NATIONAL DEPARTMENT OF HEALTH

ORAL HEALTH SERVICES

MINIMUM STANDARDS MANUAL

FIRST EDITION NOVEMBER 2007

- OHS- KEEPS YOU SMILING

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BACKGROUND:

Oral Health Service was incorporated into the National Health Service in 1958. Since then it had been operating without any form of standardized guidelines. The standards for oral health services contains standardized processes, procedures and protocols for control of the qualitative and quantitative assessment and certification of the environment, facilities, building and room specifications, manpower, equipment, instruments, materials, drugs and accessories required to provide a safe, effective and efficient services at each level of the service required for the organization.

The initial writing up workshop of the minimum standards manual was held in the early 2000 when the first prepared document was presented. It was not reviewed and did not adequately cover the specific contents of the requirements for the oral health services. This reviewed document done was based on the annotated version of the Hospital Standards and translated to the oral health service and was presented at the second workshop in Madang in 2006.

The standards manual is designed in a way to provide guidelines and control measures in the Administration, management and coordination of the Oral Health Services in Papua New Guinea. It guides us into the qualitative and quantitative strength of the services delivery system by indicating the Staff, equipment and supplies that is required to provide a safe and secure quality patient care services. However, it does not give us policy direction as to how many Oral Health Facilities should we have in a given environment and population.

The other aspect is the qualitative assessment criteria by which the types, qualifications and certification requirements for the manpower, equipment and supplies we use in the delivery of safe and quality patient care services. The other component is the outcome standards which guides us to prioritize the types of patient care treatment and management procedures that is cost effective in the sense of minimum input for maximum outcome.

This Minimum Standards Manual is a mile stone for the policy direction in the Establishment, Development and Progess of the Oral Health Profession in Papua New Guinea. I would like to acknowledge and dedicate this piece of Document to the Doctors, Therapists, Technicians and Surgery Assistants who had and are providing the best possible quality of services to the people of this country.

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Director Curative Health Services
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Mr Rob Akers, HSIP who facilitated the review workshop of this document in 2006. The final re-organization of the Standards document was done by Dr Mathew Fallan and Dr Bais Gwale and the computer works by Mrs. Josephine Malo and Mrs. Elva Suangaina.

The sponsor of this Document was by the Health Sector Improvement Program (HSIP) of AUSAID in Partnership with the National Health Department.

I would like to acknowledge my family for the support and encouragement they gave me in writing up of the annotated part of this Minimum Standards for the Oral Health Services in Papua New Guinea.

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MINIMUM STANDARDS FOR HOSPITALS AND RURAL HEALTH CENTERS:

1. INTRODUCTION:

Oral Health is a specialized service in medical practice concerned with health, diseases, deformities and injuries of the oral cavity, the jaws and the surrounding structures of the face. It is an integral part of total health. It has the primary health of promotive and preventive, and the secondary health or curative and rehabilitative programs.

Oral Health Service (OHS) is provided in all the government hospitals and few rural hospitals and major district health centers, some sub- health centers and day clinics or aid-posts. Services are also provided by private organizations or agencies including the various church denominations, some private companies, the defense force and few private doctors.

Most government and church operated rural health facilities do not have the oral health service component incorporated into their health services delivery system. The adverse effect of this situation is clearly seen in the oral health service facility to population ratio which is estimated at 1: 500,000 as at 2006. This ratio is dangerously very low to meet the minimum standard of oral health service.

The managers of the oral health service primary aim now is to guide the health Administrators at all levels of the health services to evaluate the present situations regarding the role and values of oral health services. There is a lack of understanding in the minds of the present policy makers, planners and designers for both the Government and the Churches operated rural based facilities on the role, values and functions of the oral health services in the country.

The administrative organizational structure is to be reviewed and restructured so that management and service delivery system is controlled by the appropriately qualified dental officers so that there is better establishment of Interrelationship and coordination of OHS with the General Health in achieving a better outcome.

There must be a mission statement for the OHS to define, demonstrate and express its values and believes as a profession with a very clear policy direction in its goals, objectives and strategies by which statement is translated into the policy framework of the administration that shall express the professional duties and responsibilities of the organization.

The OHS minimum standards shall form the guidelines in the planning of the manpower needs, the development of the facilities and, the organization and improvement of the services delivery system. There shall be specifically formulated procedure framework with the schedule of services defined by its standards which will see that it shall be cost effective in the administration, management and patient services procedures.

The present system of services delivery is centered at the curative care program which requires a more expensive curative restoration and maintenance procedures both at the

hospitals and rural health centers. There is lack of concern and efforts for the primary oral health care programs of promotive, preventive and curative procedures which is more effective, affordable and sustainable.

These core programs could not be effectively carried out due to continuous changes in the administrative organization of the chain of command and channel of communication contributing to an in-effective management processes in decision making and funding which is mainly done by managers who are not appropriately qualified and are placed at all levels of the administration.

2. POLICIES AND PRIORITIES OF THE SERVICE:

(Objectives of the National Health Plan 2001- 2010):

2.1. To reduce the Incidence of oral and dental diseases through more consolidated and concentrated efforts placed on the health promotion and awareness, and the preventive and curative primary school services programs.

2.2. To strengthen, develop and improve the facilities of the institutions that incorporates OHS component like the Government, churches and private organizations and individuals.

2.3 To develop and increase the manpower resource of oral health services by re-introduction of the Dental officer and Dental technician training at the Dental medical school.

2.4 To ensure the employment of at least one dental officer and one dental technician in each of the nineteen (19) provincial hospitals to provide fair distribution of resources and services in the country.

2.5 To re-establish, update and consolidate on the information system database by integrating the OHS Policies and Minimum Standards, the procedure manual and the dental pharmaceutical catalogue so that a more comprehensive range of information is made available for the internal and external needs.

2.6 To re-introduce, update and improve on the Epidemiological data base through effective collection of clinical performance reports, research and surveys reports on oral health and diseases of the community.

3.0. MINIMUM STANDARDS FOR THE ORAL HEALTH SERVICES:

- The following standards are acceptable minimum requirements to provide good management and safe patient care practices. The standards are presented in two parts, the general administrative and management, and the clinical management and patient Care standards.

- ❖ These standards shall be applied according to the respective level of the facility determined by its manpower capacities, the level of their competencies, and complexity of technologies and supplies used in the management and clinical procedures.

- ❖ Minimum standard procedures applied for the management and patient care system for the hospitals and rural health facilities are basically the same types of procedures with the exception being that the minimum standards for the hospital based secondary health services shall require the more sophisticated resources for patient care procedures.

3.1.0 GENERAL ADMINISTRATIVE STANDARDS:

LEADERSHIP AND MANAGEMENT OF ORAL HEALTH SERVCIES:

3.1.1 STANDARD 1

- ❖ **ORAL HEALTH SERVICES IS EFFECTIVELY MANAGED IN ACCORDANCE WITH ITS PRINCIPLES AND VALUES:**

- ➢ There are two very significant areas of administration and management decision making that affects the normal functions of the OHS which are;

    - The hospital based curative patient care and management services come directly under the Director Medical Services (DMS) who is the overall head of all clinical specialties of patient care services in the hospital including the out reach service to the rural hospitals and health centers.

    - OHS component in the rural areas is administered by the provincial health management under the Provincial Government which is mainly managed by the Health Extension Officers and Health Inspectors.

    - In both situations important decision making for the budget preparation and funding of the operations of OHS is determined by managers not appropriately qualified and lacks proper consultation to support the administration and managements functions.

- ➢ These different levels of management and patient care services are controlled by different Acts should be changed and amalgamated into a single Act to bring about a more effective and efficient services with minimal differences in the sophistication and complexity of the procedures used to provide services at various levels of the oral health facilities.

- ➢ There is a lack of professional management capacity, logistical and resources due to important decision making on technical areas is being made by inappropriately qualified managers that is contributing to the deteriorating state of oral health services in both the Hospital and the rural health center services.

- ➢ The current organizational structure with two separate administrative arrangements in the provinces is an impediment to smooth delivery of OHS in the hospital and the rural

health facilities because it does not clearly demonstrate the chain of command and channel of communication in the management of OHS.

- Oral health services management committee in the Province is to be formed which shall be the advisory body headed by the Senior Specialist Dental Officer (SSDO) who shall be the administrative head of the oral health services in the province and should be placed in the hospital. The leadership responsibility shall be delegated to a junior officer and the senior therapist in his/her absence.

- A senior dental therapist must be clinically competent and shall be responsible for the administration and the management of the district oral health services.

- Expatriate doctors, therapists, technicians and assistants entering and wanting to practice in the country are required to comply with the established standards for recruitment, accreditation and registration and not using the churches as the passport.

3.1.2. STANDARD 2

- **THEFORMATIONOFTHEORALHEALTHSERVICESTANDARDS COMMITTEE OF PNG:**

- OHS standards committee shall be the body tasked to take on the administration and management and patient care procedural standards consisting of oral health information system to enhance patient care through standardized OHS information technology.

- Suggested committee membership should be representatives from the following services delivery areas;

    - Human resource training institution-Dental training University of PNG,
    - Field services director for dental medical equipment and pharmaceutical supplies.
    - Field services director for oral/dental medical research, monitoring and evaluation
    - Field services director clinical oral/dental practice and standards
    - Field services director for health promotion and preventive services
    - Chair person- Advisor oral health services of PNG

- The mission of the committee is to promote patient care and oral health through the application of information to dentistry's clinical and administrative functions.

