

Draf

LAPORAN KEPERLUAN PERUBATAN
KLINIK KESIHATAN JENIS 1

Untuk
Rancangan Malaysia Ke-9

DRAF

BAHAGIAN PEMBANGUNAN KESIHATAN KELUARGA
KEMENTERIAN KESIHATAN MALAYSIA

November 2006

JENIS-JENIS KLINIK KESIHATAN (KK)

- A) **KK JENIS 1 > 800 KEDATANGAN SEHARI**
- B) KK JENIS 2 500-800 KEDATANGAN SEHARI
- C) KK JENIS 3 300-500 KEDATANGAN SEHARI
- D) KK JENIS 4 < 300 KEDATANGAN SEHARI
- E) KK JENIS 5 < 150 KEDATANGAN SEHARI
- F) KK JENIS 6 < 50 KEDATANGAN SEHARI
- G) KLINIK WARGA SIHAT
- H) PUSAT BERSALIN ALTERNATIF

SKOP KLINIK KESIHATAN JENIS 1

Kedatangan: > 800/hari (70% pesakit luar)

Skop klinik:

1. Pakar Perubatan Keluarga
2. Klinik Kesihatan Ibu dan Anak
3. Klinik Warga Sihat
4. Klinik Pesakit Luar
 - 4.1 Unit Penyakit Berjangkit
- 5 Klinik Kecemasan
- 6 Klinik Pergigian (dengan Pakar)
- 7 Pendidikan dan Promosi Kesihatan Komuniti
- 8 Rehabilitasi
 - 8.1 Umum
 - 8.2 Kanak-Kanak
 - 8.3 Psikososial
- 9 Makmal Perubatan
- 10 Farmasi
- 11 Pengimejan Diagnostik
- 12 Rekod Kesihatan
- 13 Pentadbiran
- 14 Kemudahan Anggota
- 15 Kemudahan Awam

MEDICAL BRIEF OF REQUIREMENTS KLINIK KESIHATAN JENIS 1

1. INTRODUCTION

(To be elaborated by each Project)

- Background about the project
- Situational Analysis
- Projected Workload
- NOTE : Further customisation of space if necessary must be elaborated

2. MASTERPLAN

(To be elaborated by each project)

- Zoning
- Land Utilisation
- Scope of Services
 - *present and future expansion*
- Access, Traffic Flow
- Transportation
- Environmental impact

3. OPERATIONAL POLICIES

3.1. ROLE

3.1.1 The Health Clinic will provide promotive, preventive, curative and rehabilitative services for **800 attendance per-day or more** in **urban** areas, within and outside the clinic. Apart from the general out-patient services, the clinic will focus on special target groups, i.e. mothers, neonate, children, adolescents, elderly, adults and workers. There will be provision for health promotion, education, counselling treatment, resuscitation and rehabilitation, as well as diagnostic and health surveillance support in the facility.

Note: For the existing health clinic, consideration shall be given to have **dedicated space for Wellness Clinic** (adolescents, adult and elderly) and **Emergency Clinic** based on this document.

3.1.2 The health clinic will consist of:

3.1.2.1 **Wellness Clinic (Klinik Warga Sihat)**

- a) **Maternal and Child Health** services which covers Maternal, Neonatal and Child Health, Family Planning and Healthcare for Children with Special Needs activities.
- b) **Adolescent Health** services.
- c) **Adult Health** services which covers healthy men and women's health care.
- d) **Elderly Health** services.

3.1.2.2 **Out-patient Clinic (Kinik Pesakit Luar)** that offers ambulatory curative care, family medicine specialist and home care nursing services.

- 3.1.2.3 **Emergency Clinic (Klinik Kecemasan)** that offers medical and obstetric emergency and ambulance service.
- 3.1.2.4 **Oral Health Clinic (Klinik Pergigian)** that provides Oral Health Services. Specialist service, either orthodontics or periodontics, may be provided in selected clinics, justifiable based on the clinic's location and local need.
- 3.1.2.5 **Clinical Support Department** which will include
- a) Pharmacy service
 - b) Pathology service (Medical Laboratory Level I upgraded)
 - c) Radiology service (ultrasound, mammography and general x-ray)
- 3.1.2.6 **Environmental health** service which offer environmental health surveillance service. Environmental health hygiene may be provided.
- 3.1.2.7 **Administrative** services that will include registration, revenue collection, health record, resource management and administration, medical social service, transport, facility maintenance, clinical waste management, cleaning, security and stores services for the whole clinic.
- 3.1.2.8 **Staff facilities** such as training facilities (meeting/seminar rooms, workstations for medical/paramedical trainee and teleconferencing equipment, wherever necessary) prayer room, staff change and office, rest room and nursery will also be provided.
- 3.1.2.9 **Public amenities** such as breast feeding room, cafeteria, car parks, playgrounds and water closets.
- 3.1.2.10 **Computerised system** for clinical and support services for all or selected workstations.

3.2. **SERVICES**

The Health Clinic focuses on health promotion, prevention, curative and rehabilitation services, in and outside the clinic. Services will generally be available everyday and delivered by trained providers. Special sessions are only on appointment basis.

3.2.1 **Wellness Clinic (Klinik Warga Sihat)**

- 3.2.1.1 Services will be delivered in an integrated manner, based **on life-course approach**. Clients will be addressed on their estimated health risk, based on their age and occupational group.
- 3.2.1.2 Clients attended on appointment basis. Appointment can be made through telephone (call centre) or triage counter. Except for maternal and child health activities, follow-up will be done every 5-years, or more frequent if indicated.

3.2.1.3 Activities will include registration, medical assessment, biochemical, physical, social and mental screening, specific treatment, health education, social and environmental investigation, counselling, scheduled follow-up, home visit, defaulter tracing and promotion in the clinic and community.

3.2.1.4 **Maternal and Child Health** services will covers:

- a) **Maternal health:** Antenatal and postnatal care, health education to mothers, support for breast-feeding and lactation and women's health screening.
- b) **Neonatal and Child Health:** Target groups are babies (0 to 1 years), toddlers (1 to 4 years) and pre-schoolers (5-6 years). These functions will include development assessment, immunisation, growth monitoring etc. and specific activities for children with special needs such as disabled children and children of poor families.
- c) **Care for Children with Special Needs:** Activities include physical, social and mental assessment and screening for early detection of disabilities in children and older persons.
- d) **Family Planning:** Counselling, examination and supply of pills, condoms, injectables e.g. Devopovera, minor procedures e.g. IUCD insertion, contraceptive implant insertion and urine pregnancy test.

3.2.1.5 **Adolescent Health** services will covers

- a) **Adolescent's Health:** This service will be provided to school children and other adolescent (10 to 19 years) for counselling, general physical examination as well as management of disease condition.
- b) **School Health:** The school health team from this clinic will visit school and performs health appraisal to schoolchildren as part of the school health service function. Where necessary, follow-ups of school children will be made in the clinic.

3.2.1.6 **Adult Health** services will covers

- a) **Men and Women's Health:** Well Adult service will provide risk assessment, early detection and health education activities such as detection of breast and cervical cancer, quit-smoking counselling and menopause counselling. Risk assessment activities will include cardiovascular assessment, examination of blood pressure and BMI, laboratory investigation for blood (FBS, LFT, RFT) and urine, ECG and x-ray (CXR).

- b) **Occupational Health:** The service will include promotion, prevention, treatment and rehabilitation for the working population who suffers from work-related illness, including injuries through an integrated care approach. Main activities will be risk assessment, investigation, specific treatment and health education, and disease prevention and surveillance related to occupation.
- c) **Community Mental Health:** Mental health activities will look into promotion and prevention aspect and risk assessment.
- c) **Non-communicable disease prevention:** This service comprises of cardiovascular disease risk screening and management, obesity screening and management, quit smoking clinic and certain cancer screening.

3.2.1.7 **Health Care for the Elderly:** That will include day care nursing, vocational activities, nutritional assessment, rehabilitative activities, counselling, physical examination, regular health screening (similar to health screening in well adult clinic) and accident preventive care.

3.2.1.8 **Nutrition and Dietetics:** The nutrition clinic provides advice and counselling to the pregnant and lactating mothers, mother's/parent's of infants, toddlers, pre-schoolers, malnourished children and overweight persons. The dietetic clinic will give advice and counselling of client with clinical conditions such as diabetes, hypertension, heart disease and renal disease.

3.2.1.9 **Rehabilitation:** This service include both physiotherapy and occupational therapy for children with special needs (for child and parents), elderly, mentally ill patients, pregnant mothers, post-trauma and post-stroke patients and clients with chronic conditions such as asthma and chronic obstructive airway diseases. Community rehabilitation for the mentally ill will also be provided.

3.2.1.10 **Health Education and Promotion:** It is an integral component of the various services in the health clinic and community, and will be provided by all health personnel.

3.2.2 Out-patient Clinic (Klinik Pesakit Luar)

3.2.2.1 Ambulatory care services delivered by trained staff as a team, in and outside the clinics.

3.2.2.2 Services delivered everyday, on appointment and walk-in basis.

3.2.2.3 Activities include triaging of walk-in clients, consultations, examination, diagnosis, prescription and performing selected procedures, as well as health education and counselling for out-patient.

3.2.2.4 Out-patient cases are divided into three types; acute medical cases, chronic medical cases and infectious disease cases.

3.2.2.5 Programmes addressed by this service will include:

- a) **Acute medical care**, which can be on appointment and walk-in.
- b) **Follow-up clinic for chronic disease and medical problems**, which come based on appointment. Diabetic clinic, hypertension clinic and asthma clinic are among the main activities that involved registration, treatment, counselling, education, defaulter tracing, resource centre and home visiting.
- c) **Infectious disease unit**, a dedicated area and service for clients presented with fever and respiratory tract infection's symptoms.
- d) **Home Care Nursing**: This function is to provide nursing care at home to facilitate healing and coping with recuperation. Services will also be provided to post-hospitalise cases, chronically and terminally ill persons. Service delivered by a dedicated team with dedicated equipment and transport.
- e) **Communicable disease prevention and control**: Among the activities involved are screening and management of HIV, screening for tuberculosis and STI, case management and investigation, contact tracing, outbreak surveillance, defaulter tracing and treatment of notifiable diseases.
- f) **Medical Social Service**: This service will provide support for clients with specific social-related problems. It will be provided through tele-counselling or visiting counsellor and medical social worker.
 - i) Social support - Individual and group counselling and consultation service.
 - ii) Practical support - financial aids, social and welfare institution (for disabled, old folks home and shelter) and medical and mobility equipment.
 - iii) Networking - liaison within and with other agencies (government and non-governmental organisations).
 - iv) Case Focus - domestic violent (child, elderly and women), physically and mentally disabled, single parent, poverty cases e.g. malnutrition and worm infestation and problems in payment.

3.2.3 Emergency Clinic (Klinik Kecemasan)

3.2.3.1 Emergency care services delivered by trained staff as a team, in and outside the clinics.

3.2.3.2 Services delivered everyday, during and after office hour.

3.2.3.3 The main activities will be:

- a) **Emergency and Pre-hospital Care:** This service is to manage medical and obstetric emergency as well as accident cases came/brought in to the clinic either by the public or referred by the health staff. Clients will be stabilised and undergone several investigations accordingly before being treated or referred/transported to the referral hospital.
- b) **Ambulance service:** Service will be provided for medical and obstetric emergencies, with priority to cases brought in. Ambulance call will also be entertained, in line with the local service policy.

3.2.4 Oral Health Clinic

This service will include promotive, preventive and curative activities for the pre-schoolers, school children and adult. Based on justification, the clinic may provide specialist service, either orthodontics or periodontics, which provide services based on appointment. The activities will be school dental service, basic dental care and oral health promotion.

