 degrees Fahrenheit (0 and 6.6 degrees Celsius) and shall have an automatic alarm system that monitors the temperature.

7.7.4.2 In addition, the following products shall be available for morgue services:

(a) Plastic sheets
(b) Aprons
(c) Stretcher
(d) Knives, Scalpels, Scissor
(e) Formalin, Detergents, Disinfectants
(f) Cotton, Gloves, Boots, Gowns, Head cover
(g) Goggles
(h) Plastic bags
(i) White clothes
(j) Body table with hot and cold water sink
(k) Cupboard for instrument
(l) Syringe & long needle &
(m) Scale

SECTION EIGHT: PHYSICAL FACILITY STANDARDS

8.1. General

Every general hospital subject to these Minimum Standards shall be housed in a safe building which contains all the facilities required to render the services contemplated in the application for license. The term "safe" used in this Section shall be interpreted in the light of compliance with the requirements of the latest country building codes presently in effect.

8.2. Site Selection Requirements

8.2.1. The entry points to the hospital shall be clearly defined from all major exterior circulation modes (roadways, bus stops, vehicle parking)

8.2.2. Boundaries of the hospital between public and private areas shall be well marked and clearly distinguished. And clearly visible and understandable signage and visual land marks for orientation shall be provided

8.2.3. The general hospital shall be located away from unordinary conditions of undue noises, smoke, dust or foul odors, and shall not be located adjacent to railroads, freight yards, grinding mills, chemical industries, gas depot and waste disposal sites.

8.2.4. The locations of a hospital shall comply with all national and state level regulations applicable to health facilities.

8.2.5. The site selection criteria shall consider or include the followings, but not limited to:

a) The minimum size of a general hospital premises shall be 12, 000 -18,000 m^2 with two side adjacent road access.

b) The hospital shall be built preferably in a terrain with a gentle slop

c) The foundation schemes, soil test and investigation shall be done and it shall comply with the national building code and seismic requirements.

d) The hospital shall be provided with road access, water supply, electric city and communication facilities.

e) The building shall be parallel to the wind direction, sun glare and heat. In case difficulties to fulfill these, there shall be technical solutions for such natural effects.

f) The surroundings of the hospital shall be free from dangers of flooding, landslide, theft, intrusion of stray/wild animals, pollution of any kind (example air, water and sound) and health hazards.

g) The hospital shall be landscaped, therapeutic, appealing scenery, attractive with green areas/beautiful trees and possible outdoor recreation facilities.

8.3. Construction Requirements

8.3.1. The appropriate organ shall be consulted before commencement of any health facility physical development for new, remodeling and additions to existing licensed hospitals to ensure conformity to the standards.

8.3.2. The hospital shall sign memorandum of understanding of plan agreement prepared by the appropriate organ in line with this standard.

8.3.3. Plans and specifications for any hospital construction or remodeling shall comply with Ethiopian Building Code. Based on the plan agreement, the following plans shall be submitted to the appropriate organ for review:

a) Preliminary Design Report: Includes schematics of building designs, plot plans showing size and shape of entire site, existing structures, streets and location and characteristics of all needed utilities, floor plans of every floor dimensioned and with proposed use of each room or area shown and preliminary engineering estimates. If it is for additions or remodeling, provide plan of existing building showing all proposed alterations, outline specifications to include a general description of the construction, type of finishes, and type of heating, ventilating, plumbing and electrical systems proposed. In summary the design report shall include all requirements healthy facility premises stipulated under this document.

b) The hospital or the investor shall get consensus on preliminary design report in writing from the appropriate organ.

8.3.4. The appropriate organ may be consulted on construction processes and milestones for conformity to the standards.

8.3.5. Upon completion of construction the appropriate organ shall inspect and issue a license for operation of the hospital if all the findings are in conformity to this standard.

8.3.6. Buildings designed for other purposes shall not be used for the operation of a hospital unless it is remodeled in accordance with this standard.

8.3.7. All hospitals shall be designed, constructed, and maintained in a manner that is safe, clean, and functional for the type of care and treatment to be provided.

8.3.8. All hospitals shall have at least three entry/exit sites and they shall be accessible to roads.

a) Main public entrance
b) Emergency entrance
c) Staff and service entrance
d) Morgue entrance and/or exit (optional)

8.3.9. The construction shall comply with the following codes and guidelines to provide a safe and accessible environment that is conducive to the care and treatment to be provided:

a) The Ethiopian Building Proclamation 624/2009;
b) The Ethiopian Standard Building Code;
c) Life Safety Code (National Fire Protection Code);
d) National Electrical Design Code;
e) The Ethiopian Disability Code;
f) Other codes – ex. Sanitation codes, environmental protection laws, water codes

8.3.10. Building entrances used to reach the outpatient & inpatient services and exit sites shall be easily accessible, clearly marked/labeled and located, in order to patients and visitors will have clear way finding.

8.3.11. Utilization of proper construction materials should be used in conformity to the Ethiopian Building Code, that suit the health services delivery.

8.4. Building Space and Elements

8.4.1. All horizontal and vertical circulation areas that include stairs, doors, windows, corridors, exits and entrances of the hospital shall be kept clear and free of obstructions and shall not be used for other functional purposes that include storages.

8.4.2. Rooms: All room size and space allocation shall consider room loadings based on the current staff, clients involved, usable medical equipments, furniture and applicable functions.

8.4.3. The hospital circulation (main and sub corridors): shall be wide enough to allow passage for its function

8.4.4. Patient serving corridors: should not be less than 240cm wide, and proportionally the openings to the corridor needs to be designed to allow easy movement of coaches and be equipped as needed by the patient with safety and all assistive devices (it includes: door stopper, protecting girders, alarms, self opening electronic devices, etc).