- It would be the basis for the development of oral health information structural framework required to provide seamless data transfer throughout all facets of OHS in order to offer significant benefits to all users.

- The committee shall see that benefits are for both the patients and OH workers;

- Reduce the costs of future office and clinical technology through the standards development and promotion.
- Provide oral health workers with the technological knowledge and necessary criteria for evaluating equipment, instruments, medicines and materials.
- Improve results through enhance device capabilities and operability of the equipment.

➢ Goals of the mission are to promote patient care and oral health by;

- Determine the features of oral health delivery systems for comparison and evaluation of different dental practitioners.
- In-corporate OHS requirements within the larger health care in the community.
- Design a patient oral health record that coordinate with other records.
- Represent and promote the interest of dental education and research in the informatics environment.

➢ The committee shall be empowered to take the responsibility to dedicate to different facets of OHS which are;

➢ **OHS management system:**

- Identify the different types of practice management system in use.
- Provide guidelines for creating standards for interoperability among those systems.
- Guidelines should include evaluation of the administrative scheduling and clinical information system and user training and support.

➢ **Diagnostic and other clinical support devises for disease diagnosis.**

- It involves the technological applications and the interactions between human operators and electronic devises like x-rays, cameras, periodontal probes, pulp testers etc.
- Electronic data interchange where methods of communication is by using text and images from Internet system database from various locations both within the country and abroad.

➢ **Computer based patient care record keeping;**

- Designed to develop standards for patient health records and information.
- Enrich patient health and care delivery information among various Professionals.

➢ **Oral health Education and Research:**

- Provides information for education and research to be used for training and educational references and records.

3.1.3 STANDARD 3

❖ **THE CODE OF PROFESSIONAL CONDUCT AND ETHICS:**

Recommend using these existing Guiding Principles

**Public Service General Orders*

**Hospital Board Standing Orders*

**Hippocrates Oaths and affirmation*

** PNG Nursing Council Requirements*

PNG Medical Board Requirements

- *Annual Registration*
- *Medical Check up before Registration*
- *Registration of competency before registration*

➢ There are standards on the rules and regulations that control a person in an institution or organization.

➢ Recommended standard code of ethics and their guiding documents for the oral health services staff are;

- Public services general standing orders for all public servants.
- Medical Board code of Ethics for doctors, health extension officers, dental therapists and technicians and support staff including pathology, x-ray and pharmacy technicians.
- Hospital Boards standing orders and bylaws for all staff working in a hospital.
- Hippocrates oaths and affirmations.
- The dental community health workers, aid post orderlies and nurse aids are nurses who are registered and are covered by the PNG nursing council.
- Professional integrity and confidentiality must be adhered to and comply with at all times by all categories of staff.

3.1.4. STANDARD 4

❖ MEDICO-LEGAL INFORMATION REQUIREMENTS:

➢ Confidentiality of the patient information is preserved and any access to the patient care records and information is strictly restricted to relevant professional and statutory requirements only.

- Where dissemination of patient information is required, it shall be restricted to only those people who need to know like doctors, nurses and support services' staff.
- Statutory notifications of any vital findings are reported to the appropriate authorities within required time frames like infectious diseases to the national health department
- The release of information relating to a patient shall be done at the request of the law enforcing agency and not to any other persons.

3.1.5. STANDARD 5:

❖ **STANDARDS ON IMPROVING PERFORMANCE:**

The Principle Guidelines available include
Duty statement covers qualifications, job descriptions or specifications of each category and level of staff.
Daily, monthly and annual treatment records
Staff performance appraisal is done 6 monthly.
Stock and inventory records

➢ Improving Performance can only be seen as a real situation when there is true sense of belonging and ownership of the business. This ownership creates the sense of responsibility and to belief in it throughout the facility of the organization. This concept is not in existence for the oral health profession in this country as it is administered and managed by far the medical and paramedical managers at the executive levels .

➢ There must be committed and dedicated leadership, with clear policy guidelines that is adequately supported with resources to look at the operations of the facility.

➢ The available Performance Improvement Methods that can be used to monitor and evaluate are by;

- Monitor, assess, analyze and evaluate the activities of the facility on a regular basis and take appropriate actions on any deficiencies that are encountered.

- Provide reports based on statistical data to higher authorities and seek for appropriate remedial actions.

- Quality of activities includes at least.
  - Outcome indicator
  - Internal and external customers' feed back

- Quality control and assurance
- Internal sections, external reviews and surveys.

- Facility shows signs of Improvement in achieving high level of performances from quality activities.
- Assessment points for achievement or constraints causing no progress or failure in service delivery.
- Confidence of both staff members and patients is protected in quality activity documentation.
- All statistics and reports are to be kept as professional secrecy and confidentiality.

- Monitoring and Evaluation program should have quality control and assurance strategies and activities in place.
- Appointment of appropriately trained staff in each category and with adequate numbers.

➢ Job descriptions and specifications for each staff are well defined and adequate training is provided.
➢ Policy on regular and routine maintenance of biomedical equipment, other equipment, instruments and physical environment such as the clinic building.

➢ Statistics and records on accounts of budgetary support and resource inputs into the administration and functions of the services.

➢ Daily, monthly and annual reports of performances and statistics are correctly compiled and stored for reference.

➢ Establishment of management committee for equal participation in management decision-making in the facility.

➢ Weekly grand rounds and sectional audits on morbidity issues.

➢ Staff performance appraisal done every six (6) months.

➢ Patient waiting time is minimal as possible by half an hour (30 minutes) for most simple cases.
➢ Keep stock and inventory records of all consumables and non-consumables with up dates quarterly.
➢ Health promotion and prevention activities disseminated are recorded and data kept as annual statistical data.

4.0 ORAL HEALTH INFORMATION SYSTEM:

❖ OHS shall have a centralized information system or database.

4.1. ORAL HEALTH INFORMATION TECHNOLOGY:

STANDARD 6

- **Computers shall now be used to Collect and Use the Information System to improve the services' capabilities.**

- Oral health service shall establish an integrated information system database to GATHER, STORE AND ANALYSE INFORMATION AND TO COMMUNICATE.

- There shall be a plan for the use of computer and available communication network within the hospital and have access to the national department and outside the country.

- This plan shall incorporate all available statistical data, performances and research reports from the Hospitals, the rural health services and the national information database with a view of linking up with the International communications networks.

- This incorporated information system shall enable the service to collect, analyze and publish relevant information effectively and should enter into the internet and email services.

- An information technology services should cover the use of licensed and standardized software versions, copies of data are kept separate from the main system on a back up disc or tap and access by unauthorized persons should be protected by the use of a pass word

4.2. MANAGEMENT INFORMATION SYSTEMS MEET THE ORAL HEALTH SERVICES INTERNAL AND EXTERNAL NEEDS:

- OHS must have a plan to identify the services management and patient care information system needs.

- A coordinated approach is then taken to improve and develop the information system by collecting and collating required data and compiled for use within and outside the service.

- The management information system database should be routinely monitored, evaluated and improved to meet the needs of the service.

- The management and patient care information system database forms the basis for collecting and collating, analyze and store of all forms of reports and statistics for education and scientific research in the country and abroad.

4.3 STANDARD 7

- **REPORTS AND STATISTICAL DATA FOR PATIENT CARE, MANAGEMENT OF SERVICES, EDUCATION AND RESEARCH ARE FACILITATED BY THE TIMELY COLLECTION AND ANALYSIS:**

- Data collection is done in a timely manner like daily, monthly and annually so that the information could be used for the planning and delivery of patient care and management of services.

- Clinic shall keep a daily attendance record for all patients for consultation, treatment and referrals.
- Treatment and management records of the patient are kept in the patient's clinic book and also the daily records sheet for each operator.
- Every patient shall have a unique number for identification and reference for all personal medical records.
- Records of patient's clinical and management of care is to be in a clearly and accurately written information form consist of general medical history, clinical charts, prescription for drugs, diagnostic radio graphical images/films and pathology reports and treatment procedures provided.
- Oral health workers are required to document accurately all clinical records in detail in the clinic book, and all entries are legible, dated and signed with designation.
- Reporting System shall have a standard format for daily record of attendance, the treatment types provided and fees collected and each staff is to enter in his/her daily record of treatment sheet.
- Monthly performance report for each staff is required based on the daily records of treatment and attendance of which the original copy of the report is sent to the national department and a coupon copy is kept for the provincial information database.
- All clinical and management records, discharge summaries and/or medical reports of which duplicate copies are kept securely and safely in the clinic database.
- Consent shall be obtained from the patient and if the patient is unable to provide his/her consent ensure next of keen or a reliable guardian is well explained prior to the signing of the consent form before any procedure is performed.

5.0. STANDARD 8

5.1. ORAL HEALTH SERVI CES CLINIC ESTABLISHMENT:

- OHS incorporated into hospitals/health center shall be placed in a strategic or central location for easy access to the mass of the population in the community, it is intended to serve.
- The situation for most urban and rural health centers is that they are not build in a more central place where majority of the people can have easy access to get services.

- This sort of decision making is seen in most cases where there is political influence by which decisions are made without any supportive guidelines for the needs and it is seen in most Government funded facilities.