3.2.5 Clinical Support

3.2.5.1 These services support other clinical activities either wellness care or out-patient care services.

3.2.5.2 Services provided are:

- a) **Pathology:** The unit is a Level Ia upgraded **Medical Laboratory** that provides chemical pathology, hematology, medical microbiology and serology tests, handled by Medical Lab Technologist.
- b) **Pharmacy:**
 - i) Outpatient service, which includes drug dispensing, drug advice, pharmacy counselling, pharmacy education and drug monitoring.
 - ii) Community pharmacy service, which includes home drug monitoring, community pharmacy education and promotion and drug information service.
 - iii) Pharmaceutical production includes pre-packing of tablets/capsules (dry) and syrup (wet), and extemporaneous drug preparation.
 - iv) Procurement and supply that include drug purchase through concession company and other supplier, drug storage, drug inventory maintenance and drug distribution (for other units, clinics and community clinics).

- c) **Diagnostic Imaging:**
 - i) Ultrasonography, mainly for obstetric and general purpose.
 - ii) General radiography (x-ray).
 - iii) Mammography, for selected clinics.

3.2.6 Environmental Health

3.2.6.1 **Environmental Health:** Service provided will include environmental sanitation, safe water supply, drinking water monitoring and sampling, food premise inspection, food sampling, workplace inspection and health promotion and education.

3.2.6.2 **Health Surveillance:** Service provided will include defaulter tracing, active and passive case detection, contact tracing, notification and investigation of notifiable diseases.

3.2.7 Other services

Registration, revenue collection, health record, resource management and administration, transport, facility maintenance, information technology, clinical waste management, cleaning security and stores services for the whole clinic.

3.3. OPERATION AND MANAGEMENT

3.3.1 The Health Clinic will operate from Monday to Friday (or Saturday to Thursday) between 8.00 am - 5.00 pm. Services **after office hours** is also required; on call services shall be provided.

3.3.2 Overall management will be by a Family Medicine Specialist, Public Health Physician or the most senior medical officer in the unit. This officer will report to the District Medical Officer of Health. Nursing care services will be the responsibility of the sister-in-charge. She will also handle all nursing staff and female health attendants.

3.3.3 For the management of client, the Public Health Physician (Wellness Care) and Family Medicine Specialist (Out-patient and Emergency Care) will be supported by Medical Officers, Dental Officers, Medical Assistants, Nurses, Dental Nurses, Community Nurses, Health Education Officers, Counsellors, Medical Therapists, Dietitian/ Nutritionists and other support staff.

3.3.4 Computerisation will aid appointment system. Clients will be persuaded to follow appointments to ensure satisfactory waiting time.

3.3.5 'Call centre' will be established to entertain consultation by phone. Trained allied health personnel will man this 'centre'.

3.4. GENERAL POLICIES

3.4.1 Wellness Clinic

- 3.4.1.1 Services stated in paragraph 3.2.1 will be provided through an integrated clinic system. They do not function as isolated clinics or session except occasionally when there is pre-selected group to be serviced.
- 3.4.1.2 Services will be provided based on appointment. Phone-in will be entertained through call-centre by the triaging staff.
- 3.4.1.3 Services will be provided by multifunctional and specially trained, dedicated medical team.
- 3.4.1.4 Public Health Physician's role is to manage referred cases from the medical officers at the clinic and from ancillary clinics.
- 3.4.1.5 Cases may be referred to the outpatient clinic or clinical support units in the clinic or nearby clinic/hospital for further investigation and management.
- 3.4.1.6 School health service will be provided by a dedicated team.

3.4.2 Out-patient Clinic

- 3.4.2.1 Services stated in paragraph 3.2.2 will be provided through an integrated clinic system. They do not function as isolated clinics or session except occasionally when there is pre-selected group to be serviced.
- 3.4.2.2 Services will be provided to walk-in clients. Phone-in will be entertained through call-centre by the triaging staff.
- 3.4.2.3 Call centre and triaging staff may identify appropriate department and services for walk-in clients based on their problem and basic medical assessment.
- 3.4.2.4 Cases that will be considered priority are babies, pregnant mothers, elderly (> 65 years), public service pensioners and disabled persons.
- 3.4.2.5 Multifunctional and specially trained medical personnel shall carry out these services.
- 3.4.2.6 Family Medicine Specialist role is to manage referred cases from the medical officers and other providers at the clinic and from ancillary clinics.
- 3.4.2.7 Home Care Nursing will be provided by an identified, special team.
- 3.4.2.8 Cases may be referred to other provider within the clinic, or nearby clinic/hospital for further investigation and management.

3.4.3 Emergency Clinic

- 3.4.3.1 Services stated in paragraph 3.2.3 will be provided by a dedicated team.
- 3.4.3.2 Services will be provided to walk-in clients and by call basis.
- 3.4.3.3 Family Medicine Specialist role is to manage referred cases from the medical officers and other providers at the clinic and from ancillary clinics.
- 3.4.3.4 Cases may be referred to other provider within the clinic, or nearby clinic/hospital for further investigation and management.
- 3.4.3.5 After office-hour or on-call service will be provided by identified staff in rotation. Staff from other department may be involved.

3.4.4 Clinical Support Services

- 3.4.4.1 Services stated in paragraph 3.2.4 will be provided daily. After office-hour service may be provided based on local need.
- 3.4.4.2 Services will be provided based on order or prescription by medical staff in the clinic or other public healthcare facilities.
- 3.4.4.3 Services will be provided by specially trained team.
- 3.4.4.4 Referral to other department or other provider/facility in nearby clinic/hospital may be done, when necessary.

3.4.5 Environmental Health

- 3.4.5.1 Services stated in paragraph 3.2.4 will be provided based on local need.
- 3.4.5.2 Services provided following notification, report or request by medical staff, public requests or routine surveillance.
- 3.4.5.3 Public Health Physician will be referred in case of communicable disease outbreak or suspected outbreak.

3.4.6 Client and Record Flow

- 3.4.6.1 Clients will enter via the main entrance of the clinic. Adequate signs and direction will be made available.
- 3.4.6.2 All clients shall be registered before proceeds to other department/unit. Registration shall be centralised physically or virtually (with the assistance of information technology) depends on the design of the building.

- 3.4.6.3 Clients will be divided into three main categories; with appointment, without appointment and emergency.
- b) **Client with appointment** will directly go to the respective department/unit and registered accordingly.
 - c) **Client without appointment** will be screened at the triage counter **before registration**.
 - d) **Emergency cases** will directly send to the emergency unit.
- 3.4.6.4 **Walk-in** cases they will be screened at the **Triage Counter** (besides the registration/collection counter) by a trained paramedic to determine the appropriate provider and units in the clinic e.g. doctor, paramedic, laboratory or other rooms/units by putting a sticker and queue-number on their record. Certain parameters e.g. main complaints, body temperature, weight, height and blood pressure may be taken at this counter.
- 3.4.6.5 Client will take a **queue-number** using their smart-card or identity card. They will wait in the Waiting Area for registration by a **Registration/Collection Counter**. Client will be identified by the Registration/Collection counter as new or follow-up case. Retrieval of client's record will be made through the **Record Office**. This process will be computerised. The next destination for the client will be determined by the Registration/Collection counter either to the screening counter or the consultation room or other rooms/units.
- 3.4.6.6 Clients will then wait in the **sub-waiting area** in front of the respective rooms or units until they are called for consultation or other purposes.
- 3.4.6.7 All client will be called for consultation or other services by using **digital call system**.
- 3.4.6.8 Following examination and consultation by medical officers/paramedical staff, client may undergo treatment in the Procedure or Treatment Room. They may be further referred for examination, investigation or other treatment e.g. Diagnostic Imaging unit, laboratory and Rehabilitation Unit. Clients who need further management will be referred to Family Medicine Specialist or Visiting Specialist in the clinic by paramedics. Client may also be referred to other clinics or admitted to the nearest hospital.
- 3.4.6.9 After completion of examination, investigation, consultation and treatment, client will be sent to the **pharmacy** for the collection of drugs.
- 3.4.6.10 Fees and appointment for the next visit (if applicable) will be collected at the **Registration/Collection counter** before they leave the clinic.

Appointments can also be made by the each provider (if fully computerised).

3.4.6.11 For specific cases, client will be referred to the Medical Social unit once problems of payment arises.

3.4.6.12 For the disabled, they will wait with accompanying relatives at the common waiting area while the collection of drugs and payment is done by their relatives.

3.4.6.13 **Wellness Clinic**

- a) All clients may be registered at the (common) **Registration/Collection counter** before proceeding to the sub-wait of the Wellness Clinic. Upon calling they will enter the consultation/examination room for consultation and examination.
- b) Client will be referred to the (common) **Pharmacy** for medication. Payment for the treatment will be paid at the **Registration/Collection counter** before leaving.

3.4.6.14 **Oral Health Clinic**

- a) All clients may be registered at the (common) **Registration/Collection counter** before proceeding to the sub-wait of the Dental Clinic. Upon calling they will enter the Dental Operating room for consultation and examination.
- b) Client will be referred to the (common) **Pharmacy** for medication. Payment for the treatment will be paid at the **Registration/Collection counter** before leaving.

3.4.6.15 **Clinical Support Department**

Client will be directed by Registration/Collection counter, triage counter or consultation rooms to the medical laboratory, diagnostic imaging unit, nutrition and dietetic unit, rehabilitation unit etc. Clients will be informed by the registration/screening counter the designated room for examination. They will wait at the respective sub-wait prior being called in for attention.

3.4.7 **Staff Flow**

3.4.6.1 Staff will register either electronically or manually before given access to the clinic.

3.4.6.2 Uniformed staff will change into their uniform in the clinic's **Staff Changing rooms** (male and female). They will proceed to their place of work at their rooms/units).

3.4.6.3 Before returning, uniformed staff will change back into their own clothes at the Staff Changing rooms.

3.4.6.4 All staff shall register before leaving the clinic.

3.4.8 Material Flow

3.4.7.1 Sterile items: Bulk sterile items will be collected from the CSSD of the hospital and be brought and stored at the **Sterile Holding Store**. Distribution to the rooms/units or **Clean Utility** rooms shall be made on request.

3.4.7.2 Non-steril items: Non-steril medical items will be bought and kept in the dedicated cupboard in the **General Store**. Distribution to the rooms/units or **Clean Utility** rooms shall be made on request.

3.4.7.3 Non-Medical Item: Domestic, general and stationary goods will be brought from the Integrated Store of the hospital or direct purchase from the vendor to the **General Store** of the clinic. Linen will be drawn from the off site laundry and stored in linen cupboards of the General Store prior to distribution.

3.4.7.4 Pharmaceuticals: Pharmaceutical items, including vaccines, will also be brought to the **Drug Store** under the Pharmacist supervision. Drugs that require pre-packing or preparation will be made and stored in the **Drug Store**. Pharmacist/Assistant Pharmacist will bring appropriate units/package into the **pharmacy** for replenishment. Poison drugs will be kept in poison cabinets. Vaccine may then be distributed to the **Injection Room** of the Wellness Care Department. Cold Chain requirement shall strictly practised in handling vaccines.

3.4.7.5 Soiled linen will be kept in the **Dirty Utility Room** awaiting transport to the Laundry or CSSD off site.

3.4.7.6 Waste will be kept in the sorted bags according to the type of waste by the clinical staff. These bags will be collected at the **Dirty Utility Room** and sent to the **Waste Holding Area** according to types of bags. These wastes will then be collected company contracted to dispose them.

3.4.9 Supplies

3.4.8.1 Medical and Non-medical (contracted-out)

- a) 2 months supply of pharmaceutical products will be delivered by the supplier to the clinic's **Drug Store** before sending to the pharmacy.

- b) Other supplies such as stationary will be delivered from the Integrated Store or supplier on a requisition basis to the **General Store**.

3.4.8.2 Sterile Items (contracted-out)

Sterile packs will be taken from the **Sterile Holding Store** to the rooms/units on 'top-up' basis and on request. Regular supply of sterilised items to the clinic will be from the contracted company.

3.4.10 Other Services

3.4.9.1 Linen Services (contracted-out)

Linen will be supplied from the laundry off site/privatised on a 'top-up' and 'request' basis to the **General Store**.

3.4.9.2 Pottering and Transport Services

Pottering and Transport Services will be privatised.