8.4.5. Doors: all Doors shall be able to easily open and close, doors swing into corridors shall be avoided.

8.4.6. Patient rooms: Each patient room shall meet the following requirements:

a) All patient functioning rooms, toilet, and bathing room doors shall provide privacy yet not create seclusion or prohibit staff access for routine or emergency care.

b) Area: Shall contain 9.20m^2 (100ft^2) of floor area for a single bedroom and 7.50m^2 (80ft^2) per bed in multi-bedrooms.

c) Ceiling Height: Ceiling height needs to be determined based on the functional requirements considering air space, technical requirements, room size proportions, number of occupants and other parameters. The height of the ceiling of the rooms shall not less than 240cm high for support services, 220cm for technical corridors (Operation Theater 320 cm, X-ray 320 cm, room requiring interstitial floor needs to be more than 580cm) and 280cm for other clinical rooms.

d) Windows. All rooms housing patients shall have access to natural light and ventilation, or prove the availability of artificial ventilation and light at all times. Rooms shall have window area proportional to that of floor areas which is equal to $1/8^{th}$ of the floor area. The sill shall not be higher than 36 inches above the floor and shall be above grade. For toilets and washing rooms, over desk laboratory tables, laundry and kitchen utensils, the height can be modified accordingly) Windows shall not have any obstruction to vision (wall, cooling tower, etc.) within 50 feet as measured perpendicular to the plane of the window.

e) Storage: Each patient shall be provided with a hanging storage space of not less than 40.cm x 60.cm x 130cm (16" x 24" x 52") for his personal belongings.

f) Furnishings: A hospital shall provide comfortable patient trigonometric designs, applicable functions, and technical requirements. They have to be hygienic (washable, dust and bacteria protective and resistant for cleansing reagents) durable that can control vandalism and avoid accidents.

g) Curtains: rooms shall be equipped with curtains or blinds at windows. All curtains shall have a flame spread of 25 or less or as per the national fire protection code. And all as per the national infection prevention guidelines requirements.

h) Cubicle curtains or equivalent built-in devices for privacy in all multi-bed rooms shall be provided. They shall have a flame spread of 25 or less or as per the national fire protection code.

i) Finishing

- Walls, floors and ceilings of procedure rooms, isolation rooms, sterile processing rooms, work room, laundry and food-preparation areas shall be suitable for easily washing. All floors of the hospital clinical service areas shall be washable, smooth, non- adsorptive, surfaces which are not physically affected by routine housekeeping cleaning solutions and methods. Acoustic lay-in ceilings, if used, shall be non-perforated.

- Public spaces such as reception areas, waiting areas, cafeterias, areas requiring silence and sub specialty areas like psychiatry shall be designed with acoustic control and the lamination/lay shall be non-perforated.
- Scrub-able room finishes provided in operating rooms and isolation rooms shall have smooth, non-adsorptive, non-perforated surfaces that are not physically affected by harsh germicidal cleaning solutions and methods.
- All walls and ceiling finishing materials used shall have a 1-hour fire rating (One hour rated products offer more than "one hour's" worth of fire protection).

j) Sanitary Finishing

- A lavatory equipped with wrist action handles, shall be located in the room or in a private toilet room.
- For hospitals with multiple bed wards without private toilet room shall provide bedpan washer.
- All sanitary room facilities floors, walls and ceilings shall be completed with washable finishing materials
- Floors and walls penetrated by pipes, ducts and conduits shall be tightly sealed to minimize entry of rodents and insects

k) Electrical Finishing

- Patient bed light shall be controlled by the patients.
- Room light luminescence shall be bright enough for staff activities but needs to be controlled not to disturb the patients.
- All electrical fixtures inlets, outlets shall fulfill Ethiopia Electrical Safety requirements and if applicable fitted with guards
- For psychiatry service area light fixtures, sprinkler heads and other apparatus shall be of a temper resistant type.

8.4.7. Outdoor Areas: the hospital outdoor area shall be equipped and situated to allow for the safety and abilities of patients, care givers, staff and visitors.

a) The landscape shall be designed with patient room visual acquit or access
b) Walkways, connection roads and elevation differences shall be designed to allow movements of coaches/stretchers and persons with disabilities.
c) The outdoor traffic arrangement shall not cross each other to avoid accidents

8.4.8. Windows: In all rooms, windows shall comply with lux requirements of room space without compromising room temperature and ventilation.

a) Windows shall be a minimum of 50 cm wide x 100cm high. However, in case of hot climate areas, this may not be applicable
b) No window shall swing inside the room except those which require security and safety measures such as grid for theft and insect mesh for malaria porn areas.
c) Windows that frequently left open for cross ventilation purpose (like TB clinic room windows) shall be equipped with insect screen. At least a top portion of a window shall be left open fitted with insect mesh for uninterrupted circulation of air.
d) Safety glass, tempered glass or plastic glass materials shall be used for pediatrics and psychiatric service units to avoid possible injuries.

8.4.9. **Vertical Circulation:** All functioning hospital rooms shall be accessible horizontally.

a) **Stairs:** All stairways and ramps shall have handrails and their minimum width shall be 120cm.
    - All stairways shall have a 2-hour fire enclosure with a (1.5 hour) label door at all landings or as per the national fire protection code.
    - All stairways shall be fitted with non slippery finishing materials
    - All stair threads, riser and flight shall comply with patient type as per the Ethiopia Building proclamation
b) **Elevators**: at least one hospital type elevator shall be installed where 1-100 patient beds are located in the upper floors. In case of more than 100 beds, the number of elevators shall be determined from a study plan and expected

vertical transportation requirements. Minimum cab dimensions required for elevators transporting patients is 195cm x 130cm inside clear measurements and minimum width for hatchway and cab doors shall be 100cm.

c) **Ramp**: Ramps shall be designed with a slope of 6 to 9 percent, minimum width of 120 cm and the landing floor of 240cm wide on both sides.

d) **Shoots:** Hospital buildings having services in the upper floor shall have shoots facility. Shoots shall be free of possible accidents and the inlets and outlets shall be confined in a lockable room.

8.4.10. **Fire Safety Considerations:**

a) **One-Story Building:** Wall, ceiling and roof construction shall be of 1-hour fire resistive construction as defined by National Fire Protection "Life Safety Code or laws. Floor systems shall be of non-combustible construction.

b) **Multi-Story Buildings**: Must be of two-hour fire resistive construction as defined in National Fire Protection "Life Safety Code or laws.

c) **Travel Distances and alternative vertical circulation**: Hospital facilities travel distance from service giving room to the stairs should be as specified in the National Fire Protection "Life Safety Code or laws. Alternative fire escape stair should be provided otherwise.

8.4.11. **Parking areas**:

a) The hospital shall have separate parking spaces for hospital ambulance.

b) Parking space shall have a clear mark for Staff, Patients and Visitors with separate 10% of it for person with disability parking all as per Ethiopia Building Proclamation and building code.

c) General services of the hospital that require loading unloading docks, heavier truck movement and temporary truck parking place shall be available.

d) The parking space shall not cross pedestrian walkways, if it is mandatory to cross proper precaution measures such as Zebra Road, Speed Breaker, guiding notice and traffic stopping culverts or signals should be provided.

8.5. Building Systems

Hospitals shall have building systems that are designed, installed and operated in such a manner as to provide for the safety, comfort and well being of the patient.