- Similar situation is seen also for the church operated health centers where location of health facility is decided by the individual church denomination.

- The governing health board/committee shall determine the geographical location of the facility based on factors like maximum population density, within twenty (20) minutes walking distance and identified diseases and health issues in the community.

- At present most oral health facilities in the hospitals and health centers are located within the hospital and health center buildings, and only few clinics are in separate buildings located on the hospital and health center premises.

- There shall be directional sign boards put up at the main gates with directions and instructions on the types of services provided, hours of operation and the fees charged.

- In a situation where emergency services are and can not be made available, patients shall be provided with information and guidance to other centers

ADEQUATE NUMBERS OF APPROPRIATELY TRAINED AND QUALIFIED STAFF ARE AVAILABLE.

5.2. STANDARD 9

- There shall be adequate numbers of appropriately trained staff of doctors, therapists, technicians, surgery assistants and other support staff such as drivers, cleaners, secretaries and receptionists.

- The facility shall have the prescribed minimum number of staff for each category and each level to meet the policies and priorities of the oral health services.

- Line of duty and responsibility for each staff within the organization and its relation to other medical and health services shall be clearly defined.

- Organizational chart of operations for the services shall be provided to lay out the chain of administrative command and channel of communication for all categories of staff at each level of the facility.

- Duty statements containing qualifications with its descriptions and specifications for each job position shall be provided to show clearly the range and volume of clinical and management services as required for each staff to assist them to perform their duties and responsibilities.

- There shall be continuing education services provided for each category of staff to update, develop and improve them on the changes in oral and dental knowledge, and their skills in the use of the technologies and practice.

- It shall be done through in house training by chair side, wards rounds, weekly clinical meetings, tutorials, seminars and external workshops and conferences where training opportunities are provided to improve staff knowledge and skills.

- Appraisal of each staff member shall be done on a six (6) monthly basis to provide information through systematic monitoring and evaluation on the performance and competency of the staff for the job they are assigned to do.

- Each staff member should be a registered member of each category of an industrial organization where their terms and conditions of employment and awards, rights and privileges including salaries and allowances, and housing are laid down and shall be adequately met.

- It shall be a compulsory requirement that all staff members especially the clinicians are to have annual general medical check for HIV, HB, TB and EYE and EAR and Medical certificate of Examination shall be completed and attached with the application form and sent to the Medical Board for approval of initial or renewal annual of registration.

- The doctors, therapists and technicians should be trained and developed to become active in the educational environment in which their work knowledge and skills is transferred into educational and research publications for presentations to committees, workshops and conferences to improve their levels of competencies.

- Special clinical cases of epidemiological significance and importance are adequately researched and documented for educational and scientific records for reference.

- Staff shall be provided with regular clinical meetings on patient care activities to improve quality patient care services and minutes of the meetings on quality improvement activities are accurately written and records kept.

- Staff members shall be scheduled and programmed to provide a twenty- four (24) hours emergency service cover in most hospitals and major health centers shall be optional for other levels of facilities.

5.3 STANDARD 10

ORAL HEALTH SERVI CES MANPOWER LEVELS 1 – 5 HOSPITALS AND MAJOR DISTRICT HEALTH CENTERS ONLY:

TABLE 1. PRESENTATION OF MANPOWER DISTRIBUTION IN ALL LEVELS OF ORAL HEALTH FACILITIES

MANPOWER TABLE

Manpower Categories	Level 1	Level 2	Level 3	Level 4	Level 5	HEALTH CENTRE	AID POST	Total Manpower
Senior Specialist Dental Officer	4	3	1	1				
Senior Dental 0fficer	3	2	2	1	1			
General Dental Officer	2	3	2	2	1			
Registrar Dental Officers	3	2	2	1	1			
Resident Dental Officer	3	2	1	1	1			
Senior Dental Therapist	4	3	2	2	2	2		
Dental Therapist	3	2	2	2	1	2		
Resident Dental Therapist	4	3	2	2	2	2		
Senior Dental Technician	3	2	2	1	1			
Dental Technician	2	1	1	1	1			
Dental Surgery Assistant	10	6	5	2	2	1		
Receptionist	1		1	1	1			
Secretary/ KBO	1	1	1	1	1			
Driver	1	1	1	1	1	1		
Cleaner	1	1	1	1	1	1		

- Present Status of Manpower for the OHS is that there are very few (about 9) doctors and (about 15) technicians of whom most are nearing retirement age, however, the bulk of the staff is made up of dental therapists of whom some of the recent graduates are still waiting for employment opportunities while some of the working therapists are nearing retirement age.
- Only six (6) out of nineteen (19) provincial hospitals are administered and managed by doctors and the rest are by the dental therapists. There is a serious shortage of the number of dental technicians and surgery assistants or nurses and is seen that the number of technicians required would be difficult to train in sufficient numbers in the planned period of the National Health Plan 2000 to 2010.

- Minimum standard requirement in this initial edition of the OHS- Minimum Standards does not cover sub-health centers, day clinics or aid posts in the district. It is assumed that service delivery should be covered by the outreach activities of the respective district hospital or the major health center.

- Emergency pain relief OHS provided by the multi skilled health workers in these health facilities including those centers operated by the various church denominations across the country are to be phased out.

- It shall be a standard requirement for OHS that all health centers operated by the Government the churches, the private companies and individuals to employ appropriately trained oral health workers especially Doctors and therapists.

❖ MAJOR URBAN AND RURAL HEALTH CENTERS:

- Minimum requirements of two (2) dental therapists of which their services are provided simultaneously and that is one therapist is to carry out the curative and the other to provide preventive health services from the same clinic at any one time.

- Minimum requirements of two (2) surgery assistants also known as community health workers of which one assistant is to each therapist.

- The dental therapists in order to provide effective and efficient patient care promotive, preventive and curative procedures in addition to the management procedures at this facility would require chair side surgery assistants to minimize working time.

PATIENT CARE CLINICAL STANDARDS:

6.0. STANDARD 11

❖ PRIORTIZATION OF OHS PROCEDURES

- The OHS delivery system in the country shall be reviewed taking into account the increasing costs required to provide curative public health services and it should be done by prioritizing the services delivery system in accordance with the more strategic areas of the services delivery system of health promotion, prevention and curative procedures.

- More emphasis should be given to preventive services for the primary school age children between six and thirteen years old children in the population with very specific activities planned and implemented with maximum use of efforts and available resources towards a predictable outcome.

- The centralized hospital or health center curative care procedures for the general public shall be the basis of all the operations including outreach program, but these services are to be maintained at a reasonable level depending on the level depending on the level of very sophisticated resources required.

6.1 STANDARD 12

❖ HEALTH PROMOTION THROUGH EDUCATION AND AWARENESS:

- Establish oral health promotion for all staff to actively promote and participate in the oral health education and awareness program of the facility.
- Use available resources to develop educational materials on very specific diseases like dental caries, periodontal diseases and mouth cancer and disseminating educational information to the selected population groups in the community.
- Improve and develop medium of service delivery like person to person at the chair or bed side, promoter to enrolled school age children in primary schools and promoter to the population at large in the community.
- Improve and develop suitable and sustainable materials and mediums of dissemination of information such as television, radio, news papers, pamphlets, posters, auto visual aids, cartoons and plays or drama are to be fully utilized.
- Improve and develop corporation and partnership between service providers and corporate agencies in the procurement and making available required materials like posters, booklets and auto visual aids in adequate quantities and in a timely manner.

6.2 STANDARD 13:

❖ PREVENTIVE SERVICES

- Early detection and interventions through simple clinical procedures such as scale and polish of teeth
- Application of fluoride through fissure sealants and the ART technique
- Preventive and corrective orthodontics using crowns and partial denture plates and braces.
- Protective bite guards and mouth guards
- Preventive extractions of exfoliating deciduous teeth
- Patient referrals for early treatment to permanent teeth in mixed dentition.

6.3 CLINICAL CURATIVE SERVICES:

STANDARD 14

❖ STANDARDIZED OPERATIVE PROCEDURES AT EACH LEVEL OF HEALTH FACILITIES:

6.3.1 HEALTH SUB-CENTER DAY CLINIC AND AID POST:

- Where there are no trained oral health personnel, basic oral health services shall be provided by multi skilled health workers in the rural health facilities including health centers, sub-health centers and day clinics/aid posts.

- Training of these other health personnel was done to enable them to provide basic emergency relief of pain procedures limited to manual instruments only.
- The OHS provided by this group of health personals shall be phased out in due course of time as more trained oral health workers are trained.

6.3.2 TABLE OF PROCEDURES PRESCRIBED FOR EACH FACILITY:

- Basic services prescribed to be provided by these staff shall be;
  - Consultation and management of referrals form other centers in the district with no trained personnel.
  - Promotion, Education and Awareness,
  - Pain relief and sepsis control by examination, treatment by antibiotic cover and referral.
  - Minor surgical procedures mainly tooth extraction.
  - Sedative dressings or temporary fillings.
  - Basic scaling of plague and calculus (tartar).
  - Mouth washes and tooth brushing demonstration.
  - Infiltration and Inferior Dental nerve block techniques of administration of dental local anesthetics.
  - Keeping records of patient attendance, daily and monthly record of treatment for the information reporting system.