3.4.9.3 Cleaning and Housekeeping (contracted-out)

- a) General cleaning services of the clinic will be privatised. The cleaning services will include all the various cleaning methods for the rooms/units, corridors, toilets, public areas, landscape, office, training rooms etc.
- b) The scheduled items and chemical/reagents used for the cleaning purposes will be managed according to the cleaning requirements and standards.
- c) **Cleaner's room** will be provided with equipment, detergents, etc.

3.4.9.4 Waste Disposal (contracted-out)

Dirty Utility Room for waste holding will be provided before sending waste to the Waste Holding Area for collection by the company contracted for the waste disposal.

3.4.9.5 Food & Catering

Staff will have beverage in the staff rest room during breaks. Vending machine will be provided in the main entrance of the clinic for the use of all departments.

3.4.9.6 Maintenance

- a) The maintenance services will be contracted-out. The Concession Company will be responsible for the surveillance, maintenance and repair of the buildings' engineering system, plants and medical department, maintenance of inventories and records on equipment, buildings as well as plan and service manuals of engineering maintenance.

- b) This service shall be responsible for the planned preventive and maintenance for buildings and equipment.

3.4.9.7 Security Services

The whole security services will be contracted-out including security of client, staff and clinic as a whole.

3.5 INFORMATION AND COMMUNICATION TECHNOLOGY

3.5.1 ICT concept and technology for Health Clinic is part of a network infrastructure that connects Health Offices and Health Clinics as well as Community Clinics, as being planned for the **Teleprimary Care** project.

3.5.2 The administrative **Health Office** will be the **hub** which will provide ICT service to health clinics that are connected to it. These clinics will be connected with **leased lines** to the health office. Users of the workstations will be connected to the database at the 'hub'.

3.5.3 Health offices or hubs from the same state will also be connected to each other to the main hub at the **State Health Office** to form a **wide area network**.

3.5.4 Each health clinic will be provided with adequate space for servers and telecommunication and telemedicine facilities according to level of care. Each work station within the health clinic will be connected to each other through a **local area network**.

3.5.4.1 **System**

- a) The ICT System will emphasise on clinical management, health information and health system management. The electronic medical record for each client will be developed and captured in the database.
- b) Supporting financial, human resource, pharmaceutical, lab, radiological system will be developed to facilitate integrated information utilisation for clinical decision making as well as in health system management.

3.5.4.2 **Coverage**

The system will have the following functions:

- a) Registration
- b) Appointment
- c) Triaging
- d) Queuing
- e) Microcost accounting
- f) Clinical information system
- g) Disease surveillance system
- h) Pharmaceutical information system
- i) Laboratory information system
- j) Radiological information system
- k) School health service
- l) Health Education and Information
- m) Health Statistics and report generation
- n) Human resource management system
- o) Financial management system
- p) Office automation

4. REGISTRATION/COLLECTION COUNTER, TRIAGE COUNTER AND MAIN WAITING AREA

4.1 ROLE/FUNCTION

- 4.1.1 Reception of inquiry
- 4.1.2 Registration of clients.
- 4.1.3 Tracing of records (Linkage to record office)
- 4.1.4 Screening of walk-in client
- 4.1.5 Collection of fees
- 4.1.6 Attending telephone calls
- 4.1.7 Waiting space for clients

4.2 LOCATION

The reception/registration/collection/screening area will be accessible through the main entrance. The counter should be designed and located so that the staff can easily oversee client entering the clinic and oversee the main waiting area.

4.3 ORGANISATION

- 4.3.1 Registration will be conducted by the receptionist/clerical staff.
- 4.3.2 Screening will be conducted by paramedics.

4.4 OPERATIONAL POLICIES

4.4.1. Client Circulation

Client will enter the department via the main entrance of the clinic. For walk-in cases, without appointment, they will be screened at **Triage Counter** (besides registration/collection counter) by a registration personnel to determine where the client is supposed to go, e.g. doctor, paramedic, laboratory or other rooms/units by putting a sticker and queue-number on their record. Certain parameters e.g. weight, height and blood pressure may be taken at this counter.

Client will then take a **queue-number** using their smart-card or identity card. They will wait in the Waiting Area for registration by a **Registration/Collection Counter**. Client will be identified by the Registration/Collection counter as new or follow-up case. Retrieval of client's record will be made through the **Record Office**. This process will be computerised. Destination of the record will be determined by the Registration/Collection counter i.e. screening counter, consultation room or other rooms/units based on appointments given.

Clients will then wait in the **sub-waiting area** in-front of the respective rooms or units until they are called for consultation or other purposes.

5.4.2. Clients Record

- a) Clients are registered at the reception/collection counter. The whole process of registration will be computerised.
- b) For the clients who have an appointment, medical records will be retrieved electronically. Some 'hard-copy' record e.g. x-ray film, old medical record, will be retrieved manually from the record office.
- b) Once clinic session ends, the 'hard-copy' records will be sent back to the record office while electronic record will be stored in the computer.

5.5. COMPONENTS OF REGISTRATION/COLLECTION COUNTER, MAIN WAITING AREA AND SPACE REQUIREMENTS

5.5.1. Entrance

The main entrance shall be easily accessible to client and staff. It should be comfortable to allow 10 clients in and out at any one time.

5.5.2. Registration counter

Clients will be registered here. It should accommodate at least **10 clients** at any one time. It should be built as 7 sitting and 3 standing counters.

5.5.3 Information counter

Clients' queries and calls (telephone) will be attended at the information counter. The clerical personnel will attend to all queries. Dedicated counter/space is required.

5.5.4 Collection counter

It is located besides the registration counter. After collecting medication, client will pay the fees and collect education materials, appointment, referral letters etc here. It should accommodate at least **5 clients**, at any point of time.

5.5.5 Triage counter and 'call-centre'

New cases without appointment will be attended here after registration to identify their problems or purpose of visit and which room/unit to go to. Main activities conducted here are history taking (main complaints only), and weight, height and blood pressure measurement. Manned by paramedics, it should be built for **5 clients** at one time.

5.5.6 Main Waiting Area

Client and accompanying relatives will wait before and after registration/ screening before directed to consultation rooms, lab or other attending rooms. It should accommodate at least **300 clients** (including accompanying person), at any point of time. The clients include outpatients and preventive care.

5.5.7 Lobby/Exhibition Area

This is an area where health exhibition materials will be displayed. Electronic information kiosk will also be placed here.

5.5.8 Public Toilets

Adequate Male (**10**) and Female (**10**) client's toilets will be accessible from the waiting area. 2 toilets for the disabled will also be provided (1 for adult and the other one for child).

5.5.9 Trolleys and Wheel Chairs Parking Area

It will be located near the main entrance and rehabilitation centre for patients' use. It will be able to accommodate 2 trolleys and 2 wheel chairs.

5.5.10 Shuttle Services Waiting Area

A waiting area near the Main Entrance will be provided for clients waiting to be transported to the hospital/other identified facilities.

5. HEALTH RECORD UNIT (Size and space depends on level of computerisation)

5.1 ROLE/FUNCTION

- 5.1.1. To collect, store and retrieve clients' records.
- 5.1.2. To enter diagnosis (ICD) made by doctors.
- 5.1.3. To analyse statistics and present them to the management for decision making and planning.
- 5.1.4. To co-ordinate the preparation of medical reports, quality assurance reports and issuing returns to District Health Office.

5.2 LOCATION

It will be located near the main registration area or managed for each clinic (wellness, out-patient and oral health) if the building are separated.

5.3 ORGANISATION

The medical record unit will be headed separately by primary care, wellness care and oral health department with the assistance of clerical staff.

5.4 OPERATIONAL POLICIES

- 5.4.1 It is separated because of client health to prevent cross infection from the sick to healthy client.
- 5.4.2 At the end of clinic sessions, client's records will be despatched to the record office within 24 hours.
- 5.4.3 If not fully computerised, record staff will do the ICD coding and indexing.
- 5.4.4 Statistics is generated automatically from the computer system. The record office has to submit the weekly and monthly statistics to the District Health Office. Quality Assurance data report will be prepared six-monthly or annually.
- 5.4.5 Records may be referred and issued to the doctors/clinic. The record office will keep track of the records through the computer system.
- 5.4.6 Records will not be issued to any unauthorised person or outsiders. For accountability, staff has to sign to prove that he/she is receiving/ handing the records.
- 5.4.7 The distribution of Medical Reports, Quality Assurance report and other official report will be co-ordinated by this office.

5.5 SPACE REQUIREMENT

5.5.1. Waiting area

For issuing medical records for **30** visitors at any one time.

5.5.2. Reception Counter (open concept)

For medical record assistants to carry out indexing of client records.

5.5.3. Record Officer Area

Open Concept Office for administration work.

5.5.4. Record room with record compacts for storage of medical records and x-ray films. Exhaust fan is necessary for the file room.

6. MATERNAL AND CHILD HEALTH CLINIC

6.1. ROLE/FUNCTION

- 6.1.1 Provide Promotive, Preventive, Curative and Rehabilitative health services to mothers and children (<7 years). CE rooms will be manned by either doctors, nurses or community nurses.
- 6.1.2 Each CE rooms will cater all type of clients, five days a week.
- 6.1.3 The services include maternal health, neonatal and child health, family planning and care for children with special needs.
- 6.1.4 All clients will be seen and managed by the appropriate trained health staff.
- 6.1.5 Clients who need further treatment will be referred to Family Medicine Specialist or other specialists at the hospital or admitted to the ward.
- 6.1.6 Follow-up appointment will be given to client.
- 6.1.7 Health Education for all client and accompanying persons.
- 6.1.8 All CE rooms will be adequately equipped.

6.2. LOCATION

It shall be located at the same floor of the main entrance/lobby, easily accessible from the registration/collection area AND at the 'wellness zone'. Interconnecting doors or staff corridor must connect these CE rooms.

6.3. ORGANISATION

- 6.3.1. The CE rooms staff shall be headed by the senior most medical officer.
- 6.3.2. Other staff include medical officers, nurses, community nurses and health attendants.

6.4. OPERATIONAL POLICIES

- 6.4.1 Provide promotive, preventive, curative and rehabilitative healthcare to mothers and children (<10 years). Examination, education and counselling will be done here.
- 6.4.2 Follow-up cases referred from the hospital or other clinic will be seen in CE rooms.
- 6.4.3 Clients who need specialist services will be referred to Family Medicine Specialist, Occupational Health specialist or other specialists at nearest hospital.
- 6.4.4 Clients who need admission will be referred to the nearest hospital.
- 6.4.5 Physiotherapy services will be provided by visiting physiotherapist and occupational therapist if stationed officers are not available.
- 6.4.6 Medical Social Services will be provided by medical social officer if stationed officer is not available.

6.5. SPACE REQUIREMENT

- 6.5.1 **Entrance**
Separate entrance for staff and clients.

- 6.5.2 **Waiting area and Reception Counter**
After registration and screening, clients will wait at the Main Waiting, before being called for consultation. Sub-waiting area can accommodate **250 people** at any point of time. Their presence will be addressed at the reception counter.
- 6.5.3 **Screening Room**
This room is for the Community Nurses to take past obstetrics history of newly registered pregnant mothers. This room has **2 cubicles**; each cubicle will have a working table and 3 chairs; 1 for the nurse and the rest for client and accompanying person. **One room** is needed for Type 2 clinic.
- 6.5.4 **Consultation & Examination Rooms**
Adequate number of rooms shall be provided depending on workload. Doctors and nurses shall see patients. A digital call system shall be used to call patients. Each consultation room shall be able to accommodate 4 persons and basic equipment e.g. examination couch with drawing screens, doctors' tables and chairs, x-ray illuminator and trolley. Each room should be **well ventilated to prevent cross infection**. It must be adequately sound proof.
- Number of rooms needed is based on the norms of 20 clients/room/day. On an average the Type 2 should have at least **8 rooms**.
- 6.5.5 **Injection Room**
This room has **2 couches** with drawing screens. Each area (cubicle) can accommodate at least 4 persons at any one time. **This room can be directly accessible to the public, either through the main or alternative entrance**. This room is mainly for vaccination and rehydration. Adequate and lasting worktops and built-in cabinets should be installed. This room should accommodate **2 clients** at any one time. **One room** is needed for the clinic.
- 6.5.6 **Procedure Room**
This room have operation table for performing minor surgical procedures such as pap smear, PSP, IUCD and Norplant insertion, CTG examination etc. It shall have a hand-washing facility and interconnecting doors with other CE rooms. The room can accommodate **1 clients** at any one time. Total **1 room** is needed.
- 6.5.7 **Preparation Area**
Clean trays and equipment will be prepared here. A sink for washing and cleaning-up and an autoclave area for sterilising equipment will be provided.
- 6.5.8 **Ultrasound Room**
Ultrasound will be located at one of the consultation room.
- 6.5.9 **Breast Feeding and Nappy Changing Area**
A room will be provided for mothers to breast-feed their babies. A worktop with washing facilities is required for nappy changing. This facility should be accessible from the waiting areas and near to public toilets.
- 6.5.10 **Play area**
Designed for children recreation while waiting for their examination and consultation. Must be nearby and seen directly from the main waiting area.
- 6.5.11 **Staff Corridor**
Staff corridor shall run behind all the rooms.
- 6.5.12 **Equipment Store**
For storage of medical equipment which will be shared by CE rooms.