8.5.1. Water supply and plumbing:

a) Continuously circulated as per the type of fixture used, filtered and treated water systems shall be provided as required for the care and treatment in the hospital

b) All hospitals subject to be connected to an approved municipal water system whose purity has been certified by the concerned body. The water supplies must be sampled, tested, and its purity certified at least twice annually and immediately following any repair or modification to the underground lines, the elevated tank, or to the well or pump.

c) All hospitals subject to be connected to its own separate water supply system shall qualify and certified by the concerned body regularly. In house quality control shall be established, the water supplies must be sampled, tested, and its purity certified at least twice semi-annually and immediately following any repair or modification to the underground lines, the elevated tank, or to the well or pump.

d) The hospital shall have and maintain an accessible, adequate both as to volume and pressure, safe and potable supply of water. Where an authorized public water supply of satisfactory quantity, quality, and pressure is available, the hospital shall be connected to it and its supply used exclusively. Deficiencies in either safety and adequacy in volume or pressure must be remedied by the provision of auxiliary pumps, pressure tanks or elevated tanks as may be required.

e) The collection, treatment, storage, and distribution potable water system of a hospital shall be constructed, maintained, and operated in accordance with all provisions of the Safe Drinking Water of the country.

f) Supply piping within the building shall be in accordance with plumbing standards. Special care must be taken to avoid use of any device or installation which might cause contamination of the supply through back-siphonage or cross connections or the water distribution system shall be protected with anti-siphon devices, and air-gaps to prevent potable water system and equipment contamination.

g) A treated backup water supply shall be readily available in the hospital like a reservoir or dedicated well. In case, if for any reason the main water supply is inaccessible. A contingency plan should be envisage in severe cases where supply disconnected and backup finished.

h) The hospital shall have an approved method of supplying hot water for all hospital consumption. Water to lavatories and scrub sinks must be 37.8 - 54^0C. Water to mechanical dishwashers must be delivered at 82 ^{0}C for rinsing.

8.5.2. **Sewerage and Waste Processing Systems**

8.5.2.1 The hospital shall maintain a sanitary and functioning sewage system in accordance with the national healthcare waste management guidelines and Ethiopian building code.

8.5.2.2 In addition, the hospital shall fulfill the following requirements;

a) The hospital shall dispose all sanitary wastes produced in the hospital through connection to a suitable municipal sewerage system or through a private sewerage system if applicable. Where there is no municipal or private sewerage system the hospital shall provide a designed and well marked septic tank, or other similar facility according to the local environment and protected method that require the approval of the appropriate organ.

b) The hospital sewage system shall be segregated from hazardous hospital waste before it enters the municipal or private sewage system.

c) The hospital shall provide areas to collect, contain , process, and dispose of medical and general waste produced within the hospital in such a manner as to prevent the attraction of rodents, flies and other

insects and vermin, and to minimize the transmission of infectious diseases in accordance with waste management standards of this health facility.

d) The hospital shall have all the required waste management facilities (such proper segregation and disposal system by the nature of waste, over 600 degree Celsius combustor incinerator or sterilizer steam grinder, etc) as recommended by the national healthcare waste management guidelines.

8.5.3. **Heating and Cooling, Ventilating and Air-Conditioning Systems:**

a) The hospital shall provide a heating and air conditioning system for the comfort of the patient and capable of maintaining the temperature in patient care and treatment areas.

b) In the hospital, the system shall be capable of producing a temperature of at least seventy five degrees Fahrenheit (75°F) during heating conditions and a temperature that does not exceed eighty-five degrees Fahrenheit (85°F) during cooling conditions.

c) The hospital to have a central air distribution and return systems which have the following percent dust spot rated filters:

- General areas: thirty (30) +%; and
- Care, treatment, and treatment processing areas: ninety (90) +%.

d) Surgical areas shall have heating and cooling systems that are capable of producing a room temperatures at a range between sixty-eight Fahrenheit (68°F) and seventy-three degrees Fahrenheit (73°F) and humidity at a range between thirty (30%) and sixty percent (60%) relative humidity.

e) Airflow shall move from clean to soiled locations. Air movement shall be designed to reduce the potential of contamination of clean areas.

f) Floors in operating rooms, procedure rooms and other locations subject to wet cleaning methods or body fluids shall not have openings to the heating and cooling system.

g) All hospitals shall provide adequate ventilation and/or clean air to prevent the concentrations of contaminants which impair health or cause discomfort to patients and employees.

h) Hospitals shall provide a mechanical exhaust ventilation system for windowless toilets, baths, laundry rooms, housekeeping rooms, kitchens and similar rooms at ten air changes per hour.

i) Hospitals shall provide mechanical ventilation system(s) capable of providing air changes per hour.

j) Hospitals shall provide an emergency backup ventilation system for all patient rooms without operable windows.

8.6. Electrical System

8.6.1. The hospital shall have an electrical system that has sufficient capacity to maintain the care and treatment services and other services that are provided and that properly grounds care and treatment areas.

8.6.2. All facilities shall provide the minimum average illumination levels as follows or as per the Ethiopian Electrical Design Code:

a) General purpose areas: five (5) foot candles;
b) General corridors: ten (10) foot candles;
c) Personal care and dining areas: twenty (20) foot candles;
d) Reading and activity areas: thirty (30) foot candles;
e) Food preparation areas: forty (40) foot candles;
f) Hazardous work surfaces: fifty (50) foot candles;
g) Care and treatment locations: seventy (70) foot candles;
h) Examination task lighting: one hundred (100) foot candles;
i) Procedure task lighting: two hundred (200) foot candles;
j) Surgery task lighting: one thousand (1000) foot candles; and
k) Reduced night lighting in patient rooms and corridors.
l) Three hours Emergency light shall be provided in exit, entry and in all landing of staircase.

8.6.3. **Essential Power System**: Hospitals shall have an automatic power generator for all care and treatment locations which involve general anesthetics or electrical life support equipments, and in emergency procedure and treatment rooms.

a) Different generators shall be available, at least diesel generator and white fuel generator.
b) There shall be enough stored fuel to maintain power for at least 24 hours.
c) If a generator is used, there must be a staff member assigned to the regular maintenance of the generator to guarantee it will function properly when needed.
d) Staff member will also ensure a sufficient supply of diesel gas and charged batteries for start-up purposes
e) Solar panels are also an acceptable if used as backup power option.
f) Central UPS system for ups outlets of selected area (like ICU, delivery, Operation Theater, laboratory) shall be provided as backup power option.

8.7. Fire Protection System

8.7.1. The hospital shall comply with the National Fire Protection "Life Safety Code".

8.7.2. The Hospitals shall have an automatic fire alarm and smoke detector system for all care and treatment rooms.

- Heat detectors used for car park, kitchen, transformer room lift pit area.
- Sounder base photo electric smoke detector will be proposes for the bed –room and all other rooms.
- Typical floor station located to convenient location in the lobby.