6.3.2 THE DISTRICT HEALTH CENTER SERVICES:

- OHS at the district health center level is an integral component of the health care delivery system that shall be administered by a trained dental therapist and the level of services provided are limited to basic curative, prevention and health promotion procedures.
- Training of the therapist initially was designed to spent at least ninety (90%) of their service time in the preventive school services program in which two primary schools are to be covered by each therapist monthly.
- OHS procedures provide at this level is limited to the following;
  - Consultations and management of referrals.

- Promotive, education and awareness.
- Preventive interception and control measures of oral disease.
- Restorative and maintenance procedures.
- Minor surgical procedures of teeth extraction.
- Routine scaling and polishing of calculus.
- Patient management and referrals.

The clinical procedures like root canal treatment and clinical aspects of dental prosthetics performed by the therapist and the technician respectively is outside their training and this is not recommended in the best interest for the staff, the patient and the profession.

6.3.3. RURAL (LEVEL 5) HOSPITAL:

- The rural hospitals are upgraded from the major district health centers status and they need introduction, improvement and development of the facility to meet the minimum standard requirements of manpower, equipment and supplies over some time to reach required hospital status.
- Some of the specialized services that can be provided are as follow;
- Outpatient services of consultation, management and referrals,
- Prosthodontics includes the clinical and the laboratory services,
- Oral surgeries major and minor,
- Conservative and preventive restorations,
- Advanced restorations for conservations like inlays, crowns and bridge works.
- Endodontics involves root canal treatment and tooth conservation and maintenance.
- Periodontics involves the supporting structures of the tooth,
- Paedodontics involves children's dentistry including orthodontics,
- Outreach programs for school services and district centers visits,
- Health promotion and awareness to individuals, groups and the general public.

6.3.4. LEVEL FOUR (4) HOSPITAL:

- Should perform most minor and some intermediate curative, preventive and promotive oral and dental care procedures under a specialist dental practitioner.
- Patient referral from this level of hospital would be for patients requiring some intermediate and major specialist clinical procedures.
- Referral of patients for specialist care procedures is by protocol to the next level of the hospital which would be the level three (3) hospitals depending on the availability of the expertise, equipment and supplies.

6.3.5. LEVEL THREE (3) HOSPITAL:

- The levels three (3) hospital shall be appropriately staffed and equipped to provide the required level of services.
- Most patient care procedures of minor, intermediate and some major specialties should be provided from this level of the hospital, and it would depend on the availability of manpower, equipment and supplies and refers only for major surgical and orthodontics procedures to level two (2) and one (1) hospitals.
- Patient referrals are depended not only on the availability of expertise, but also for training, and repatriation expenses required including travel, service fees, and board and lodging.

6.3.6. LEVEL TWO (2) HOSPITAL:

- The level two (2) hospitals should be responsible for the training of both pre and post-service human resources and at this level most clinical patient care procedures should be provided within the regional hospitals.
- Patient referrals from this levels of the hospitals depended very much again on the manpower expertise, equipment and supplies and the cost of patient referral largely depends on most factors mentioned above and in some cases where patients condition is at terminal stages.

6.3.7. LEVEL ONE (1) HOSPITAL:

- The level one Hospital is the final point of patient care services within the country, which implies that all required resources for specialist patient care procedures are to be provided.
- Patient referral from each level of the hospitals in the country is the process to follow and where expertise is not available within the country, outside expertise may be required and engaged to perform the services in the country.

- Patient referral outside the country is the alternative, but should be optional to the patient due the cost factor for travel and services costs in overseas hospitals.

6.3.8. PATIENT CARE PROCEDURIAL STANDARDS 15

- Procedural standards cover the clinical procedures in the procedure manual and should be consulted when required.

- **CONSERVATIVE RESTORATIONS - DECIDUOUS DENTITION:**

STANDARD 14

- **STANDARD PROCEDURE AND MATERIALS OF CHOICE:**

- All restorations involving deciduous teeth shall be restricted to the temporary filling materials Zinc Oxide and Eugenol cements.
- Only permanent filling if it is to be done shall be limited to the use of the glass ionomer cement as a material of choice.
- Amalgam filling materials shall be the alternative choice.
- Composite filling materials shall not be recommended due to etching procedures with inadequate hard enamel tissues of the baby teeth.

- **PERMANENT DENTITION:**

- All simple pits and fissures and root surfaces caries lesions shall be restored using the glass ionomer cements.
- Composite resin shall be the alternative material of choice.
- Use of the amalgam filling materials shall not be recommended for restorations involving the anterior teeth.
- Teeth with caries lesions of less than two walls especially for the posterior teeth composites and amalgam materials are of the best choices for their strength in mastication.
- Patients shall be provided with quality aesthetic materials of ceramic and gold restorative materials at a cost.

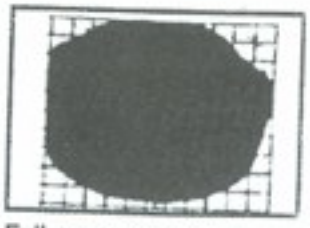
❖ **POINTS FOR CONSIDERATION FOR RESTORATIVE MATERIALS OF CHOICE:**

FIGURE 1: THE REPEAT RESTORATION CYCLE = AMALGAM

Occlusal amalgam

Lost marginal ridge

Cracked cusp



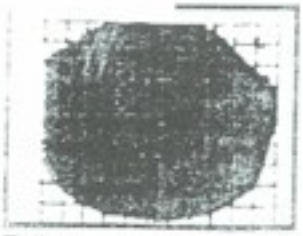
Full coverage crown

FIGURE 2: THE REPEAT RESTORATION CYCLE = COMPOSITE

Minimal occlusal composite treatment

Recurrent caries

Endodontic



Full coverage crown

FIGURE 3: THE REPEAT RESTORATION CYCLE = GLASS LONOMER CEMENT

Minimal occlusal glass ionomer

Restoration maintenance

further glass ionomer (GIC) added

Composite laminate on glass ionomer base.

❖ ADVANCED CONSERVATIVE RESTORATIONS:

- Post crown restorations
- Composite crown or Maryland bridge
- In or on –lay in composite, ceramics or gold
- Full ceramic or gold crowns and gold bridge

❖ OUTPATIENT SERVICES:

- Outpatient services are to be provided by all levels of the oral health services in the hospitals and health centers.
- Patients are attended to promptly by the senior dental therapists in the clinic on arrival to provide effective and appropriate consultation, examination, treatment planning and referral.
- It shall be done by a dental therapist who is responsible for proper and accurate records keeping of the patient attendance clinical diagnosis, treatment procedures and effective referral for specialist treatment in the clinic or those patients to another level for care.
- Some patients are seen at the outpatients by the general outpatient staff where referrals to the oral health sections are at a later date causing unnecessary delays where incorrect use of antibiotics and analgesics for cases, which could have been appropriately intervened by the immediate dental treatment procedures.
- In some situations patient care procedures are duplicated or repeated due to inadequate and poor procedures initially employed.
- Consultations may be casual as routine or emergency where patients are seen by the outpatient doctors and nurses before they are referred.
- Most of these cases are usually minor and could be very easily and effectively done by the oral health workers to ease patients' waiting time and establish quality patient care procedures.

❖ ORAL/DENTAL PROSTHODONTIC SERVICES:

- Dental Prosthodontics procedures involve the construction and fabrication of prosthetic appliances to restore spaces of the lost tooth or teeth, and misalign teeth and structures of the mouth to provide normal anatomical structure, facial profile and functions.

- These procedures for construction and fabrication of dental prosthesis are performed in two parts, the clinical aspect performed by the doctor and the laboratory aspect carried out by the dental technician.
- Some other appliances that could be constructed are feeding appliance for cleft palate, obturators, bite raising appliances and sports guard mouth guards.
- Chrome cobalt base partial dentures
- Other prosthesis that can be fabricated includes the eye, ear, foot, nose, finger and breast.
- The over all responsibility rests with the doctor in the final outcome of the procedures in patient care.
- At the present time due to insufficient number of doctors, some dental technicians are being fully utilized to carry out both clinical and laboratory procedures, but should be done under the supervision of the doctor.

❖ ORAL AND MAXILLO-FACIAL SURGICAL PROCEDURES:

- Oral and Maxilla-facial surgery involves and concerns any surgical procedure involving the soft tissues, tongue, teeth, bone, of the mouth and the facial skeletal structures.
- Pathological or trauma cases for surgical procedures do not limit themselves to the tissues of the mouth only, but can extend and involve the adjoining structures like the ear, nose and throat or the head and neck region of the human body.
- The surgical cases are grouped into three categories of operational procedures depending on their levels of complexity and sophistication which requires specialist expertise, technologies and the supplies in a specifically designed environment.
- The three groupings are minor, intermediate and major surgical procedures, which relates directly to the corresponding levels of the hospitals with the required resources.

❖ MINOR SURGICAL PROCEDURES:

- Include simple extraction of teeth, retained teeth root or roots caused by carious process or fractured crown of the teeth.
- Splinting of the dent alveolar fractures.
- Incision and drainage abscess from a soft and pointed swelling of the soft tissues.
- Simple selective occlusal adjustments of the cusps.
- Apisectomies for infected and failed root canal treatment.
- Manage post operative complications

❖ INTERMEDIATE SURGICAL PROCEDURES:

- Partially impacted teeth like the lower third molars and other teeth.
- Surgical recovery of retained or fractured teeth roots.
- Incision and drainage of facial abscess with slight fluctuation.
- Closed reduction of fractures involving the mandible.
- Closed reduction of Le Forte type 1 and type 2 fractures of the maxilla.
- Splinting of the alveolar bone with the teeth intact.
- Pre-prosthetic osteotomies and osteotectomy.