6.5.13 **Clean Utility Room**

To keep linen and disposables before distribution to CE rooms. Appropriately near to the Preparation Area.

6.5.14 **Dirty Utility Room**

Should be near the Treatment and Procedure rooms.

6.5.15 **Matron/Sister's Room**

An office for to fit in at least 3 person at any one time with adequate space for privacy and discussion and suitable furniture to be provided.

Facilities for use of computer and networking (on-line).

6.5.16 **Cleaner's Room**

To house brooms, mops etc. use for cleaning purposes.

7. WELLNESS CLINIC

7.1. ROLE/FUNCTION

- 7.1.1 Promotive, Preventive and Rehabilitative health services to seven (7) years and above. Wellness clinic will be manned by either Public Health Physician, Medical Officers, nurses or medical assistants.
- 7.1.2 Wellness clinic will cater clients aged seven (7) years and above, five days a week.
- 7.1.3 The services include screening of risk factors, health education and promotion activities, counselling and disability prevention, routine medical examination package and training activities.
- 7.1.4 Wellness clinic activities will include active community participation in the premise or as out-reach programmes.
- 7.1.5 All clients will be seen and managed by the appropriate trained health staff.
- 7.1.6 Clients who need further treatment will be referred to Public Health Physician, Family Medicine Specialist or other specialists at the hospital or admitted to the ward.
- 7.1.7 Follow-up appointment will be given to the client.
- 7.1.8 Health Education for all clients and accompanying persons.
- 7.1.9 All rooms must be adequately equipped according to their function.

7.2. LOCATION

It shall be located at the 'wellness zone'. It may be located at the entrance or other level but shall be easily accessible from the registration/collection area. Preferably, it will be in adjacent to Maternal and Child Health Clinic. The CE rooms are to be accessible from one another by an interconnecting doors or common staff corridor.

7.3. ORGANISATION

- 7.3.1. The wellness clinic staff shall be headed by the Public Health Physician or the senior most medical officer.
- 7.3.2. Other staff includes medical officers, health education officer, dietitian/nutritionist, clinical psychologist, counsellor, medical assistants, nurses, community nurses, audio-visual technician and health attendants.

7.4. OPERATIONAL POLICIES

- 7.4.1 Provide promotive, preventive and rehabilitative healthcare to clients aged seven (7) years and above. Screening of risk factors, physical examination, education and counselling will be done here.
- 7.4.2 Follow-up cases referred from the hospital or other clinics will be seen in CE rooms.
- 7.4.3 Clients who need specialist services will be referred to Family Medicine Specialist, Occupational Health specialist or other specialists at nearest hospital where ever relevant.
- 7.4.4 Clients who need admission will be referred to the nearest MOH hospital.

- 7.4.5 Physiotherapy services will be provided by visiting physiotherapist and occupational therapist if stationed officers are not available.
- 7.4.6 Medical Social Services will be provided by medical social officer if stationed officer is not available.

7.5 SPACE REQUIREMENT

7.5.1 **Entrance**

Separate entrance for staff and clients.

7.5.2 **Reception Counter**

All clients will be received at the reception counter and registered

7.5.3 **Waiting area**

After registration of clients will wait at the Waiting Area, before being called for screening activities. Their presence will be addressed at the reception counter. Large BMI mural at the waiting area wall with weighing scale with height. The area can accommodate **50 persons** and have an exhibition area for health education e.g. placement of lighted boards and posters and a separate play area for children.

7.5.4 **Consultation & Examination Rooms**

Adequate number of rooms shall be provided depending on workload. Doctors and paramedics shall see patients. A digital call system shall be used to call patients. Each consultation room shall be able to accommodate 4 persons and basic equipment e.g. Examination couch with drawing screens, doctors' tables and chairs, x-ray illuminator and trolley. Each rooms should be well ventilated and lighting. It must be adequately sound proof.

Number of rooms needed is based on the norms of 20 clients/room/day. On an average the Type 2 should have at least **4 rooms**.

7.5.5 **Screening Room**

This room has couches with drawing screens. The room shall be able to accommodate 6 persons with basic equipment, hearing booth, eye screening area. Sound-proof audiometric box shall be installed here. For visual acuity test using Electrical Snellens chart with mirror and colour blindness test for general medical check-up.

7.5.6 **Counselling Room**

This room shall be able to accommodate **10 people** with furniture as stated in medical requirement guideline. It shall have the private and comfortable environment.

7.5.7 **Staff Corridor**

Staff corridor shall run behind screening and CE rooms.

7.5.11 **Physician's Room**

An office for to fit in at least 3 person at any one time with adequate space for privacy and discussion and suitable furniture to be provided.

Facilities for use of computer and networking (on-line).

7.5.12 **Matron/Sister's Room**

An office for to fit in at least 3 person at any one time with adequate space for privacy and discussion and suitable furniture to be provided.

Facilities for use of computer and networking (on-line).

7.5.13 **Medical Assistant In-Charge's Room**

An office for to fit in at least 3 person at any one time with adequate space for privacy and discussion and suitable furniture to be provided.

Facilities for use of computer and networking (on-line).

7.5.14 **Cleaner's Room**

To house brooms, mops etc. use for cleaning purposes.

8. OUTPATIENT CLINIC

8.1 ROLE/FUNCTION

- 8.1.1 Promotion, prevention, curative and rehabilitation services to all age group. CE rooms will be manned by either doctors or medical assistants. Each CE rooms will cater all type of clients, **five days** a week.
- 8.1.2 Services delivered will be **acute outpatient care, follow-up of chronic disease and medical conditions, care for infectious disease, routine medical examinations and home care nursing.**
- 8.1.3 All clients will be seen and managed by the appropriate trained health staff.
- 8.1.4 Clients who need further treatment will be referred to Family Medicine Specialist other specialists at the hospital or admitted to the ward.
- 8.1.5 Follow-up appointment will be given to client with chronic diseases (diabetic, hypertension).
- 8.1.6 Other services provided would include defaulter tracing, active and passive case detection, contact tracing, notification and investigation of notifiable diseases. Investigation of cases, suspects, contacts and suspected source of infection will also be done during outbreak.
- 8.1.7 Home Care Nursing is the provision of nursing care to acute, chronically ill and well clients of all ages in their homes while integrating community health nursing principles that focus on health promotion and on environmental, psychosocial, economic, cultural and personal health factors affecting an individual and families health status.

8.2 LOCATION

- 8.2.1 **Outpatient Clinic** shall be located at the same floor of the main **entrance/lobby**, and **also easily accessible from the registration/collection area.**
- 8.2.2 **The Infectious Disease Unit** shall be **nearer to the Emergency Clinic** and be connected by interconnecting door.
- 8.2.3 **The Home Care Nursing unit** may be located at the administration office area.

8.3 ORGANISATION

- 8.3.1 The CE rooms will be headed by the family medicine specialist or the senior most medical officer.
- 8.3.2 Other staff include medical officers, medical assistants, nurses, community nurses, driver and health attendants.

8.4 OPERATIONAL POLICIES

- 8.4.1 Provides preventive, curative and rehabilitative healthcare to all clients. Examination, education and counselling will be done here as part of services. Follow-up cases referred from the hospital or other clinic will be seen in CE rooms.
- 8.4.2 Patients can be walked-in or with an appointment.
- 8.4.3 Walked-in clients will be screened either by Medical Assistant or nurses at the triage counter before attending the unit.

- 8.4.4 After screening, they will be directed for further treatment/ management depends on their needs.
- 8.4.5 Cases who need specialist services will be referred to Family Medicine Specialist, Public Health Physician or other specialists at nearest hospital.
- 8.4.6 Clients who need admission will be referred to the nearest public hospital.
- 8.4.7 All chronic diseases (diabetes, hypertension, asthma and arthritis) will be followed-up by an appointment (time frame system) in order to reduce the workload as well as waiting time.
- 8.4.8 All fever cases/suspected airborne diseases should be managed at the infectious disease unit, investigated and notified. For communicable diseases, services provided include defaulter tracing, active and passive case detection, contact tracing and notification.
- 8.4.9 Home Care Nursing
- 8.4.9.1 The scope is to provide nursing care in the patient environment to facilitate healing and coping with recuperation. The target groups are the elderly who needs nursing and other care, the disabled, post-trauma patient, post-surgery patient, post-natal cases and terminal cases requiring palliative care.
- 8.4.9.2 Home Care Nursing is an alternative to an extended stay in hospital (make the transition from hospital to home as smooth as possible). Office space is needed in the clinic for the purpose of developing nursing plan, preparation and case review.

8.5 SPACE REQUIREMENT

- 8.5.1 Entrance
Easily accessible and directly connected to the main entrance.
- 8.5.2 Waiting area and Reception Counter/ Registration Counter
For outpatient cases, after registration and screening, clients will wait at the Outpatient Waiting Area, before being called for consultation. Their presence will be addressed at the reception counter. Waiting space will be able to accommodate **300 persons** and have an exhibition area for health education e.g. placement of lighted boards and posters and a separate play area for children.

Waiting area for Infectious Diseases unit will be physically separated/partitioned from other general outpatient unit. The area will be equipped with specialized ventilation system to prevent the spread of infection. Space needed is to accommodate **30 persons** at any point of time.

- 8.5.3 Consultation & Examination Rooms
Adequate number of rooms shall be provided depending on workload. Doctors and paramedics shall see patients. A digital calling system shall be used to call patients. Each consultation room should be able to accommodate 4 persons (**doctor, chaperon, accompanying person and patient**) and basic equipment e.g. examination couch with drawing screens, doctors' table and chairs, x-ray illuminator and instrument trolley.

It must be adequately sound proof and well ventilated with appropriately located air inlet and outlet to prevent cross-infection to the healthcare provider as well as accompanying person.

Number of rooms needed is based on the norms of 50 clients/room/day. On average the **16 Clinical Examination rooms including 2 for Infectious Disease** is needed.

8.5.4 Treatment Room

This room has can accommodate at least 4 person at any one time. This room is for injections, dressing, rehydration and resuscitation. Adequate and lasting worktops and built-in cabinets should be installed. **3 rooms** is needed for Type 2 clinics.

8.5.5 Procedure Room

The room shall function as procedure room for non-emergency cases. If there is emergency at any time, this room shall cater for it as well.

One procedure room will be provided for the above purpose. This room shall have **2 procedure tables** to perform minor surgery such as circumcision, incision and drainage, removal of lumps, and fine needle biopsy as well as resuscitation during emergency.

It shall have a hand-washing facility (clinical sink) and interconnecting doors with the treatment rooms and other CE rooms (Infectious Disease Unit). The room can accommodate 2 patients at any one time.

8.5.6 Infectious Disease Unit

Should be located at the ground floor, and do not cross the common waiting area. Good ventilation system, with exhaust fan and air filter system (HEPA filter) are provided to prevent spread of infection.