8.7.3. Essential Public Address System: Hospitals shall have an automatic voice communication /evacuation signal, from different sources; automatic

control signal from fire alarm system, tape/CD player for pre recorded message to all care and treatment locations rooms.

8.7.4. Lightening Arrestor and Grounding System: Hospitals shall have technically advised lightning protection system, comprises air termination, down conductor and earth termination. Protection zone shall cover a minimum of the diameter of the building

8.7.5. All employees shall be trained in procedures to be followed in the event of a fire and instructed in the use of fire-fighting equipment and patient evacuation of hospital buildings as part of their initial orientation and at least annually thereafter.

8.7.6. All employees shall receive printed instructions on procedures to be followed in case of emergency, including patient evacuation of the buildings.

8.7.7. A written evacuation diagram specific to the unit that includes evacuation procedure, location of fire exits, alarm boxes, and fire extinguishers shall be posted conspicuously on a wall in each patient care unit.

8.7.8. Fire extinguishers shall be visually inspected at least monthly; fully inspected at least annually, recharged, repaired and hydrotested as required by manufacturer's instructions; and labeled with the date of the last inspection.

8.7.9. Fire detectors and alarm systems shall be inspected and tested at least twice a year by a certified testing agency. Written reports of the last two inspections shall be kept on file.

8.7.10. There shall be a comprehensive, current, written preventive maintenance program for fire detectors, alarm systems, and fire suppression systems that includes regular visual inspection. This program shall be documented.

8.7.11. There shall be a procedure for investigating and reporting fires. All fires that result in a patient or patients being moved shall be reported to the appropriate organ. Immediately in writing within72 hours. In addition, a written report of the investigation shall be forwarded to the appropriate organ as soon as it becomes available.

8.8. Call Systems

8.8.1. Call systems shall be operable from all patient private spaces. Such us from patient beds (except at psychiatric or mental hospital beds), procedure and operating rooms, and recovery bed, bathing and toilet locations.

8.8.2. The system shall transmit a receivable (visual, audible, tactile, or other) signal to on-duty staff which readily notifies and directs the staff to the location where the call was activated.

8.8.3. In locations where patients are unable to activate the call, a dedicated staff assists or code call device shall promptly summon other staff for assistance or continuous visual connection to supper attending staff should be provided.

8.9. Medical Gas System

8.9.1. The hospital shall safely provide centrally managed medical gas and vacuum by means of portable equipment or building installation systems as required. Electromechanical system for central supply shall be installed for areas such as operation theater, Delivery, special procedure rooms, Intensive care unit, laboratory and sterilization,

8.9.2. The installation, testing, and certification of nonflammable medical gas, clinical vacuum, and air systems shall comply with the requirements of the Life Safety Code (National Fire Protection agency proclamation).

8.9.3. The hospital shall identify portable and system components, and periodically test and approve all medical gas piping, alarms, valves, and equipment for patient care and treatment. The hospital shall document such approvals for review and reference.

8.10. Health Facility Environment

8.10.1. The hospital shall provide and maintain a safe environment for patients, caregivers, visitors, staff and the general public.

8.10.2. All facilities shall comply with the following applicable codes and standards for safe environment:

a) Ethiopian Environmental requirements for hospital facilities
b) National Fire Protection Life Safety Code and laws; and
c) Other related Regulations

8.10.3. Existing and new hospital shall comply with the physical facility standards stated under this standard. The hospital shall maintain all building materials and structural components so that total loads imposed do not stress materials and components more than one and one-half times the working stresses allowed in the building code for new buildings of similar structure, purpose, or location.

8.11. Specific Service Areas

8.11.1. **Bathing and Toilet Rooms:**

a) In case of common bathing and toilet room, one shall be dedicated for seven patients at all times.
b) A hospital shall provide a bathing room consisting of a tub and/or shower adjacent to each bedroom or provide a central bathing room on each floor with patient rooms. Tubs and showers regardless of location shall be equipped with hand grips or other assistive devices as needed or desired by the bathing patient.
c) The hospital shall provide toilet rooms with hand-washing sinks for patient and staffs shall use separately for each service units. In addition the following requirements shall be ensured
    - Flushable toilets shall be available throughout the workplace.
    - Posted signs (written and/or visual messages) shall be indicated describing which is for ladies and gentle (or female and male)
    - Indicating arrows shall be located on the corridors
    - At least one toilet room shall be designated for patients with disability with all assisted services.

8.11.2. Patient Rooms: the hospital shall provide patient rooms which allow the provision of medical intervention, shall have space for sleeping, afford

privacy, provide access to furniture and belongings, and accommodate inpatient care and treatment. In addition Patient Rooms:

a) Shall be arranged to maximize staff supervision and nursing assistances.
b) No patient room shall be located away from nursing stations without proper covered gangway.
c) Shall not be accessed directly through a bathroom, food preparation area, laundry or another bedroom;
d) Shall be located on an outside wall with a window with a minimum glass size of 8 square feet or equivalent meter square per patient.
e) If they have multiple beds, shall allow for an accessible arrangement of furniture, which provides a minimum of three (3) feet or equivalent meter between beds.

8.11.3. Isolation Rooms: The number and type of isolation rooms in a hospital shall be determined by the hospital and direct caregiver. The determination shall be based upon an infection control risk assessment, patients' requirements and patients influence on other room occupants. In addition:

a) Hospitals shall make provisions for isolating patients with infectious diseases prevention.
b) An isolation room shall have an adjoining bath and toilet room.
c) Hospitals shall equip isolation rooms with hand-washing and gown changing facilities at the entrance of the room.

8.11.4. Observation Areas: If the hospital provides medical observation, extended recovery or behavior intervention methods, the hospital shall provide one or more appropriately equipped rooms for patients needing close supervision. Each room shall:

a) Have appropriate temperature control, ventilation and lighting;
b) Be void of unsafe wall or ceiling fixtures and sharp edges;
c) Have a way to observe the patient, such as an observation window or if necessary, flat wall mirrors so that all areas of the room are observable by staff from outside of the room;

d) Have a way to assure that the door cannot be held closed by the patient in the room which could deny staff immediate access to the room; and
e) Be equipped to minimize the potential of the patient's escape, injury, suicide or hiding of restricted substances.
f) Shall be provided with proper safety communication systems and emergency signaling.

8.11.5. Critical Care Rooms/ICU**:** If monitored complex nursing care is provided, the hospital shall provide one or more rooms for patients needing the care.

a) Each room shall be appropriately located and equipped to promote staff observation of patients.
b) Rooms with a single occupant shall have a minimum floor area of not less than one hundred and thirty (130) square feet or equivalent meter square.
c) Multiple bed locations shall contain at least one hundred and ten (110) square feet or equivalent meter square per bed with a minimum of four (4) feet or equivalent meter between beds.
d) The room shall include provision for life support, medical gas, sleeping, and convenient bathing and toileting facilities.