❖ MAJOR SURGICAL PROCEDURES:

- Wide range of complex procedures including fractures by open reductions of the mandible, TMJS, and the maxilla
- Cystic lesions including dentigerous and oro-antral fistulas.
- Impacted teeth completely embedded in the bone.
- Oral or mouth cancers or malignant neoplasm including hemi-mandibulectomy.
- Sialithic curettage
- Cleft or hair lip and/or palate.
- Jaw reconstruction

❖ ENDODONTICS- ROOT CANAL TREATMENT:

- Endodontics is a treatment procedures used to treat infected or traumatized tooth by gaining access through the occlusal pits and fissures of the premolar and molar teeth, and cingulum pits of the incisors and canine teeth.
- The dental pulp is extirpated or removed and canal wall is debrided and irrigated with sodium hypochlorite (house hold bleach) rendering it sterile before obturation and hermetic sealing of the apical foramen and filling is done.
- A successfully filled tooth is conserved and maintained in the mouth to provide normal functions and the procedure is a specialty which is limited to the doctors training only.
- Other procedures such as pulpotomies can be done by the therapists.

❖ PAEDODONTICS OR CHILDRENS' DENTISTRY:

- Children's health, diseases and problems should be best taken care of in the first decade so that they could have a good adult life.
- The formation and development of their teeth are almost completed by this period of time in which the deciduous set of twenty (20) teeth appear in the mouth by the age of five (5) years.
- Mixed set of the teeth begins after this time beginning with the six year old molars.
- The permanent set with the first twenty-four (24) teeth appear in the mouth by the age of twelve (12) years and the third molar teeth come into the mouth later in life.
- There are various types of clinical conditions and problems that come with these sets of teeth like tooth decay/ caries, overcrowding, misalignment and supernumerary teeth.
- Developmental defects of the bone, teeth and soft tissue structures making up the mouth are enormous.
- Orthodontics is a common treatment procedure which uses braises to move poorly lined teeth into their normal position with the arch relations.
- Other procedures include serial extraction of teeth in which proper assessment for any procedure should be conducted by the orthodontists.
- Most procedures are very simple conservative restorations, sedative or temporary fillings, extraction of exfoliating deciduous teeth are to be performed by the therapist and may refer more complicated cases to the doctors.

❖ PERIODONTICS:

- Periodontics involve the health, diseases and problems affecting the gum or soft tissues including the gingival, mucosa attached and free, periodontal ligament and the alveolar bone which are the supporting structures of the teeth.
- Procedures used in caring for these structures range from simple personal care tooth brushing, cleaning of calculus and polishing, and root planning of teeth to simple flap and advanced periodontal surgery.
- Advanced conditions are referred to the doctors and all other procedures apart from personal care are performed by the therapists.

❖ OUTREACH SERVICES:

❖ SUPERVISORY VISITS TO THE RURAL HOSPITALS OR HEALTH CENTERS:

- Outreach services are extension of oral health management and patient care services to the hospitals and rural centers where there is no oral health worker including doctors, therapists and technicians to assist the subordinates to provide actual services or supervision of services.
- Although the opportunities for these types of services were and are available, the oral health services component of this program had not been considered serious enough to be implemented.
- The medical specialist outreach program is seen to be disseminated by most specialist medical officers in the country, but the oral health services component had not been adequately incorporated into this program by the national health department.
- It is essential specialist oral health care service is extended to those provinces which have no doctors and were denied access for a long time.

❖ PREVENTIVE AND PROMOTIVE PROGRAMS:

- Health promotive and awareness programs include provision of health education to the primary schools, youth and women groups, Prison and disabled institutions, and the general public gatherings.
- Radio doctor sessions over the local radio services and news paper and television services.
- Visitation of health centers as management and clinical supervisory services.
- Services to natural disaster rehabilitation centers in other provinces.
- Visitation to regional provinces as management and patient care services.
- Sports Dentistry and sports medicine services to sporting groups and organizations.

❖ FORENSIC DENTISTRY OR DENTAL JURISPRUDENCE:

- Dental structures developmental processes take place in specific sequence with time and the treatment records of these structures had become the definite subjects for uses in AGE AND DISEASED PERSONS DETERMINATION BY DENTAL IDENITIFICATIONS.
- These requirements could also be used for the juvenile delinquents and diseased (dead/ corps) persons requested by the coroner or legal agencies.
- Other areas include crimes and robberies where the teeth and mouth may have been used.
- Written dental medical reports are other areas of legal documents.
- Consult the Procedure Manual on the AGE DETERMINATION BY DENTAL IDENTIFICATION- An extract from the PNG Medical Journal, volume 4, No. 1, April, 1960 by Dr D E BARMES.

- *In the deciduous dentition---*

  (1) A's and B's are incisors (Central and lateral)
  (2) C's are Canines.
  (3) D's and E's are molars (1st and 2nd).

- *In the permanent dentition---*

  (1) 1's and 2's are incisors (Central and lateral).
  (2) 3's are Canines.
  (3) 4's and 5's are premolars or bicuspids (1st and 2nd).
  (4) 6's and 7's and 8's are molars (1st, 2nd and 3rd or wisdom).

- With the above reference, the following table sets out the dentition. The missing tooth in each quadrant in which should be present for each half year of age? This schedule is the third permanent Up to two and for molar or wisdom tooth. The eruption each year there after up to 12. Time for this tooth is extremely variable. Indeed, between 15 and 25 Year can be regarded as normal. Impaction (i.e. permanent non-eruption) and congenital absence of third molars also often occurs.

- Within the half – 12 – year group the greatest variation, relatively speaking, is in first two years of life, while isolated variation sometimes occur in congenital absence of permanent upper incisors and lower second premolars and in late eruption of permanent upper incisors. This latter seldom affects age estimation, as eruption of first molars, other premolars and lower incisors gives the required information.

- In applying this data to age determination it is of absolute importance to arrange a series of check examinations under the guidance of Dental Officer before embarking on a program of solo examination.

AGES	EXPERTED DENTITION	
	A	A
	BA	AB
	DBA	ABD
	DCBA	ABCD
	DCBA	ABCD
	EDCBA	ABCDE
	EDCBA	ABCDE
	EDCBA	ABCDE
	EDCBA	ABCDE
	EDCBA	ABCDE
	EDCBA	ABCDE
	EDCBA	ABCDE
	6EDCBA	ABCDE6
	6EDCB1	ABCDE6
	6EDCB1	1BCDE6
	6EDC21	12CDE6
	6EDC21	12CDE6
	6EDC21	12CDE6
	6EDC21	12CDE6
	6ED321	123DE6
	654C21	12C456
	6E4321	1234E6
	654321	123456
	7654321	1234567
	7654321	1234567
	7654321	1234567

- Having Thus become proficient at dental identification and bearing in mind that for native populations it has been suggested that the tendency is towards early eruption, the variation of age determination within the normal unlikely to more than _+ 9 months at the upper limits and less for the early ages.

- This small schedule and description is presented as a practical introduction to a subject which is of particular importance in this territory. There is little guidance to be gleaned from data already collected locally, so that there is no statistical background specific to the indigenous people of Papua and New Guinea. So far small pilot studies have suggested that there may be little difference between these people and other races for whom the above schedule has been devised. It is, however, a project of the Administration Dental Service to obtain sufficient well-authenticated data to produce, as soon as possible, adequate statistical evidence to support a schedule of this type.

  DR D. E. BARMES,
  DENTAL OFFICER, DEPARTMENT OF PUBLIC HEALTH
  Port Moresby: W. S. NICOLAS. GOVERNMENT PRINTER 3399/t.60 P44 Papua New Guinea Medical Journal.

- Chronology of tooth Development Table 19.1 of the teeth and the periodontal tissues in systemic disease page, 224.
- Tooth Identification SYSTEMS - THE DECIDUOUS AND THE PERMANENT DENTITION FOR;
- FEDERATION DENTAIRE INTERNATIONALE (INTERNATIONAL) (FDI) SYSTEM,
- AMERICAN DENTAL ASSOCIATION (USA)
- Information adopted from COLOR AT LAS OF DENTAL MEDICINE FDI.
- All FORENSIC PROCEDURES ARE THE SOLE RESPONSIBITY OF THE DOCTOR ONLY.