It should be easily accesssible from the procedure room.

2 rooms is recommended for KK Type 2.

8.5.7 Preparation Area (Clean Utility)

Clean trays and equipment will be prepared here. A sink for washing and cleaning-up and an autoclave area for sterilising equipment will be provided.

8.5.8 ECG Area

For ECG examination. It shall be able to accommodate at least 3 clients at any one time. Couches and ECG machines will be provided.

8.5.9 Eye Examination Room

For visual acuity test using Snellens chart and colour blindness test for general medical check-up. Slit lamps and digital fundus camera may be installed here (optional).

8.5.10 Ultrasound Room

Located nearby the Diagnostic Imaging Unit.

8.5.11 Speciment Taking Room

Located preferably nearby or in adjacent to the medical laboratory. It consists of 3 working table which can accommodate 3 persons each. **2 rooms** needed; for male and female each.

8.5.11 Staff Corridor

Staff corridor shall run behind all the rooms. If not possible, there should be interconnecting door in all the Clinical/Examination rooms.

8.5.12 Equipment Store

For storage of medical equipment which will be shared by CE rooms.

8.5.13 Clean Utility Room

To keep linen and disposables before distribution to CE rooms. Appropriately near to the Preparation Area.

8.5.14 **Dirty Utility Room**

Should be near the Treatment and Procedure rooms.

8.5.13 **Home Care Nursing**

This Unit required as an office that can accommodate 4 persons at one time. The room will be fully equipped with ICT and the teams should have a **special mobile vehicle** for home nursing. Room is needed in the clinic for the purpose of developing nursing plan, preparation and case review. It may be located in 'administration zone'.

8.5.14 **Family Medicine Specialist Room**

2 clinic space for to fit in at least 3 person at any one time with adequate space for privacy and discussion and suitable furniture to be provided.

Facilities for use of computer and networking (on-line). At least 6 power sockets.

8.5.15 **Matron/Sister's Room**

An office for to fit in at least 3 person at any one time with adequate space for privacy and discussion and suitable furniture to be provided.

Facilities for use of computer and networking (on-line).

8.5.16 **Medical Assistant In-Charge's Room**

An office for to fit in at least 3 person at any one time with adequate space for privacy and discussion and suitable furniture to be provided.

Facilities for use of computer and networking (on-line).

8.5.17 **Cleaner's Room**

To house brooms, mops etc. use for cleaning purposes.

9. EMERGENCY CLINIC

9.1 ROLE/FUNCTION

- 9.1.1 Services delivered will be emergency obstetrics, medical and surgical care and ambulance service.
- 9.1.2 All clients will be seen and managed by the appropriate trained health staff.
- 9.1.3 All emergency cases will be **stabilised and treated** here before being discharge or referred.
- 9.1.3 Clients who need further treatment will be referred to Family Medicine Specialist other specialists at the hospital or admitted to the ward.

9.2 LOCATION

It shall be easily and directly accessible by the public and ambulance service.

9.3 ORGANISATION

- 9.3.1 The unit shall be headed by the family medicine specialist or the senior most medical officer.
- 9.3.2. Other staff include medical officer, medical assistants, nurses, driver and health attendants.

9.4 OPERATIONAL POLICIES

- 9.4.1 Provides emergency care to all clients. Medical examination and assessment , education and counselling will be done here as part of services. Follow-up cases referred from the hospital or other clinic will be seen in CE rooms.
- 9.4.2 24-hours emergency service shall be provided in the clinic whereby staff's resident onsite provided Otherwise, the service will be given during office hours i.e 8:00 am – 5:00 pm.
- 9.4.3 Patient can be walk-in, broght-in by ambulance call, or referred by internal or external medical practitioners.
- 9.4.4 Cases identified to be treated in the emergency unit are accident cases, acute asthmatic attack and severe illness requiring resuscitation and stabilisation and obstetric emergencies.
- 9.4.5 All cases for referral will be stabilised first before transporting and referral to hospital.
- 9.4.6 For cases who need admission, will be sent to the nearest hospital by an ambulance and will be accompanied by medical assistant, nurse or doctor depending on the severity.

9.5 SPACE REQUIREMENT

- 9.5.1 **Entrance**
Separate and easily accesssible entrance for the **emergency cases** is required.
- 9.5.2 **Waiting area and Reception Counter/ Registration Counter**
All emergency cases will be wheeled directly to the emergency room. They will be attended by the medical personnel while registration is done by relative.
- 9.5.3 **Asthma bay**
This area has appropriate chairs with drawing screens. Each area (cubicle) can accommodate at least 3 person at any one time. This area can be directly accessible to the public, either through the main or alternative entrance. This area is for asthma

treatment and observation. Adequate and lasting work-tops and built-in cabinets should be installed.

This room should accommodate 2 clients at any one time (i.e. **2 cubicles**).

9.5.4 **Resuscitation Room**

One Resuscitation will be provided for the above purpose.

There shall be **two entrance** to this room i.e. direct access from the covered porch and from the clinic. **Covered ambulance porch, one way for drop off is needed at the entrance.**

This room shall have **2 procedure tables** to perform resuscitation.

It shall have a hand-washing facility (clinical sink) and interconnecting doors with the treatment rooms and other CE rooms (Infectious Unit). The room can accommodate 2 patients at any one time.

The ambulance parking space should be close to the unit.

9.5.5 **Staff Corridor**

Staff corridor shall run behind all the rooms. If not possible, there should be interconnecting door in all the Clinical/Examination rooms.

9.5.6 **Equipment Store**

For storage of medical equipment as well as clean utility.

9.5.7 **Officer In-Charge's Room**

An office for to fit in at least 3 person at any one time with adequate space for privacy and discussion and suitable furniture to be provided.

Facilities for use of computer and networking (on-line).

10. ORAL HEALTH CLINIC

10.1 ROLE / FUNCTION

The oral health clinic will provide:

- 10.1.1 Primary oral health care services for outpatient, incremental oral health care for schoolchildren, oral health care for pre-schoolchildren, ante-natal mothers, elderly and children with special needs. Services provided includes promotive, preventive, curative and rehabilitative.
- 10.1.2 Specialist oral healthcare services that is orthodontics, periodontics or restorative dentistry based on referral.
- 10.1.3 Community oral health programme which includes oral cancer screening, fluoridation of public water supplies and clinical prevention such as fissure sealant programme.
- 10.1.4 Oral health promotion activities which includes dental exhibition, health camps and campaign.

10.2 LOCATION

Its location should be easily accessible to the public and preferably within the clinical areas on the ground floor near the wellness clinic. If located on the first floor, it should be accessible by stairs, lifts & ramps which are located near the clinic so that it is user friendly especially for the ante-natal mothers, elderly and children with special needs.

10.3 ORGANISATION

A Senior Dental Officer will head the unit, which comprise of the following personnel:

- 2 dental specialists (periodontist/restorative specialist/orthodontist)
- 7 dental officers
- 5 dental nurses (inclusive of one matron and one sister)
- 5 dental technologists
- 20 dental surgery assistants
- 6 attendants
- 1 driver
- 3 office support staff.

10.4 OPERATIONAL POLICIES

- 10.4.1 It will operate during office hours and provide primary oral health care services and community-based specialist oral health care services.
- 10.4.2 Primary oral health care will be provided by the dental officers and dental nurses. Specialist oral health care will be provided by the periodontist/orthodontist/restorative specialist.
- 10.4.3 Patient who need further hospital based specialist care (oral surgery/pediatric dentistry) will be referred to the hospital dental specialist clinic.
- 10.4.4 A senior dental officer will be placed at this facility and will be responsible for the dental programmes and activities which includes the management of the unit.

10.5 SPACE REQUIREMENT

10.5.1 Reception and Waiting Area

The dental clinic will have its own reception with sitting registration counter. It should

have digital call system for patients.

It should accommodate **100-150 persons** at any one time and have an exhibition area for dental health education e.g. placement of lighted boards and posters and a separate play area for children.

It should have facilities for use of computer and networking (on-line).

The reception and sub-wait area should have at least 6 power sockets.

It should have a sub-wait area for the dental specialist clinic which can accommodate 20-30 persons at any one time.

10.5.2 **Dental Record Room**

This room is for maintenance of dental records and will be adjacent to the registration area allowing easy communication between these two rooms.

10.5.3 **Dental Operatories (Dental Surgery)**

There will be **12 dental operatories**:

- The specialist clinic will comprise of 5 (five) operatories/surgeries consisting of 2 (two) specialist surgery, 2 surgery for dental officer and one for dental nurse.
- Outpatient clinic will comprise of 7 (seven) operatories/surgeries for 5 dental officers and 2 dental nurses.

The operatory areas will be separated with ceiling high partitions between each operatory for privacy and workspace. Each room is accessible to staff through a common passage-way where the windows are located. (Please refer to Oral health Division, MOH for detail specifications of dental units).

Location of the door is to one side of the room (right side) for better flow of patient to the dental chair. There should be provision for a worktop which is seamless and scratch resistant for placement of equipment and preparation of dental materials.

One deep stainless steel sink should be provided for use by the dental surgery assistant to wash selected dental instruments e.g. mixing slab, for mixing alginate for dental impressions etc. One clinical sink for use by operator to wash hands. It should have facilities for use of computer and networking (on-line) for each surgery.

Each surgery should have at least 5 power sockets.

10.5.4 **Air Compressor Room**

To house dental compressor to cater for 12 dental units and should have sound proof facilities, good ventilation and should follow supplier's specifications.

10.5.5 **High Vacuum Suction Room**

To house high vacuum suction for 12 dental units and should have good ventilation.

10.5.6 **Sterilisation Area/Clean Utility**

This room is for sterilisation, packing layout and storage of sterilised dental instrument, distillation of water, storage of clean linen and folding of gauze.

Located adjacent to the dental surgeries and near the dirty utility room separated by wall ceiling high and should have provision for seamless, heat & chemical resistant work-top with wash basin complete with drawers and cabinets with adjustable shelves below and wall mounted cabinets above work-top.

Work-top is for placement of 7 table top autoclaves, 1 heat sealers and water distiller. At least 8 power sockets (20-30 amp).

Should be able to accommodate 4 dental surgery assistants and 2 health attendants at any one time.

10.5.7 Dirty Utility

This room is for cleaning of soiled dental instruments, washing of dental linen and should have facilities for waste disposal.

It is located immediately next to clean utility room, separated by ceiling high partition. Should have stainless steel work-top for placement of 2 ultrasonic cleaners with 2 deep stainless steel sink for washing of dental instruments.

Storage cabinets with adjustable shelves below work-top and with wall mounted cabinets above work-top.

Should have area for placement of washing machine with dryer for washing of dental linen. Should be able to accommodate 3 dental surgery assistants and 2 attendants at any one time.

At least 5 power sockets (one socket with 20-30 A)

10.5.8 Dental X-Ray Room

This room is for taking intra-oral (occlusal/periapical) x-ray for patients. Located near the dental surgeries. Walls are lead lined (or equivalent) in line with the requirements of x-ray department.

It will be equipped with a dental chair, mobile dental x-ray unit, portable lead lined partition/screen protection for personnel taking x-ray as well as the digital imaging system which includes a computer, scanner etc. A stainless steel sink for washing hands complete with working top and cabinets and drawers for storage of x-ray films, film holders etc. Facilities for use of computer and networking (on-line). At least 5 power sockets.

10.5.9 Dental Laboratory

Dental laboratory work will be carried out in this room that is preparation of dental prosthesis & appliances and compilation of daily/monthly/yearly returns using the computerised system.

Located near the dental surgery with provision of window area. Should have good exhaust system and localised fume extractor. Facilities for use of computer and networking (on-line). At least 12 power sockets (20 – 30 amp).