8.11.6. Cubicles: Patient care and treatment cubicles shall have a minimum floor area of sixty (60) square feet with at least three (3) feet between bedsides and adjacent side walls.

8.11.7. Examination Rooms: Each examination room shall have a minimum floor area of eighty (80) square feet and a minimum of three (3) feet clear dimension around three (3) sides of the examination table or chair.

8.11.8. Treatment Rooms: Treatment room for procedures performed under topical, local, or regional anesthesia without pre-operative sedation shall have a minimum floor area of one hundred and twenty (120) square feet and a minimum of ten (10) feet clear dimension.

8.11.9. Procedure Rooms: Procedure rooms for invasive and minor surgical procedures performed in conjunction with oral, parenteral, or intravenous sedation or under analgesic or dissociative medicines shall have a

minimum floor area of two hundred (200) square feet and a minimum of fourteen (14) feet clear dimension.

8.11.10. Operating Rooms: Operating rooms for major surgical procedures that require general or regional block anesthesia and support of vital bodily functions shall have a minimum floor area of three hundred (300) square feet and a minimum of sixteen (16) feet clear dimension.

8.11.11. Privacy: In multiple bed patient rooms, visual privacy, and window curtains shall be provided for each patient. The curtain layout shall totally surround each care and treatment location which will not restrict access to the entrance to the room, lavatory, toilet, or enclosed storage facilities.

8.12. Care and Treatment Areas

8.12.1. The hospital shall not share care and treatment areas for those services which require dedicated space

8.12.2. The hospital shall not provide services in detached structures unless the way of service delivery allows or proper building configuration established.

8.12.3. The care and treatment areas of the hospital shall comply with the requirements stipulated under the premises of each service standards.

8.13. Ancillary areas

8.13.1. **Dietary**: If food preparation is provided in the hospital (in case of inpatient services), the hospital shall dedicate space and equipment for the preparation of meals and separate washing room (dishes and other food preparation equipments), refrigerated and non-refrigerated storage areas in accordance with the standards mentioned under the Food and dietary services of this health facility.

a) If contractual services are used for dietary services, the hospital shall have areas for immediate storage spaces, cleaning and disposal spaces.

b) If contractual services are used, the hospital shall have a clear contractual agreement and the contractor shall comply with all the requirements prescribed under this standards.

8.13.2. **Laundry**: The hospital shall provide laundry services by contract or on-site.

a) Contract:

- If contractual services are used, the hospital shall have areas for soiled linen awaiting pickup and separate areas for storage and distribution of clean linen.
- Separate clean linen supply storage area shall be conveniently located in each care and treatment locations
- If contractual services are used, the hospital shall have a clear contractual agreement and the contractor shall comply with all the requirements prescribed under this standard.

b) On-site: If on-site services are provided, the hospital shall have areas dedicated to laundry in accordance with the following requirements:

- The laundry areas shall be equipped with a washer and dryer for use by patients. The hospital shall provide a conveniently located sink for soaking and hand-washing of laundry.
- Hospital laundry area for hospital processed bulk laundry shall be divided into separate soiled (sort and wash areas) and clean (drying, folding, and mending areas) rooms. In new facilities a separate soaking and hand-washing sink and housekeeping room shall be provided in the laundry area.
- Separate clean linen supply storage facilities shall be conveniently located in each care and treatment location.
- In general the standards stipulated under housekeeping, laundry section of this standard shall be respected.

8.13.3. Administrative Areas: Administrative Offices shall be located separately from care and treatment areas and it shall be clearly labeled and easily accessible to patients, care givers and visitors. It includes;

a) Finance and business office.
b) Administration office.
c) Human resource management office
d) Staff rooms with toilet separate for male and female
e) Staff cafeteria
f) Visitors cafeteria
g) Spaces for conferences and in-service training
h) General Library

8.13.4. General Storage areas**.** There shall be a two hour fire rated lockable room large enough to store.

8.13.5. Boiler Room. Space shall be adequate for the installation and maintenance of the required machinery.

8.13.6. Maintenance Area: Sufficient area for performing routine and preventive maintenance activities shall be provided (workshop area) and shall include office for maintenance personnels.

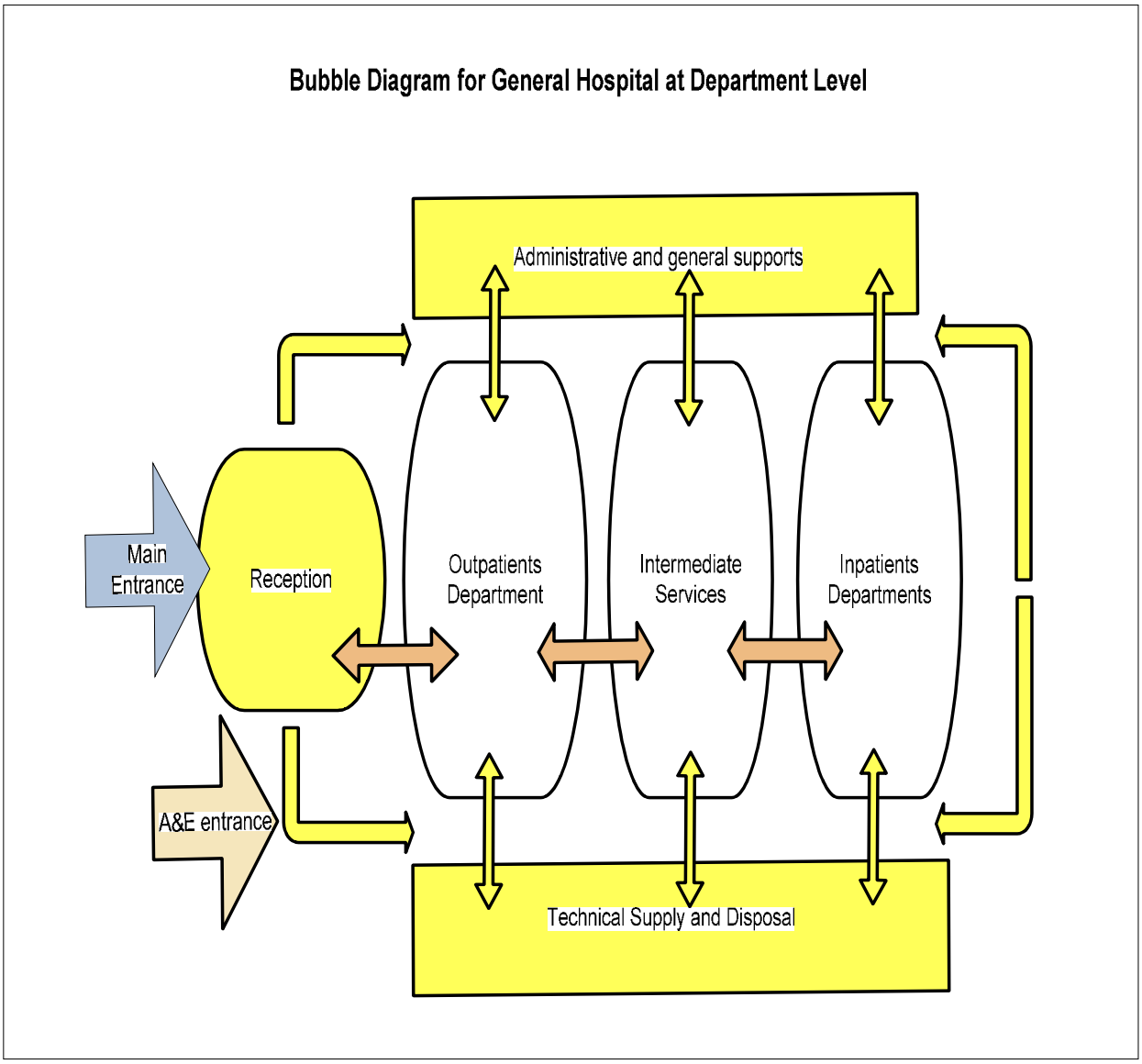
8.13.7. Incinerator: there shall be a dedicated area for incinerators and **t**he hospital shall comply with the nation directives for healthcare waste management and disposal.