Table 2. Chronology of tooth development:

Tooth		Tooth germ fully formed	Dentine information begins	Formation of crown complete	Appearance in mouth cavity	Root complete
	incisors			2-3 months	6-9 months	
	Canines			9 months	16-18 months	1-1 ½ years after appear mouth cavity
Deciduous		3-4 months fetal life	4-6 months fetal life			
	1st molars			6 months	12-14 months	
	2nd molars			12 months	20-30 months	
	Incisors	30th week fetal life	3-4 months (upper lateral incisor 10-12 months	4-5 years	Lower 6-8 years Upper 7-9 years	
	Canines	30th week fetal life	4-5 months	6-7 years	Lower 9-10 years Upper 11-12 years	2-3 years after appeara mouth cavity
	Premolars	30th week fetal life.	1 ½ -2 ½ years	5-7 years	10-12 years	
Permanent						
	1st molars	24th week fetal life.	Before birth	2 ½ -3 years	6-7 years	
	2nd molars	6th month	2 ½ -3 years	7-8 years	11-13 years	
	3rd molars	6th year	7-10 years	12-16 years	17-21 years	

❖ MISCELLANEOUS SERVICES STANDARDS 16

- OHS shall provide a wide range of management support services in patient care procedures which shall comprise of consultations, treatment and management referrals, and to provide certificates and reports.
- All patient referrals to a higher level of care are best done by a doctor to avoid unnecessary costs for the patient and/or the hospital.
- Dental Medical Report strictly is restricted to a Doctor only as the highest level of professional standing.
- Dental medical Examination and certification for Employment, Education or Passport could require a combination of services.
- The patient can be examined and treated in consultation with a doctor by a therapist, but must be reviewed and counter signed by the Senior Doctor or the doctor available.
- Certification of patients for sick leave would be best limited to the doctor where medical certificate for leave of absence from work with pay is restricted to severe and serious conditions only.
- Prescription of all forms of drugs would be best done by the doctors only and if there is no doctor available seek assistance from the medical doctors.
- Provision of personal References should be done by the most senior officer in the service and is to be supported by sound knowledge of the person.

TABLE 3 - TABLE OF PROCEDURES AND BY WHOM:

Procedures Treatment and management Services Delivery Minimum Standard	SENIOR SPECIALIST DOCTORS	SPECIALIST DOCTORS	SENIOR DOCTORS	DOCTORS	DOCTORS	OTHERS Therapist Technician and chw ✓
Referrals	✓	✓	✓	✓	✓	✓
Medical Report	✓	✓	✓	✓	✓	✓
Medical examination and certificate for sick leave.	✓	✓	✓	✓	✓	

Minor surgery Simple tooth extraction	✓	✓	✓	✓	✓	Therapist and Chw	
Complex/ impacted	✓	✓	✓	✓	✓		
Incision & drainage	✓	✓	✓	✓	✓		
Intermediate and major include fractures	✓	✓	✓	✓	✓		
Simple conservative	✓	✓	✓	✓	✓	Should do most of the work	
Medical certificate training	✓	✓	✓	✓	✓		
Medical certificate employment	✓	✓	✓	✓	✓		

6.0. THE ENVIRONMENT- OCCUPATIONAL HEALTH AND SAFETY:

STANDARD 17

6.1. SAFETY AND WELFARE OF ALL PERSONS IN THE HOSPITAL AND HEALTH CENTER IS PROTECTED:

- Policies on occupational health and safety practices are in accordance with the statutory requirements of the department or the country such as industrial safety and welfare act and national safety and practice standards.

- Hazards are identified, assessed and appropriately controlled through regular inspections either on a six monthly or annually so that reports and meetings by the officer in-charge is done to over-see and ensure occupational health and safety measures are in place and are followed by all staff.

- Security measures are in place for the protection of patients, guardians, visitors, staff, and the properties of the hospital.

- Danger- In the event of danger accidentally or otherwise injury of a patient while in the clinic or in the hospital ground report the matter to the hospital management.

- Fire safety standards procedures should be in place to help staff to attend to protect patients and guardians in the event of fire break out at the work place.

- EXIT DOORS for escape should be clearly labeled for the staff and they must be familiar with facility based disaster plan for instance if there is fire ensure doors and corridors of fire EXITS are well clear of obstructions by people or equipment and fire equipments are made readily available for use.

- RADIATION SAFETY- Procedures must be strictly adhered to by all staff especially for those persons involved in taking dental x-rays, preparation of developer and fixer solutions, and disposal of x-ray wastes.

- Staff safety requirements from exposure to x-ray radiation or contact with x-ray film processing drugs are monitored through the use of a detector badge being issued and if required blood tests are done on a yearly basis.

- There should be two (2) protective lead APRONS with neck collar made available for the operator, assistant and patients when taking x-rays.

- It is recommended that one should be at least six feet from the targeted area when taking x-rays

- X-ray units may be static by wall or floor mounted or mobile and they should meet universal standards and are certified by the pharmaceutical and biomedical board of the country or its equivalent to the Australian Dental Association standards.

6.2. INFECTION PREVENTION AND CONTROL:

INFECTION CONTROL STANDARD 18

- Infection is effectively controlled within the oral health section in the hospital, the urban and rural health center clinics.

- The World Health Organizations' Expert Group Recommends the Guidelines set by the International Standards Organization and International Dental Federation Standards to be considered when infection control is involved.

- The involvement of the Manufacturing Industry in the promotion of infection control through appropriate design and makes of equipment, instruments and materials.

- Oral health workers within the facility are trained in all aspects of infection control procedures to understand their role and apply hem in health and safety standards of practices.

- These facilities shall have a designated person to provide regular inspection and request for maintenance of equipment and instruments, the buildings general environment by the appropriately qualified personnel.

6.3. INFECTION PREVENTION STANDARD 19

- There shall be policies and guidelines for the prevention of the spread of infection at the place of work at all times.
- Cross infection and prevention guidelines should cover health, hygiene and safety practices for the environment, the personal and the patient care procedures covered in the procedure manual.
- There shall be adequate supply of safety gourments like masks, cloves, boots, goggles, caps and toiletries made available in compliance with universal standard procedures for all staff to use during operations for protection against injury and cross infection.
- All methods of general cleaning, disinfection and sterilization protocols and procedures are clearly written and made available for staff at all levels of oral health care centers.
- Adequate quantities of equipment and supplies for infection control are procured, distributed and maintained for all levels of the facilities at all times.
- The facility shall have the dental infection control officer whose role is to work closely with other sections to ensure and enforce infection control practices and procedures are put in place.

6.4. WASTES AND SHARPS DISPOSAL:

STANDARD 20

- Appropriate procedures and equipment that conform to relevant statutory requirements/guidelines are used to ensure safe and efficient handling, containment and disposal of wastes.
- All wastes apart from sharps like needles and scalpel blades are to be disposed into foot control waste bins provided in each surgical room.
- Sharps are carefully handled and placed into a clearly labeled hard cover box after the needles' caps are put back on and scalpel blades are wrapped up with the aluminum wrapper strip.
- TAKE ABSOLUTE CARE!! When handling all sharp either single or double ended instruments like probes, amalgam carvers, wax knives, lecrons and pliers.
- In the event of any injury caused to the skin while performing any clinical procedure, ensure records of the time and date is reported to the officer in charge and seek medical assistance promptly.
- A full report of the nature of injury, treatment and medications received, and any follow up procedures is clearly documented.

6.5. RADIATION

STANDARD 21

- **ORTHOPANDOMOGRAM (OPG) X-RAY MACHINES SHOULD BE MOUNTED IN A LEAD LINED AND SEALED ROOM.**

- X-ray units must have regular checks and routinely maintained to avoid leakage of radiation and radio active materials into the environment.
- X-ray processing units shall come as simple manual or more advanced electrical types of which the former type requires four cups for developer, water, fixer and water while the latter is an automatic processor.
- X-ray developing and fixing chemicals are to be packed in a sealed plastic container and must be clearly labeled with all the recommendations for precaution and safety procedures.
- Always use protective gourmets like gloves, goggles, boots and gowns when handling film processing chemicals when processing x-ray films.
- In the event of spillage onto the skin or contact to the eyes follow the manufacturers' instruction on the label such as wash with a lot of running water.
    - REMEMBER' !!! RADIATION AND X-RAY IS DANGEROUS
    - FILM PROCESSING CHEMICALS ARE HIGHLY TOXIC
    - SUBSTANCES!!! EXPOSURE OR CONTAMINATION
    - SEE YOUR MEDICAL DOCTOR IMMEDIATELY.

6.6. EMERGENCY PLAN

STANDARD 22

- Emergencies do and can occur in the dental clinic of the hospital or the health center of which the clinic must be prepared to deal with the different types of emergency or disaster situations in terms of relevant equipment, training and be familiar with a emergency or a disaster plan.
- These could be anything from a person fainting to severe bleeding and/or cardiac arrest, a chemical spill, gas leakage, a firebreak out or an arms hold up.
- It can be very difficult to deal with an emergency while it is going on and a panic situation in place.

- There could be people yelling and a body or bodies lying around while others are pushing and shoving trying to get out of the exit doors.
- There may be a smoke or other smells in the air or a fire may have started, or it could be that a small child has fainted or an elderly patient had gone into an anaphylactic shock.
- In whatever the emergency the oral health worker(s) is in or faced with, the staff must deal with it instantly by remaining calm and putting into practice the emergency plan which had been written up and practiced over time.
- An emergency plan can be big or small depending on the level of seriousness of the procedures to be executed, but the effectiveness and efficiency of the plan requires a good Plan.
- An Emergency contact list of focal points, individuals and organizations such as local Fire services, Red Cross, St Johns Ambulance, Police and other disaster concerned agencies
- Oral health service needs to write up the protocols and procedures on the types of emergencies and disasters it may encounter.
- Determine emergency equipment that should be provided for the section or the clinic like first aid kit, defibrillators, emergency kits (such as blankets, flashlights, and candles), fire extinguishers, smoke detectors and carbon monoxide detectors.
- Individual staff members are to be given specific training in emergency and disaster management procedures.