It will be equipped with the following:

- a) Dry Area
 - **5 dental** technologist workstations with seamless, chemical resistant, heat resistant and scratch resistant working top for dry work. (Refer specifications of Oral Health Division MOH).
 - Workbench with heavy duty, seamless working top for dry work e.g. for polymerisation, metal casting etc.
 - Storage cabinet with adjustable shelves below workbench and wall mounted cabinets above workbench.
 - Wall mounted pigeon holes for placement of denture models at various stages of completion
 - An area separated with high ceiling partition for dental technologist to compile daily/monthly returns of workload
- b) Wet Area
 - Workbench with heavy duty, seamless working top complete with 2 stainless steel deep sink for wet work at wet area e.g. deflasking, plaster work etc. Both sink should be fitted with *Plaster of Paris trap*. Wall mounted boiler for dispersing of hot water for boil-out wax for denture work at wet area and two wall mounted plaster dispenser for dispensing Plaster of Paris and dental stone.

10.5.10 Dental Equipment Maintenance Room

It will be used for testing & commissioning of dental equipment, calibration and performing testing for certificate of fitness for all dental equipment.

Located next to the dental laboratory and should be provided with the following:

- Workbench for maintenance work
- Adjustable open shelves to one side of the ceiling.

10.5.11 Dental Store Room

It will be used for the storage of dental equipment and dental materials, which have to be replenished.

Located near the dental laboratory.

Should be provided with the following:

- Adjustable open shelves to one side of the ceiling.
- Built-in cabinets with drawers and adjustable shelves up to window level
- Space for a refrigerator for storage of specific dental materials.

10.5.12 Mobile Dental Team Equipment Room

For the storage of 7 sets of mobile dental teams equipment and records which include the following:

- Mobile dental chairs
- Mobile dental units
- Mobile dental lights
- Air compressors
- Portable autoclaves
- Dental hand instrument
- Dental health equipment

Should be located at ground floor with access to outside / compound for easy transfer to vehicle.

Adequate adjustable open shelves for school treatment cards.

10.5.13 Officer in-Charge Room

An office for dental officer in-charge to fit in at least 3 person at any one time with adequate space for privacy and discussion and suitable furniture to be provided.

Facilities for use of computer and networking (on-line). At least 6 power sockets. Can be located in administrative zone/area.

10.5.14 Consultation/Specialist's Room

Two consultation rooms for the specialist and restorative dental specialist. It will be equipped with one office table with three chairs, wall mounted cabinets and two steel filling cabinets and computer and printer. At least 4 power sockets required.

10.5.14 Oral Health Promotion Room

This room is for the preparation of dental health education materials, plaster models etc., printing of materials for oral health promotion and storage of audio visual aids.

It will be equipped with the following:

- Workstation for 3 dental nurses
- Hand wash basin with mirror
- Storage cabinets with adjustable shelves below table top.
- Adequate size of table to prepare materials for oral health promotion e.g. posters, models etc.

Should be able to accommodate 5 dental nurses and 2 attendants.

Facilities for use of computer and networking (on-line).

At least 6 power sockets required.

10.5.15 **Pre school and School Mobile Dental Team Room**

This room is for dental nurses to do their daily returns and preparation of their school programme. It will be equipped with workstations for 5 dental nurses and storage cabinets with adjustable shelves. Facilities for use of computer and networking (on-line). At least 6 power sockets required.

May be located at the administrative zone.

10.5.16 **Recovery Bay**

This room is for recovery of patients after treatment especially after minor dental surgery. Located adjacent to the surgery. Suitable and adequate facilities for patient.

10.5.17 **Dental Officers' room**

This room should be equipped with workstations for 4 dental officers. Facilities for use of computer and networking (on-line). At least 6 power sockets required.

10.5.18 **Dental Sister's Room**

This room is for basic administration required for smooth running of clinical services and compilation of data / computerised HMIS. It will be equipped with:

- One office table with three chairs.
- Wall mounted cabinets and two steel filling cabinets.
- Computer and printer.

At least 4 power sockets required.

10.5.19 **Cleaner's Room**

To house brooms, mops etc. use for cleaning purposes.

11. HEALTH PROMOTION

11.1 FUNCTION

To provide health education in the form of individual/group teaching, counselling and demonstration in and outside the clinic.

11.2 LOCATION

It shall be located in adjacent to the Wellness Clinic.

11.3 ORGANISATION

Headed by a Health Education Officer, and supported by audiovisual technicians and PRA.

11.4 OPERATIONAL POLICIES

11.4.1 The health education room can be used on regular basis by outpatient, wellness or oral health clinics.

11.4.2 Health Education activities can also be arranged by central booking.

11.4.3 It can also be used for teaching purposes for the staff.

11.5 SPACE REQUIREMENT

11.5.1 Health Promotion Office

This office is run by health education officer, audiovisual technician, and PRA. They are in charge of providing information, preparing health education material, organising health education and promotional activities in the premise and in the community.

It is an office space for **3 officers**.

11.5.2 Health Education Room

This room shall be able to accommodate **20 people with classroom style** or **50 people with theatre style**, together with other electrical and information communication technology equipment such as fixed electrical screen and non-fixed furniture.

11.5.3 Resource Room

This room is meant to provide health information for public such as booklets, pamphlets, models e.g. anatomical models, food samples, safety equipment and samples of medication/equipments for certain diseases and conditions and audio-visual equipment. Room must have internet access, enough lighting and ventilation. This room should accommodate **8-10 persons** at any one time.

11.5.4 Skilled Lab

This room is meant for training clients on skills in health practices such as healthy food preparation, training on cardio pulmonary resuscitation, first aid, self help skills and other health related activities. The room should accommodate **15 persons** and equipment for training practices. Training on activities of daily living and domestic skills for psychosocial rehab of mentally ill, elderly and disabled is also been held in this room. Therefore, it requires work areas that can fit wheelchairs, large table and space to accommodate fridge, stove and kitchen utensils.

11.5.5 Preparation Room

This room is for the preparation of health education materials, plaster models etc., printing of materials for health promotion and storage of audio visual aids. It will be shared by all departments in the health clinics.

It will be equipped with the following:

- Workstation for 3 staff
- Hand wash basin with mirror
- Storage cabinets with adjustable shelves below table top.
- Adequate size of table to prepare materials for oral health promotion e.g. posters, models etc.

Facilities for use of computer and networking (on-line).

Should be able to accommodate 7 staff.

12. REHABILITATION

12.1 ROLE/FUNCTION

To provide rehabilitative services for all patients requiring rehabilitation under the Health Clinics operational area.

12.2 LOCATION

It can be located away from outpatient or wellness zone, but must be barrier free, preferably have a separate entrance for easy access by patients and be disabled friendly. Doors and corridors should accommodate for wheelchairs and stretchers.

It should be located on the ground floor and preferably have access to play ground (barrier free and incorporate therapy items e.g. footpath with handrails, wheel- through handbars 4feet x 3 feet x 1 feet, wheelchair swings 12 feet x 12 feet, special swing seats 12 x 12 feet).

12.3 ORGANISATION

Senior physiotherapist/occupational therapist will head the unit and be under the responsibility of the Officer in Charge of the Health Clinic. Unit will be manned by physiotherapist, occupational therapist, speech and language therapist, and/or nurses and assisted by health attendants.

12.4 OPERATIONAL POLICIES

12.4.1 Services provided will include physiotherapy, occupational therapy and speech and language therapy. Basic ototic services will be provided when required.

12.4.2 Services provided will cater for;

- persons with disabilities (children and adult)
- mentally ill patients
- elderly
- post trauma
- short term follow up cases e.g. pregnant mothers, acute respiratory diseases, orthopedic problems and others
- persons with chronic conditions such as chronic obstructive airway disease, chronic backache, patients with stroke and others

12.4.3 The unit will operate during office hours and cases that require further treatment will be referred to hospital. Rehab services in the home will be provided by the therapist as required.

12.4.4 Staff of rehab unit will also function as a team with other staff in the Health Clinic i.e. Medical Social Worker, Counsellor, Public Health Nurses and Medical Assistants.

12.5 SPACE REQUIREMENT

12.5.1 Reception and Waiting Area

Waiting area should be large enough for **20 persons (includes patient and carers)** at any one time and accommodate wheel chair users wheelchairs.

12.5.2 Assessment and Treatment Room

Large room to include;

- a) Area for assessment that should accommodate 6 persons at one time. It will be equipped with basic facilities for cognitive and physical assessment, couch, table and chairs.

- b) Area for treatment with 3 cubicles i.e. one for high frequency machine, one for medium and low frequency machine and one for pulmonary rehab. Treatment here will include various heat therapy, light therapy, traction and electrical stimulation.
- c) Area for splitting purposes (needs large sink) that will need to be wheelchair and stretcher assessable

12.5.3 **Pediatric Therapy Room**

For therapy in children with special needs, a separate area is required to reduce distraction. Two connecting rooms with glass panes (one way view glass panes to observe behavioural responses) for assessment and observation by the therapist/rehab team as well as to carry out therapy. Larger room to accommodate for assessment equipment and 3 person at any point of time.

12.5.4 **Psychiatric Therapy Room**

This is for group therapy of psychiatry cases. It will be equipped with a large table and chairs. It will accommodate about 10 persons at one time.

12.5.5 **Activities of Daily Living (ADL) Room**

This room will be equipped with cooking facilities, toilet and others for training of daily living activities. This room will also be used for the psychiatric cases.

12.5.6 **Skill Laboratory**

This is a therapy room with equipment such as through and other hand fraction equipment. It will accommodate 10 persons at one time.

12.5.7 **Gymnasium**

Gymnasium should be large enough to accommodate:

- a) 20 persons (including carers) at any one time;
- b) rehabilitation equipment such as :
 - shoulder wheel, 259x88mm (against the wall)
 - multi exerciser 290x1070x20 mm
 - physio/therapy balls 450- 1200mm diameter (average of 4 balls per clinic)
 - parallel walking bars 2300mm x 660mm x700 mm
 - adjustable rehabilitation corner steps 200 x 150 x960 mm
 - standing frame 1900 x 660 mm
 - walker adult and child (2 sizes) – 570 x370 x620 mm
 - wedges (multiple sizes- 4) 305x914 mm – 1422 x508 mm
 - corner seat support chairs 2 feet x 3 feet
 - mobile posture mirror – 360 x1200 mm
 - Creepster crawler 2 feet x 2 feet
 - Bubble ball bath/multisensori ball pit – 7 feet diameter

12.5.7 **Hydrotherapy**

12.5.5 **Rehab Store**

For storage of equipment and disposable items.

12.5.6 **Pantry**

Pantry for training on activities of daily living and domestic skills for psychosocial rehab of mentally ill, elderly and disabled. Requires work areas that can fit wheelchairs, large table and space to accommodate fridge, stove and kitchen utensils.

12.5.7 **Toilet**

A staff toilet will be provided. Toilet for rehabilitation training for the disabled on self care. Should be large – standard toilet for disabled that includes both toilet and bathroom.

12.5.8 **Office for staff**

One office for the officer in charge to be able to fit 3 persons at any one time. A common room as staff office for 2 other personnel.

12.5.9 **Cleaner's Room**

To house brooms, mops etc. use for cleaning purposes.

13. MEDICAL LABORATORY

13.1 ROLE/FUNCTION

To provide diagnostic laboratory support services (Level 1a upgraded) to patient.

13.2 LOCATION

It shall be located near the outpatient and maternal and child health clinics.

13.3 ORGANISATION

13.3.1 The lab will be supervised by a Medical Lab Technologists.

13.3.2 He/she will be assisted by competent Medical Lab Technologists and health attendants.

13.3.3 All lab staffs should be screened for baseline health status and to be vaccinated when appropriate.

13.4 OPERATIONAL POLICIES

13.4.1 Requests For Tests

- a) The lab will receive requests for lab tests from all CE rooms and others
- b) Clients will bring the request form to the lab where it will be registered.
- c) Specimens will be taken in the clinic specimen taking area.

13.4.2 Receiving and Registration of Specimens

Specimens will be received, registered and sorted at the lab reception counter and a unique identification number given.

13.4.3 Analysis, Validation and Reporting

- a) Specimens where appropriate will be analysed by fully automated analysers in the discipline of biochemistry, haematology and urine analysis.
- b) Verification and validation of the above activities and analysis are to be done by competent lab personnel (biochemist/medical lab technologist).
- c) Lab data will be transmitted via laboratory information system (LIS) and link to KK's information system.
- d) Reports can be accessed by the end users on-line.