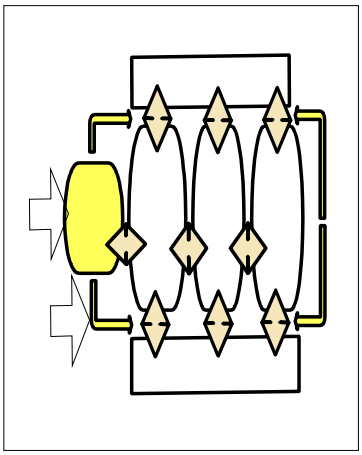
8.13.8. Janitor rooms: the hospital shall have separate janitor rooms in each care and treatment areas.

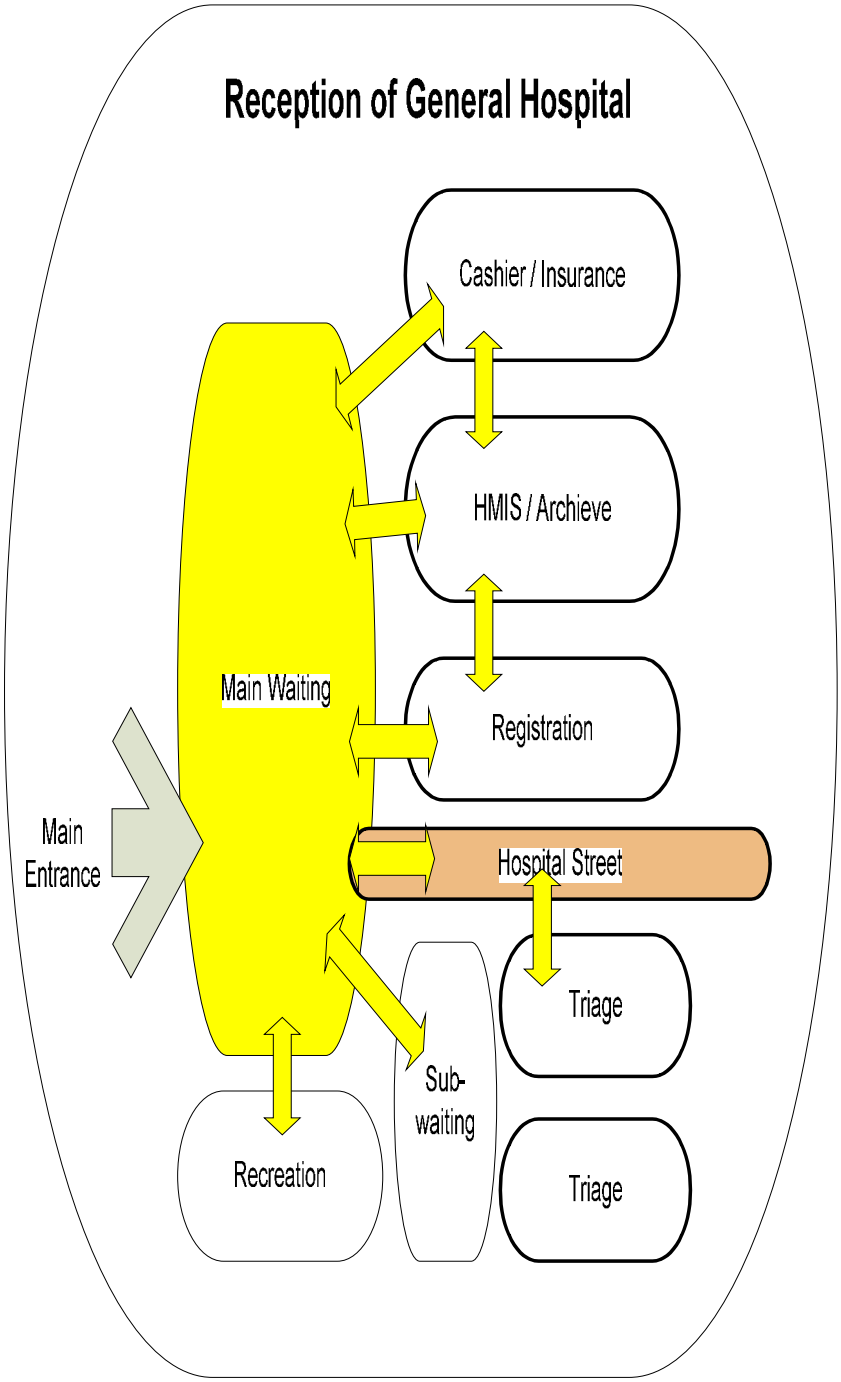
8.13.9. Green area: The hospital shall dedicate at least 20% of the total hospital compound for green area.

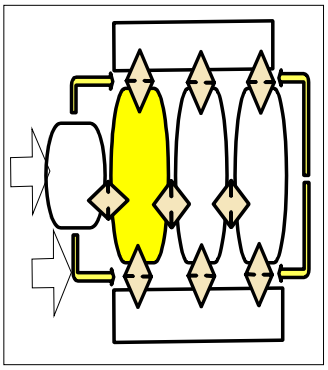
Note: All dimension, sizes and quantities noted herein will be determined by rounding fractions to the nearest whole number and measuring units like feet can be converted to country specific measuring units.