6.7 STANDARD 23

FOUR CHAINS OF LIFE – IN AN EMERGENCY:

- CALL FOR HELP:
  - Activate Emergency Medical Services System.
  - Telephone Emergency service lines for Police, fire and other.
- **CARDIOPULMONARY RESUSCITATION:**
  - Until help arrive
- **ASSESS THE HEART RHYTHM:**
  - Defibrillate the Heart if required.
- **ADMINISTER MEDICATIONS AND PROTECT THE AIRWAY:**

- Sequence of four events (X4Rs):
    - Rapid Access
    - Rapid CPR
    - Rapid Defibrillation
    - Rapid Advance Care

➢ If all four" LINKS" take place QUICKLY in a sequence and at the same time, the is good chances of a successful resuscitation.

➢ Demonstration on the procedures for the use of Fire Extinguisher is to be done so that emergency procedures and protocols are well understood by all the staff in the facility.

➢ Internal faults and failures of vital services including electricity and water, medical and industrial gas leakages, and failure of communication of telephones and faxes staff shall take appropriate actions by informing the patients or the hospital/health center authorities concerned about the particular problem.

7.0 PHYSICAL FACILITY AND EQUIPMENT STANDARDS:

STANDARD 24

➢ The biomedical, general medical and office equipments, instruments, drugs, materials and accessories are to be standardized in the country.

➢ Equipments and supplies should meet the required specifications and certification by the National Pharmaceutical Board of PNG and the National Oral Health Standards Committee in consultation with the supply agencies like the overseas dental items distribution or manufacturing companies.

➢ These equipments, instruments, drugs, materials, their accessories, their spares and their spare parts are to be procured and made available in adequate quantities to meet the needs of the services, and are in good and safe conditions for use.

➢ Procurement and distribution of the types and quantities of equipment and supplies shall be included in the dental cataloguer guided by the OHS Procedure Manual.

➢ Quantities of each item of supplies issued to a clinic are controlled by the units of supplies recommended for each category of staff and each level of the facility by the Dental Pharmaceutical, Equipment and Supplies Cataloguer.

7.2. BIOMEDICAL EQUIPMENTS:

Recommend using a table for equipment and Instruments

- There are many and different types of dental biomedical equipments and their spares and spare parts supplies made available in the world today and are changing in makes, shapes and sizes every day
- To standardize equipments and supplies to meet the requirements and specifications would be depended on the standards for management and patient care procedures provided in the services delivery system by each level of facility.
- It is better for the OHS to set standards that would enable the profession to provide quality patient care services by using quality equipment and supplies as a cost saving measures in the long term.

❖ DENTAL UNIT: STATIC – ELECTRICAL

- All levels of the hospitals and major district health centers are to be provided with a static/mobile and portable dental units at the base set up to cater for clinical restorative and preventive patient care procedures.
- The type of units required for operations in that facility would depend very much on the availability of regular power supply to the surgeries in that section/clinic of that hospital or health center.
- The static dental unit electrically operated and driven by compressed air should come in complete package consisting of the chair, suction and triple syringe cables, light, tray, hand pieces cables, foot control, sputum bowl, x-ray film viewer, water container and two operators' stools or chairs.
- Some Hospitals and major health centers are still using the manually operated hydraulic portable dental chair unit. These units come as a separate package and would need other components like the dental unit with hand pieces cables, air syringes, water and suction bottles, sputum bowl, foot control and separate single lighting.
- The present dental units which meet our standard requirements are the ADEC dental units distributed by the southern dental industries of Australia.
- There are many different dental companies which also manufacture and distribute different models of the same types of dental equipment that comes in similar packages.
- Quality assurance, easily accessible spares and spare parts in terms of replacements, maintenance and safety warranty
- Our standard requirements for any of these models of dental units should be in compliance with the recommended.
- A complete dental unit should have the chairs and/or stools for the operator and the assistant as a package.

❖ DENTAL UNIT: MOBILE – MANUAL

- The mobile dental units are manually operated and usually come as a single chair unit only. It is operated by using the hydraulic pump with a pedal to raise and lower, side paddle to tilt the back rest back and forth and the base paddle to rotate the chair.
- Apart from the chair the supporting functional components comprising of suction, lighting, and the dental unit which is made up of air and water syringes, hand pieces cables and the foot control.
- This single unit mobile chair is suitable in the clinic set up without regular electricity supply, where operations are rotational and where cost factor becomes the basis for decision making to buy any dental equipment.

❖ DENTAL UNIT: PORTABLE MANNUAL:

- The portable dental unit comes in as separate pieces, but as complete package consisting of the chair, light, dental unit, air compressor, suction and water bottles, and operators' stool.
- These portable dental units are to be provided for all levels of the oral health services so that rural health out reach and school preventive programs can be adequately carried out.
- The portable dental units which are and were operated by electricity are now out of the market as more safe and convenient air driven units are used.

❖ HAND PIECES- HIGH AND LOW SPEED:

- All types of hand pieces either high or low speed are to restricted to the latest four holes connections and hand pieces for the static, mobile and portable dental units.
- The use of two and three holes could be used, but their use and continuity depended on the availability of spares and spare parts.
- There should be two (x2) high speed hand pieces made available as minimum requirement for each dental unit on an annual basis.
- Example, for a three (x3) surgery units in a clinic, a total of six high speed hand pieces should be supplied.
- The low speed hand pieces come in three parts consist of the head, shank and the motor of which the head has the highest rate of wear and tear that needs spares.
- Consideration is given to the availability of the units, heads for the low and high speed hand pieces with their spare and spare parts. Three (x3) spare heads for the low speed and five (x5) spare air bearing parts of the head for the high speed hand pieces would be required for the continuity of services.

- Note that the laboratory equipment including the hand pieces are not included in this section of presentation.

❖ COMPRESSED AIR SYSTEM:

- There is a centralized compressed air system of operation for all levels of hospitals and health centers for oral heath services Air Compressor unit for the hospitals levels 1 to 5 should have fixed / static unit to operate more than one surgery unit of the section.
- Air compressor units for the major/district health centers preferably would be portable types, otherwise a larger horse power unit could be required depending on the needs of the facility including the medical services.
- The Horse Power of the compressors either static or portable types would be determined by the amount of air required for use by the number of surgical units to be supplied with, for example twelve (12hp) could supply a three (x3) surgery units clinic.
- The manufacturer of the compressor machine is to provide the standard requirements like the HP, warranty for service and maintenance, with or without oil or dry air supply and recommended power units of operation.

❖ DENTAL UNITS:

- Most static dental units available in the market now are electrically operated in combination with the compressed air and are supplied as a complete package as discussed above.
- There are the portable units which are available for operation using air only. The old model operated by electricity is now going out of the market.
- The recommended standard static dental units would be air driven units and electrically operated chair and fibro optic hand pieces and visual overhead lighting.

❖ DENTAL LIGHTS:

- The present situation is that the static dental unit is supplied complete with the dental light unit built into the system.
- Only for the mobile and portable dental units, the light units are provided separately.
- Lighting units are to be provided to each surgical unit either as a single unit or as a complete in build with the dental units provided.
- The quantity of the light units required depends on the number of surgeries in each clinic or sections of the hospital or health center.

❖ DENTAL SUCTION UNITS:

- All static units are to have the suction unit built into the system.
- Most mobile and portable dental units have a built in suction unit with a bottle.

- Only for some of the old mobile and the portable units a separate suction unit is provided.
- The standard requirement is that the all static, mobile and portable dental units are to have the suction units built into the system.
- Recommendation is to discontinue purchase of dental equipments in separate units from year 2006 and onwards.

❖ **RADIOLOGY (X-RAY) UNITS:**

- All extra oral radiographs for the maxillofacial region such as posterior-anterior and, lateral oblique of the mandible, skull, cervical and the temperomandibular joints are taken at the general radiological services of the hospitals.
- A special dental radiological unit known as orthopanthomogram machine would be best located at the regional centers initially due to the cost factor for its purchase and distribution to all the hospitals.
- The intra oral radiological units are smaller and specially build for dental purposes which should be provided for all hospitals and the major health centers.
- Some of these units are static in that they could be wall or floor mounted and should be provided in all hospitals and health centers.
- The portable types available on the market at present are much smaller and easier to operate which should be provided in all oral health clinics in the country if there is no other type provided.
- X-ray units are easy and safe to use which should be well sealed in and no leakages of radiation.

➢ **RADIOGRAPHIC FILM PROCESSING UNITS:**

- There are different types of x-ray film processing units available on the market. They come as automatic types operated by electricity and those types operated manually.
- It is recommended that all hospital based dental services should have the automatic types where there is regular power and water supply to provide more accurate definition views of the films.
- The simple manually operated types are to be provided where there is no regular power and water supplies.

❖ **X-RAY RADIATION PROTECTION LEAD APRONS:**

- All x-ray units upon purchase must be provided with two lead aprons which are to be used by the patient and operator.

- There are those patients where exposure to radiation is contra indicated due to an underlying medical condition or excessive previous exposure; hence a physician is to be consulted prior to take the x-ray.

- All safety requirements should be clearly labeled and provided in the manufacturers' warranty booklet including radiation leakages and safety, and safe exposure distance (2-3m) for the operator prior to taking x-ray shots.