13.5 SPACE REQUIREMENT

13.5.1 Reception Area

Request forms and specimens will be received and sorted at the lab reception area. There must be additional space for computers, scanners, barcode printers (electronic registration), specimen containers cabinets (under the counter to save space) and digital queue system. Able to handle **3 clients** at one time.

13.5.2 Waiting Area

The lab waiting area should be able to accommodate **50 patients** at one time.

13.5.3 Specimen collection facilities

Specimen collection facilities should be within the lab vicinity for clients convenience with adequate numbers of male and female rest-rooms; **3 each for male and female**.

13.5.4 Laboratory

- a) The laboratory space should be able to accommodate 10 staffs with a clear demarcation of 'clean' area (for clerical, post analytical and validation work) and 'dirty' area (for pre-analytical, analytical and sample buffering area).

- b) The **bench surface** should be made of solid epoxy material or its equivalent such as compact lamina – phenolic resin which is impervious to water, easy to clean and resistant to chemicals (and comply to ergonomic requirements).
- c) **Stools** should be adjustable to height with back-rest.
- d) **Fume hoods** to be fixed in specific areas to extract out noxious fumes and bad odour from samples.
- e) 24-hours **air-conditioners** to be installed for optimum performance of equipments and sample integrity.
- f) The **floor** should be made of high density vinyl to withstand heavy floor standing equipments.
- g) All samples to be processed **in Biosafety Level 2 cabinets** (all samples to be regarded as potentially hazardous).
- h) For **biosafety issues**, labs should be equipped with ‘elbow tap’, eye-wash, shower facilities, PPE and locks for all specimen and reagent refrigerators/freezers.
- i) For **biosecurity** issues, laboratory should be restricted to authorised personnel only.
- j) Labs should be equipped with adequate water-based and chemical-based **fire extinguishers**.

13.5.5 **Lab Store**

- a) For storage of consumables (in the lab area).
- b) For Storage of chemicals (in the lab area).
- c) For storage of inflammables (to be in another separate building).

13.5.6 **Dirty Utility/Disposal Room**

- a) All lab **clinical wastes** should follow ‘Clinical Guidelines’ using colour-coded bags.
- b) Washing is limited to reagent preparation glasswares only and where possible sample slides, cuvettes, tubes and containers should be disposable.

13.5.7 **Officer In-Charge Room**

Office area adjacent to the lab to fit in at least 3 person at any one time with adequate space for privacy and discussion and suitable furniture to be provided.

13.5.7 **Senior MLT’s Room**

Office area adjacent to the lab to fit in at least 3 person at any one time with adequate space for privacy and discussion and suitable furniture to be provided.

13.5.8 **Cleaner’s Room**

To house brooms, mops etc. use for cleaning purposes.

14. PHARMACY

14.1 ROLE/FUNCTION

- 14.1.1. Dispensing all pharmaceutical products to all clients.
- 14.1.2. Client counselling in the use of drugs and dissemination of drug information.
- 14.1.3. Monitoring of drug utilisation.

14.2 LOCATION

It shall be located at the end of patient's flow after which client will go home.

14.3 ORGANIZATION

The unit will be headed by a pharmacist or senior pharmacy assistant. He/she will be assisted by pharmacy assistants and health attendants.

14.4 OPERATIONAL POLICIES

- 14.4.1. It will serve client seen in all units.
- 14.4.2. Pre-packing of some drugs will be done here.
- 14.4.3. Out-patient counselling will be done in this unit.

14.5 SPACE REQUIREMENT

14.5.1 Sub-wait Area

There will be separate waiting area for clients to wait during the preparation of their prescription. Space required for **300 people** at any one time.

14.5.2 Dispensary Area

- a) It is an open concept system for dispensing counters. Adequate working space at each counter will be provided for dispensing and computer workstation.
- b) Clients will be asked to go to the dispensing counter where they will each be given a number. They will be called to receive their medicine by digital call when ready.
- c) Dispenser working behind the first or screening counter will receive prescription and check treatment prescribed. Any doubt will be clarified with the pharmacist who in turn may check with the medical officer who issue the prescription. Dispensers working behind the other counters will dispense medicine with instruction to patient. An area will be provided for the dispensers to prepare the prescription.
- d) There should be at least **8 counters**.

14.5.3 Drug Store

2 months stocks of pharmaceutical item will be held here. Supplies will be brought in by the concession company on regular basis and upon request. Certain drugs will be kept in the refrigerator. Suggested store size is at least 400 sq ft. **To be 24-hourly air-conditioned.**

14.5.4 Pre-packing Areas

Pre-packing of drugs will be done here. Separate rooms will be provided for dry drugs, internal (wet) preparations and external (wet) preparations. High tap, deep aluminium basin and 3 ft skirting tiles are needed.

a) Dry (Tablet/Capsule) Pre-packing area

For pre-packing of tablet and capsules. Equipped with suction hood for each machine to suck dust.

b) Extemporaneous and internal Pre-packing area

For reconstitutions of ready to dispense suspensions (antibiotics) and pre-packing of mixtures. Certain drug will be kept in the refrigerator.

c) Extemporaneous and external Pre-packing area

Pre-packing of lotions, ointments and creams will be done here.

14.5.5 Pharmacist Office

An office will be provided for the pharmacist or officer in-charge of the pharmacy to carry out consultation services and drug information as well as administrative work.

14.5.6 Senior Pharmacy Assistant's Room

An office will be provided for the pharmacist or officer in-charge of the pharmacy to carry out consultation services and drug information as well as administrative work.

14.5.7 Drug Counselling Room

Individual outpatient counselling will be done in this unit. Can accommodate 3 people at any time. Group counselling on drug usage will be carried out in the health education room.

14.5.6 Staff Area

An area for staff to perform paper work will be provided away from dispensing benches.

14.5.7 Cleaner's Room

To house brooms, mops etc. use for cleaning purposes.

15. DIAGNOSTIC IMAGING

15.1 ROLE/FUNCTION

- 15.1.1 Performing general radiography (x-ray examination) i.e. plain radiograph of the chest, abdomen, KUB, skull and extremities.
- 15.1.2 Maintain all diagnostic imaging modalities, including ultrasonography.
- 15.1.3 Ensuring radiation safety to the staff and client as well as the public.

15.2 LOCATION

It shall be located near the out-patient clinic.

15.3 ORGANIZATION

The unit will be headed by a senior radiographer (diagnostic). He/she will be assisted by a radiographer (diagnostic) and health attendant.

15.4 OPERATIONAL POLICIES

- 15.4.1 It will serve client seen in clinic as ordered by the doctor.
- 15.4.2 Operation during office hour only.
- 15.4.3 X-ray examination done by the radiographer (diagnostic).
- 15.4.4 X-ray film will be processed immediately and reported by the ordering doctor.
- 15.4.5 Ultrasound examination may be done by radiographer or a medical officer.
- 15.4.6 The radiographer will also monitor and maintain the machine and the store.

15.5 SPACE REQUIREMENT

- 15.5.1 **Reception**
Clients will be registered at this counter.
- 15.5.2 **Radiograph Rack**
A rack for storing of radiograph with sliding door lock, located behind the reception counter.
- 15.5.3 **Subwaiting Area**
There will be a waiting area to cater for **20 clients** with spaces to accommodate patients coming on wheelchairs and trolleys.
- 15.5.4 **X-ray Room**
A standard size room is provided for **general radiography** machine.
- 15.5.5 **Ultrasound Room or space**
A standard size room is provided for an ultrasound room or space.
- 15.5.6 **Changing Room**
The unit will provide 1 changing cubicle for the clients, accessible from the general radiography room.

15.5.7 **Dark Room**

Dark room will be provided with loading and unloading of film facilities, an automatic processor and a built-in work bench with Film Hopper. It should also provide an area for preparing and mixing processing chemicals. **To be air-conditioned 24-hours.**

15.5.8 **Control Area**

A comfortable control working area for Radiographer.

15.5.9 **Chemical Rack With Sliding Door In The Dark Room**

For storing of processing chemicals

15.5.10 **Film Rack With Sliding Door In The Dark Room**

For storage of unexposed films. **To be air-conditioned 24-hours.**

15.5.11 **Sorting and Viewing Area**

A combined sorting and viewing area will be provided for viewing of x-ray radiographs. Recording and report writing will be done here. Can accommodate at least 3 staff.

15.5.12 **Officer in-charge Room**

Office for the senior radiographer.

15.5.13 **Cleaner's Room**

To house brooms, mops etc. use for cleaning purposes.

16. ENVIRONMENTAL HEALTH

16.1 ROLE/FUNCTION

16.1.1 To provide health surveillance function e.g. disease contact tracing for the health clinic's operational area.

16.1.2 To provide environmental health surveillance function e.g. food control for the health clinic's operational area.

16.2 LOCATION

Located at the administrative zone.

16.3 ORGANISATION

The health inspector performing the function may or may not be under the responsibility of the officer-in-charge of the Health Clinic. Supporting staff are 2 PPKP's and 4 PKA's and 4 PRA's.

16.4 OPERATIONAL POLICIES

16.4.1 The health surveillance unit is required to monitor the various disease pattern captured or reported in the database of the Health Clinic.

16.4.2 The scope of this function is Disease Control for Communicable and Non-Communicable Diseases, Vector and Rodents Control and Food and Water Safety.

16.4.3 Function includes defaulter tracing (for chronic infectious diseases), ensure notification of all notifiable diseases, analysis of disease database, initiating investigation, instituting intervention and control measures, health promotion in the community and report writing.

16.4.4 The Environmental Health unit is required to monitor the environmental health status of the community.

16.4.5 The scopes of this function are Environmental Sanitation and Pollution Control, Community Water Supply, Drinking Water Quality Control and Food Quality and Safety.

16.4.6 Function includes premise inspection, food and water sampling, plan, built and monitor safe community water supply and hygienic waste disposal, update and analysis of community and environment database, health promotion in the community and report writing.

16.5 SPACE REQUIREMENT

16.5.1 Environmental Health Room

A common office shall be made available for both health inspective and environmental health. Within the unit itself, each PPKP shall have their own office cubicle and ICT facilities. Open space for 4 PKA is to be provided. It is used for office work, discussion/meeting with clients/staff and preparation of education material.

16.5.2 Store

a. Environmental Health Store

This store shall place for material for

- Surveillance purpose for e.g (refer store brief)
- Vector unit equipment e.g. mosquito net, fogging machine

Heavy-duty open racks of should be provided for storage.

- b. Health Education Store
This store shall be provided dedicated for storage of Health Education for promotion materials purposes e.g posters, boards, etc.

17. INFORMATION TECHNOLOGY

17.1 ROLE/FUNCTION

- 17.1.1 To connect each work station within the clinic to the main database.
- 17.1.2 To facilitate data collection, data mining and information generation through an integrated health information system.
- 17.1.3 To facilitate clinical decision making as well as support health management system.
- 17.1.4 To provide realtime data on performance both on workload and on efficient use of resources.
- 17.1.5 To facilitate telecommunications and telemedicine of health providers.

17.2 LOCATION OF IT ROOM

- 17.2.1 A small room will be provided to locate servers and telecommunication facilities. It will be air-conditioned or placed in cool area, preferable low-dust area.

17.3 ORGANISATION

- 17.3.1 The IT services will be under the responsibility of the Family Medicine Specialist who will delegate it to the most appropriate trained officers in IT management and maintenance.
- 17.3.2 The Record Office will be made responsible for maintenance and utilisation of data and records.