8.14. Bubble Diagrams

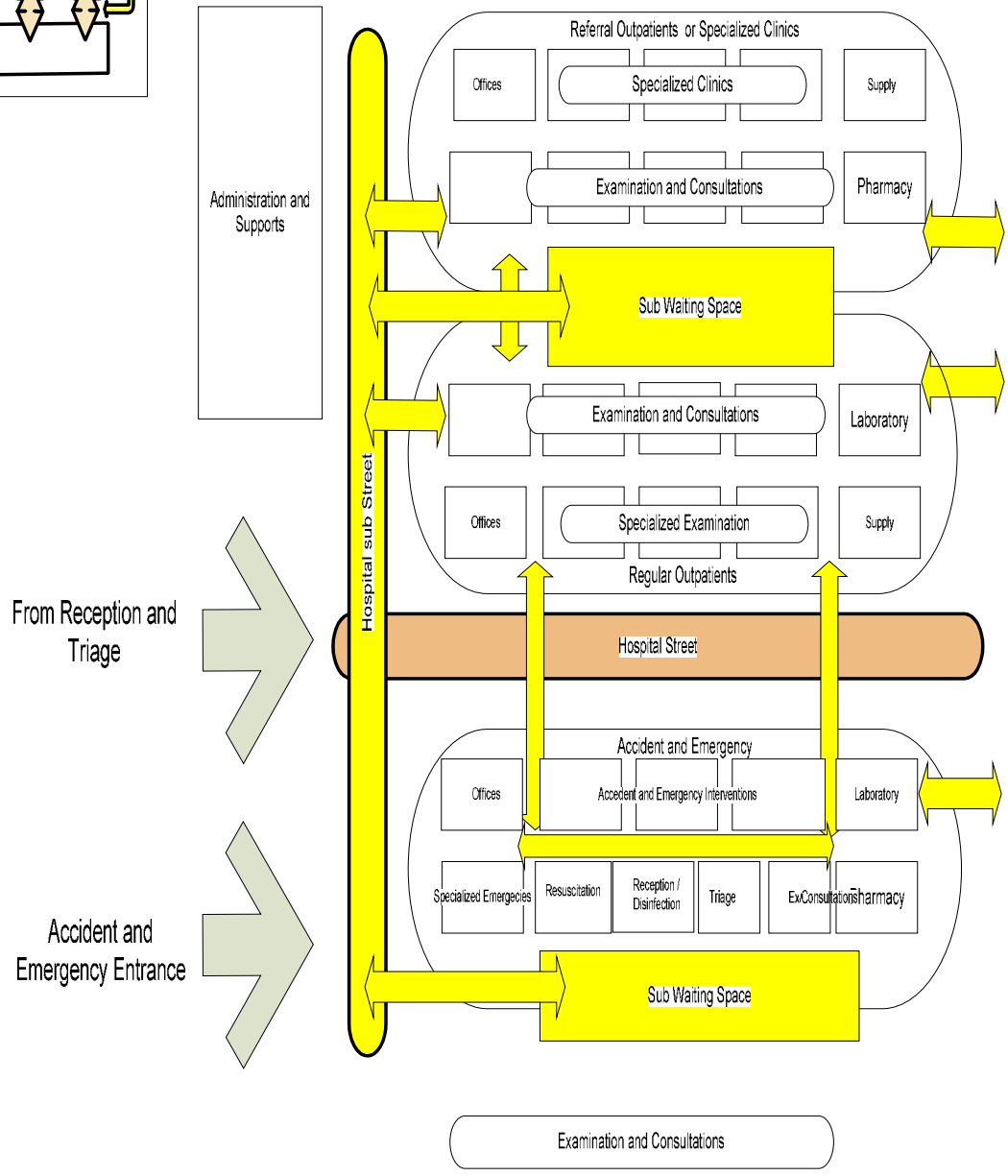


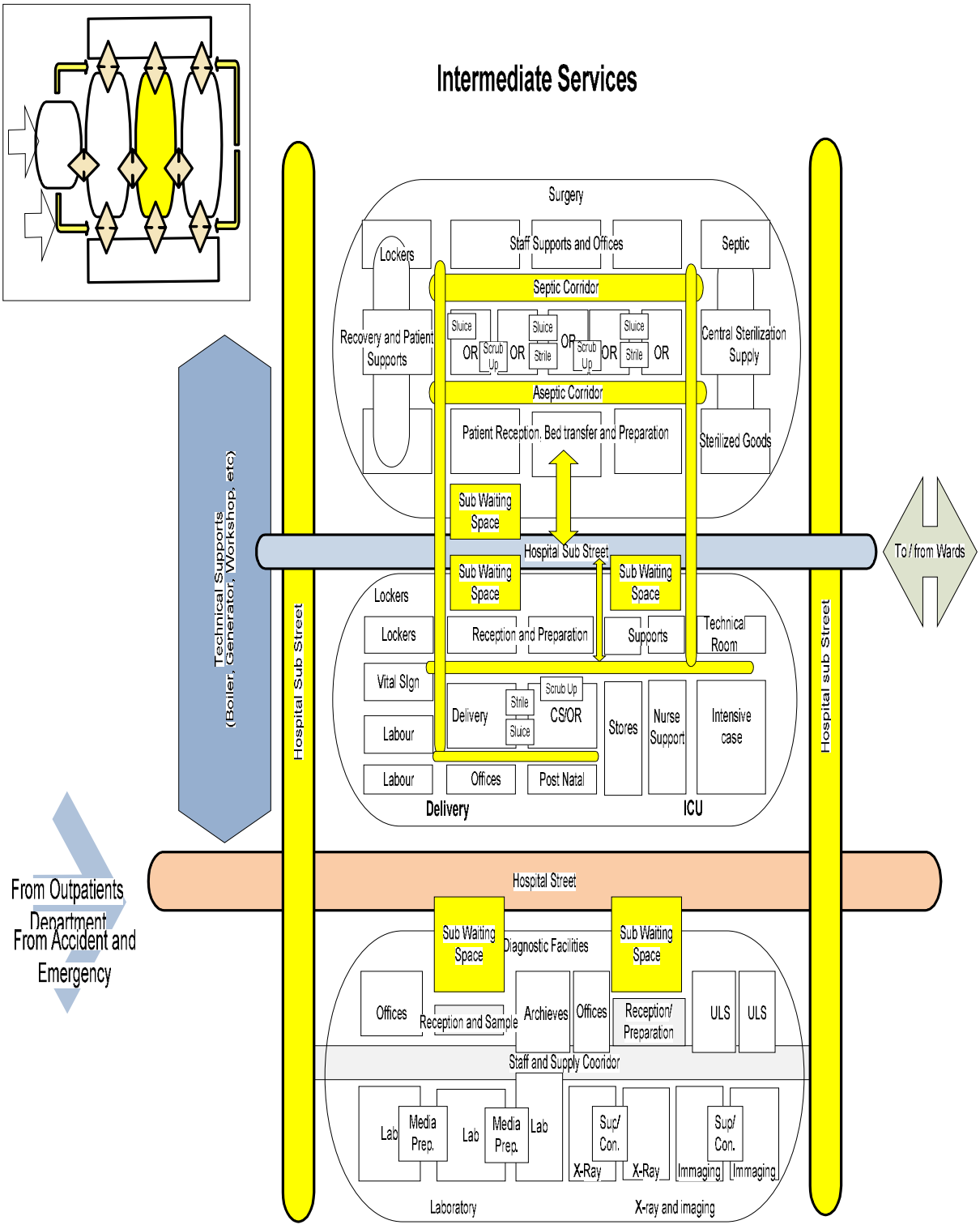


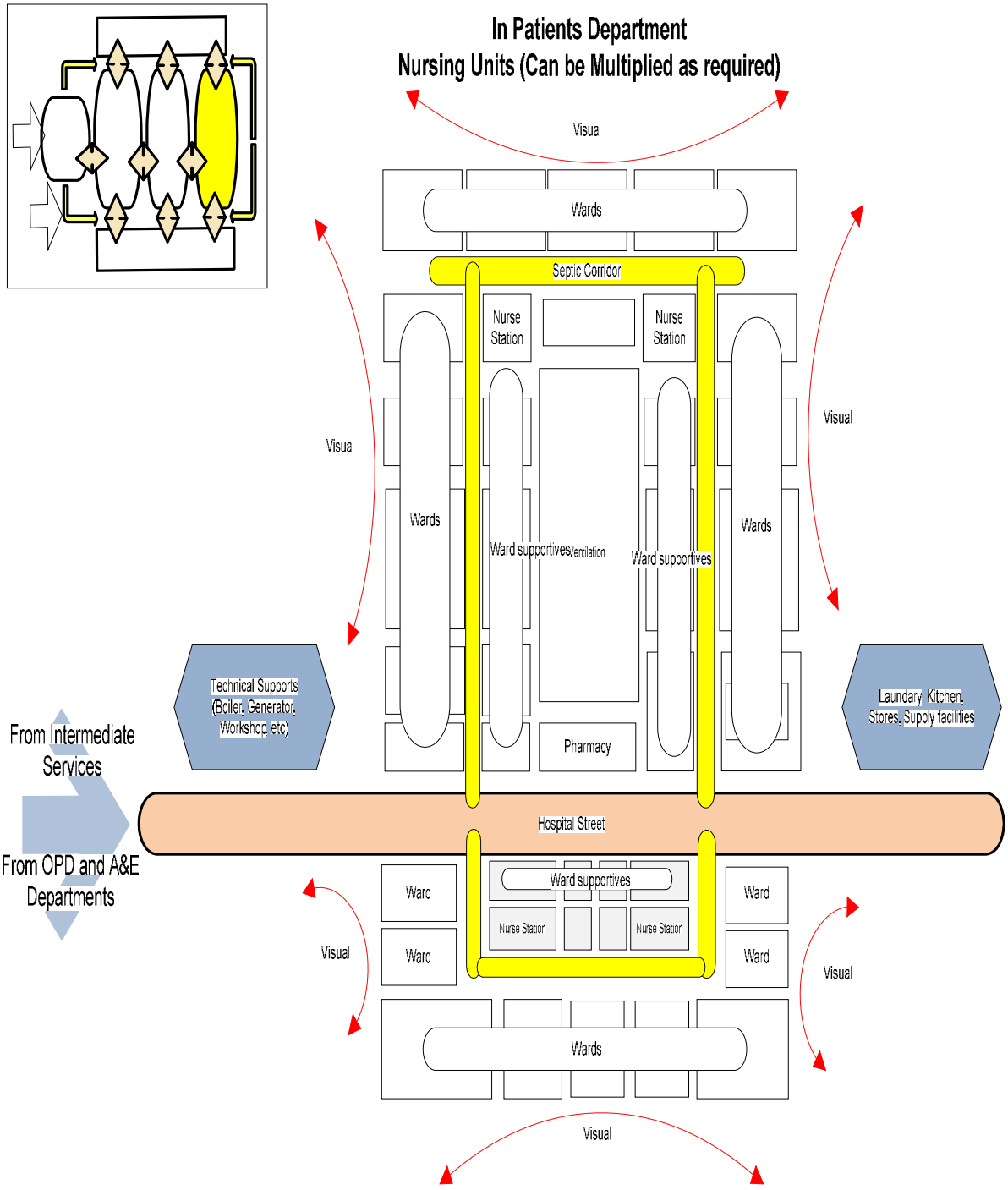

Reception of General Hospital
Cashier / Insurance
HMIS / Archieve
Main Waiting
Registration
Main
Entrance
Hospital Street
Triage
Sub-
waiting
Recreation
Triage



Outpatient Department of General Hospital




Intermediate Services
Surgery
Lockers
Staff Supports and Offices
Septic
Septic Corridor
Recovery and Patient Supports
Sluice
OR
Scrub Up
Strile
Central Sterilization Supply
Aseptic Corridor
Patient Reception, Bed transfer and Preparation
Sterilized Goods
Sub Waiting Space
Hospital Sub Street
To / from Wards
Technical Supports (Boiler, Generator, Workshop, etc)
Hospital Sub Street
Hospital sub Street
Lockers
Reception and Preparation
Supports
Technical Room
Vital SIgn
Delivery
CS/OR
Stores
Nurse Support
Intensive case
Labour
Offices
Post Natal
Delivery
ICU
From Outpatients Department
From Accident and Emergency
Hospital Street
Diagnostic Facilities
Offices
Reception and Sample
Archieves
Reception/ Preparation
ULS
Staff and Supply Coorridor
Lab
Media Prep.
Sup/ Con.
X-Ray
Imaging
Laboratory
X-ray and imaging


In Patients Department
Nursing Units (Can be Multiplied as required)
Visual
Wards
Septic Corridor
Nurse Station
Nurse Station
Visual
Visual
Wards
Ward supportives/entilation
Ward supportives
Wards
Technical Supports (Boiler, Generator, Workshop, etc)
Laundary, Kitchen, Stores, Supply facilities
Pharmacy
From Intermediate Services
From OPD and A&E Departments
Hospital Street
Ward
Ward supportives
Ward
Nurse Station
Nurse Station
Ward
Ward
Visual
Visual
Wards
Visual