17.4 OPERATIONAL POLICIES

- 17.4.1 It is a centralised system that collects all electronic medical records on realtime. All clients EMR will be kept in the database.
- 17.4.2 Policy on access to individual client's data will be adopted from the new 'National Telehealth Policy' that will be developed soon.
- 17.4.3 Statistic for HMIS or QA is generated automatically from the computer system. Aggregated records are accessible to the district health office and state health office.
- 17.4.4 All providers will be authorised to given level of access to 'identified' groups of data and not all data and information. FMS will be responsible to ensure security of data and access.
- 17.4.5 Data and information will not be issued to any unauthorised person or outsiders. No commercialisation of data is allowed.
- 17.4.6 Only qualified health professional can undertake and deliver telemedicine assisted healthcare.
- 17.4.7 Clients will be made accessible to health information and education. A person will be made in charge to answer any queries if any by clients. The state or district health office must preapprove the contents before putting on the web page.
- 17.4.8 Practice guidelines or management protocols will be constructed into the system.
- 17.4.9 Data and information may be used to facilitate research by authorised personnel.

16.5 SPACE REQUIREMENT

A room to fit in servers, telecommunications facilities and a table top for working area for 4 persons at any one time.

18. ADMINISTRATION AREA

18.1 ROLE/FUNCTION

- 18.1.1 Overall management of the clinics.
- 18.1.2 Human resource management.
- 18.1.3 Management of finance including revenue collection.
- 18.1.4 Social service.
- 18.1.4 Management and control of stocks.
- 18.1.5 Co-ordinate the training programme for the staff.
- 18.1.6 Co-ordinate the use common rooms.

18.2 LOCATION

The administration office may be located away from the CE areas but easily accessible e.g. walking distance, via elevator etc.

18.3 ORGANISATION

- 18.3.1 The officers-in-charge (Medical Officer in-Charge) will be the overall manager of the clinic.
- 18.3.2 For day to day operation, he/she will be assisted by sister/matron-in-charge, medical assistant-in-charge, specialists, senior clerks, clerks and other clerical staff.

18.4 SPACE REQUIREMENT

- 18.4.1 **Officer-In-Charge Office**
An office for officer-in-charge of the health clinic will be provided in this area.
- 18.4.2 **General Office Area**
Common office will be provided for the administrative staffs with an open office concept. It will provide office space for **2 administrative staff** and **4 clinical staff** (from any clinic/unit) and for printing works. A pantry will be provided in adjacent to the general office.
- 18.4.3 **File Room**
To keep administrative files. Exhaust fan is required.
- 18.4.4 **AVA Store**
To keep AVA equipment e.g. overhead projector, LCD projector, slide projector/maker and audio-video sets.
- 18.4.5 **Stationary Store**
To keep stationary stock.
- 18.4.6 **Visitors Area**
A visitors area for 4 persons should be made available in the office.
- 18.4.7 **Meeting Room**
A meeting room will be provided to accommodate a minimum of **30 people**.
- 18.4.8 **Seminar Room**
A theatriette to accommodate a minimum of 40 people.
- 18.4.9 **School Health Room**
An office-cum-clinic area for the staff running the School Health Service and school children examination will be provided. It can be located near the office area.

This area will accommodate **4 staff** with office furniture and one examination space equipped with examination couch and trolley.

19.4.10 **Home Care Nursing Room**

The room is an office and preparation room for home care nursing that accommodate facilities for washing, storage and preparation of trays and dressing sets on returning to the office. Tabletop sterilising facilities will be provided. The room is to accommodate at least **3 staff**.

19.4.11 **Medical Social Unit**

a) **Sub-wait Area**

A sub-wait area will be provided for clients before attended by Medical Social Officer and/or Counsellor. It should accommodate minimum of 8 clients at any time.

b) **Reception counter**

The presence of clients will be addressed here.

c) **Medical Social Room**

Office-cum-clinic for Medical Social Officer. Advice and counselling may be conducted here.

d) **Counsellor's Room**

Office-cum-clinic for the counsellor or clinical psychologist. Individual counselling will be conducted here.

e) **Counselling Room**

Counselling room for scheduled individual counselling conducted either by the doctors, nurses, medical assistants, health inspectors, counsellor etc.

19.4.12 **Nutritionist Office**

Office-cum-clinic for the nutritionist or dietitian. Individual counselling may be conducted here.

20. COMMON STAFF FACILITIES

20.1 STAFF CHANGE ROOM

Male and female staff changing rooms will be provided to cater the whole health clinic staff. It should have lockers for the staff to keep their personal items. Toilets attached.

20.2 STAFF TOILETS

Staff toilets for male and female staff will be located at strategic places e.g. one at each level. Water hoses to be fixed in each cabinet.

20.3 SOLAT ROOM

Prayer rooms will be provided centrally for male and female staffs and client of the health clinic. Each room shall accommodate 10 people. Ablution room will be provided for each prayer room. It should be located near the staff toilet.

20.4 LIBRARY

Staff library room of medical and nursing books, journals, newsletter, reports etc.

20.5 STAFF REST

A common male and female staff rest area at strategic area i.e. one at each level. Storage space as lockers for staff belongings be attached. It should accommodate 15 staff at any one time. 2 rooms needed; for male and female each.

20.6 STAFF COMPUTER FACILITIES

Each working stationed staff will be provided with computer workstation. Computers should be located that will allow good interactions between staff and clients.

20.7 DRIVERS WAITING ROOM

A common room for drivers while waiting for call.

20.8 STAFF PARKING AREAS

For clinic staffs to park their vehicles. It shall accommodate 20 staff.

20.9 AMBULANCE PARKING

Covered parking spaces will be provided for the clinic ambulance IN ADJACENT TO THE Emergency Clinic.

20.10 CLINIC VEHICLE PARKING

Covered parking spaces for 5 other clinic vehicles will be provided.

20.11 CRECHE (For clinic without staff quarters)

21. PUBLIC AMENITIES

21.1 VENDING MACHINES

Vending machines will be provided at all strategic locations.

21.2 PLAYGROUND/PLAYAREA

A fenced play area shall be located just outside the clinic waiting areas. An entrance will be provided from the waiting area to the playground. Playground shall be located just outside the Occupational Therapy Unit (Rehabilitation) for easy access of paediatric cases.

21.3 PARKING SPACES

Sufficient public parking spaces will be provided in the basement area with elevators for handicapped drivers.

21.4 ELEVATORS

Wide elevators which can accommodate stretchers will be provided for patients and staffs if more than a storey.

21.5 CANTEEN

Pre-packed food and beverages may be served in the canteen for the public.

21.6 THERAPEUTIC GARDEN

Suitable gardens and landscape for the young, old and mentally ill clients.

21.7 BUS STOP

Covered bus stop for the public may be placed outside the clinic compound.

21.8 PUBLIC PHONE STATION

Station for public phone should be located in strategic area for public use.

22. STORES

22.1 GENERAL AND STERILE HOLDING STORE

For storage of equipment, domestic goods and stationary as well as linen for the whole Health Clinic. A Sterile Holding area can be partitioned in the same store. Appropriate compartments to be made available in the store.

22.2 DRUG STORE

A drug store will be made available near the dispensaries. There should be adequate shelves for storage of drugs.

22.3 BULK STORE

To store bulky material such as medicine bottles and labels and display boards. Minimum suggested size is 160 sq ft.

22.4 CONDEMNED MATERIAL STORE

To store materials and equipment before being condemned.

22.5 INFLAMMABLE STORE

The store must be located away from the main building, for storing several months stock of inflammable materials e.g. spirit, liquid paraffin. Suggested size is 120 sq ft.

22.6 BAKAS STORE

To store material for BAKAS activities, only needed in rural areas.

22.7 DENTAL MOBILE UNIT STORE

To store Dental Mobile Team equipment such as mobile dental chair and surgical equipment.

22.8 CLEANERS ROOMS

This room will provide sufficient space for the storage of cleaning materials and equipment. It will be placed at strategic location eg. each level of the multi-storey building.

22.9 CLEAN UTILITY ROOMS

This room will provide sufficient space for the storage of clean/sterilised linen and disposables. It will be placed at strategic location eg. each level of the multi-storey building.

22.10 DIRTY UTILITY ROOMS

This room will provide sufficient space for the collection of dirty linen and equipment and clinical waste before being washed, sterilised or disposed. It will be placed at strategic location eg. each level of the multi-storey building.

22.11 ASHING AREA

Room for washing soiled linen. Can be part of dirty utility room.

22.12 CLINICAL WASTE HOLDING ROOM

Area for holding of clinical waste before being disposed. Will be manned by concession company.

22.13 WASTE HOLDING AREA

Areas for holding of domestic waste will be provided and this will be manned by the concession company.

23. GENERAL PLANNING CONCEPT

- 23.1 In all clinics, the availability of services could be on flexible basis, to be **in-step with need, population growth etc.**
- 23.2 The design of this clinic could therefore be on a '**modular concept**' i.e. able to be upgraded to the higher level when needed.
- 23.3 The design shall also be environmental and disabled-friendly. Therefore, the design for rural and urban/sub-urban area may be different.
- 23.4 **Land space** being of premium in major focus, the facility should have the flexibility to be multi-storeyed. **Lifts** should be provided if they are multi-storeyed.
- 23.5 Energy saving strategies shall be build-in into the design of the clinic. Natural ventilation and lighting, as well as green landscaping shall be used optimally. Non-clinical area may not be air-conditioned, if suitable.
- 23.6 Several services will be contracted-out e.g. laundry, cleaning, security, waste disposal and maintenance services.
- 23.7 A **security station** will be provided for 24 hours security.
- 23.8 The layout of the clinic shall ensure an efficient workflow and flexibility for future growth and function:
- 23.8.1 The **registration area** will be easily visible and accessible from the entrance. Accessibility to waiting areas too should be easy. Receptionists shall be able to see waiting clients and should have maximum view of the entrance to consultation/examination rooms. Waiting areas of the individual consultation/ examination rooms will be easily accessible for the patients.
- 23.8.2 The **Emergency Unit** shall be directly and easily accessible to the public and their vehicle.
- 23.8.3 **Public toilets** will be close to the waiting area. There will be provision for a toilet for the disabled. Staff toilets will be available in all zones (Wellness, Maternal and Child Health, Outpatient, Oral Health, Clinical Support and Administrative).
- 23.8.4 **Central Medical Records** room will be adjacent to the Reception/Registration Area allowing easy communication between these two rooms.
- 23.8.5 The **basic concept of the Health Clinic** design is the provision of standard Consultation/Examination Rooms. The layout of these rooms will ensure maximum privacy and safety, especially when door is opened

as well as interconnecting passage for staff use. Ventilation and air-flow shall be ensured to prevent cross-infection.

- 23.8.6 The **Treatment and Procedure rooms** shall be easily accessible to the public (via main or special entry) and best positioned between the Clean and Dirty Utility Rooms with free access for staff. This measure will also to ensure a clear flow of clean and soiled items.
- 23.8.7 The **Health Education facilities** may be located away from the main Consultation/Examination Area but preferably nearby the Maternal and Child Health and Wellness clinic.
- 23.8.8 The **components of the Medical Laboratory** will be grouped together and should have its own waiting area.
- 23.8.9 The **Rehabilitation** shall be located close to an entrance for easy access of handicapped and disabled patients with wheelchairs and also for family to unload patient from their vehicle. It will have its own waiting area, and located in the Wellness Zone.
- 23.8.10 **Waiting Area of the Pharmacy** will be clearly segregated from the Main Waiting Area and waiting area of the CE rooms.
- 23.8.11 Within the clinic, **natural light** is desirable in waiting, working and staff rest areas. To achieve adequate privacy for staff, the Staff Rest Rooms will be sited away from the patient and waiting areas.
- 23.8.12 The **Oral Health Clinic** as well as Rehabilitation Area will be separated from the CE rooms with its regular flow of patients. The individual Reception Counter should face the Waiting Area and the receptionist should be able to see all incoming and outgoing patients.
- 23.8.13 **Outdoor Play Area** will be accessible for all children accompanying clients and rehabilitative clients.
- 23.8.14 Visitors, staff, supply/disposal entrance and exit shall be able to be controlled.
- 23.8.15 Security to the centre will be devised to enable staff to work after normal office hours and clinics to be opened to public for Health Promotion activities after working hours.
- 23.8.16 **Materials and Supplies** flow will not interfere with the patients flow. It should have separate entrance to the various units.