❖ X-RAY FILM PROCESSING CHEMICALS:

- The chemicals used for processing x-ray films come in two types, the developer and the fixer. These chemicals are in crystal or premixed liquid forms r and are packed in various packets or bottles by weights or volumes respectively.

- Most of these chemicals are diluted with water to the recommended concentration for processing of x-ray films.

- Also, there are ready made types of film packets on the market for self processing after exposure of the film.

- Ensure manufacturer's recommended correct weights, quantities and volumes for developer and fixer are complied with in the preparation for uses of chemicals.

- All prepared developer and fixer solutions are to be dispensed directly and correctly to the processing tanks.

- Observe and take extreme care when handling these chemicals during processing of the films.

❖ INTRA ORAL X-RAY FILMS:

- The dental x-ray films are specifically made for taking diagnostic x-ray films in the mouth.

- The films come in three sizes, the common occlusal and periapical for the children and the adults. The standard sizes are as follow;

    - Common occlusal 2" x 1 ½" inches.
    - Adult periapical 1"x ¾" inches.
    - Child periapical 1"x ½" inches

- Occlusal / maxillary films are used for examination involving the structures of the maxilla or the upper jaw bone

- The periapical films are used for examinations of the buccal and labial (facial) and the lingual and palatal (lingual) surfaces of the teeth.

- The adults' periapical films are bigger than the children's type while the occlusal films are much bigger in the sizes.
- The periapical films packet contains about fifty (50) and one hundred (100) films while there are ten films in each packet of the occlusal type of films.
- Each hospital should have a minimum quarterly supply of ten (10) packets of each type of the films.
- The major health center provided with a complete x-ray unit including the machine and the film processor unit should be provided with two (2) packets of each type of the films quarterly.
- Film processing chemicals like the developer and the fixer are to be provided with adequate quantities quarterly to meet the required needs of the clinics.
- X-ray films warranty measures such as expiry dates, safety and packaging of the films are to be strictly taken into consideration.

❖ **AUTOCLAVES – STERILIZATION UNIT:**

- All OHS clinics use several ways of disinfection and sterilization of the dental surgery environment, equipment, instruments and some materials.
- Two main methods used for disinfection are the cold or chemically and the heat treated by boiling.
- The methods used for sterilization are the cold or chemically treated for the equipment and those instruments that can not be heat treated by using the autoclaves.
- All operative metal instruments are heat treated by dry or moist air sterilization using autoclaves.
- The autoclaves available are either centralized for the whole hospital or it can be centralized for the dental clinic only.
- Most oral health clinics in the country are at present using the bench top autoclaves which should become the standard types of sterilization units.
- The boiling of instruments had been discontinued in all hospitals, but be still in use in the health centers where there is no regular power supply.

❖ **AMALGAMATORS:**

- Amalgamators are used for triturating or mixing of dental restorative materials called amalgam or silver filling.
- There had been several types in use which include the hand dispensing in one part mercury to two parts silver ions and then mixed by inserting into the amalgamator machine.

- The latest models are the more modified units which are for mixing the ready made capsulated amalgam filling materials.
- Amalgamator units come in different makes and models, and any of the units to be standardized should produce less noise, easy to obtain spares and spare parts, and three point power plug and meet the Dental biomedical and pharmaceutical specifications.
- All techniques using silver and mercury mixing by hand using motor and pestle, and amalgamator units should now be discontinued from the service.
- The best available amalgamator unit on the market would be the ESPE Model distributed by Hallas Dental Company of Australia.

❖ ***LIGHT CURING UNIT:***

- Light curing machine units are used for light accelerated tooth colored dental restorative filling materials in the anterior teeth for aesthetic reasons.
- There are many different types of light curing units available such as SILUX, DEMETRON and OPTILUX 400 and 501 and, the latest the RADII models
- These light curing units had been improvised with changes in shape and size for mobility, quality and excellence for use.
- The Radii unit is the best because it is portable and very convenient which can be operated by electricity or a 12 volts battery for uses in PNG for the present time.
- Standard requirements are power 240 volts, self build in cooling system and a three point plug is to be complied with in purchasing and distribution of these units plus spares and spare parts and accessories.

❖ **REFRIGERATOR UNIT:**

- A refrigerator unit is essential for all levels of the oral health clinics in the country due to the climatic conditions when consideration is given to the dental pharmaceutical supplies.
- Most consumable supplies are to be stored in a temperature controlled environment preferably at or below the body temperature to prevent evaporation contaminations and damages.
- No personal consumable items like foods, cooked or uncooked and drinks should be kept or stored in the fridge meant for dental and medical supplies only.

❖ **PORTABLE AIR COMPRESSOR UNIT:**

- A portable air compressor, a portable electric or a petrol engine generator and a portable dental unit are used together for the school preventive or rural outreach programs in places where there is no regular power supply.

- This system of operation is an expansive and a single heavy going operation which should be restricted to the health center services.

❖ ULTRASONIC SCALER UNIT:

- The ultrasonic scaler unit is electrically operated for cleaning and polishing of teeth to remove tartar/calculus and betelnut stain.
- Most dental units available in the country now have the scaler piece build into the system.
- It is more convenience to develop and use a safe and easy procedure using the manual scalars.

❖ TROLLEYS SURGICAL TRAY UNIT:

- Most metal trolleys used as surgical trays are being out dated as designing of the surgery rooms are laid out for a four hand dental practice specifications.
- The dental unit available for use now has a build in trays for instruments and mobile trolleys are reserved for main maxilla facial surgery in an open room.
- Metal trolleys are best reserved for the referral hospitals where major surgery procedures are carried out.

❖ INSTRUMENT CABINET UNITS:

- Cabinets for instruments are either mobile or static/fixed types used for storage of all types of operative instruments in the surgery room.
- The cabinets could be made of metal or wood and can be mounted on trolleys for mobility and placed in a fixed position.
- It is standard to have at least three mobile and two static units of instruments cabinets in surgery room design of 3.2m x 4.2m spacing.

❖ WASTES AND SHARPS DISPOSIBLE UNIT:

- Waste bins for the dental surgery should have sufficient volume, foot petal, cover lid and the handle for easy and safe handling for uses.
- These wastes bins are to be for the disposal and storage of soiled items only.
- Note that all SHARPS are to be handled with care and disposed into a hard cover box with clearly labeled fill line and disposal instructions.
- These are very essential items and should be made available in adequate numbers for each surgery.
- Example, in a three surgeries clinic there should be a minimum of two waste bins every year.

- For sharps disposal there should be a minimum of eight (8) hard cover medium size boxes per quarter for the regional hospitals due to the work loads expected from them.
- The hospitals level 3, 4, and 5 would need about six boxes and the health centers with at least three boxes.

❖ MOBILE DENTAL CLINIC VAN:

- A mobile dental unit is ideal for the oral health outreach services for preventive program.
- The unit should be provided for each clinic in the country.
- At the present time the cost of having one including the ten seated viechle to drive the unit to the location of operation would be a concern.

TABLE 4 – TABLE ON EQUIPMENT MINIMUM STANDARDS:

List of Dental Surgery equipment for level of Health Service.	Level 1	Level 2	Level 3	Level 4	Level 5	HEALTH CENTRE	AID POST	Total
Amalgamator.	3	3	3	2	1	1		
Aspirator/Evacuator Mobile	2	2	2	1	1	1		
Compressor Dental, Oil Free Dry Air For Two Surgery Capacity	1	1	1	1	1	1		
Compressor Dental, Oil Free Dry Air For Four Surgery Capacity	1	1	1	1	1	1		
Dental Operating Chair, Manually Operated Hydraulic Pump.	3	2	2	1	1	1		
Dental Delivery Systems, Comprising Chair, Light & Unit with Adopter For Slow & High Speed Hand pieces And Triplex Syringe	2	2	2	1	1	1		
Dental Operating Unit, Mobile, With Adopters For Slow & High Speed Hand pieces And Triplex Syringe	3	2	2	2	1	1		
Dental Operating Portable Set, Aseptico	1	1	1	1	1	1		
Dental x-ray Unit, Mobile	1	1	1	1	1	1		
Dental x-ray Unit Wall Mounted	1	1	1	1	1	1		
Dental x-ray Processing Unit Automatic Electrical	1	1	1	1	1			
View Box, Wall Mounted	1	1	1	1	1	1		
Endodontic Glass Bead Sterilizing Unit	1	1	1	1	1	1		
Generator, Portable 2.2 KVA Honda or Equiv.	1	1	1	1	1	1		
Instrument Table, Ss. Mounted on castors wheels								
Light Curing Unit For Composites	4	3	3	2	1	1		
Needle Disintegrator Powertron No 2 Medical Device	1	1	1	1	1			
Patrol Box Metal	3	2	2	2	2	1		
Sterilizer, Electric, Boiling Type						1		
Sterilizer, Autoclave, Castle Hart 1200 or Equiv.	1	1	1	1	1	1		
Stool, Dental Operating.	5	4	3	2	2	1		
Stool, chair side Assistant.	4	3	2	2	1	1		
Ultrasonic Cleaning Unit And Accessories	1	1	1	1	1	1		
Ultra Sonic Scalars Unit Complete With Scaling Tips.	1	1	1	1	1	1		
Waste Bin, Pedal Operated	4	3	2	2	2	2		

❖ ACCIDENT AND EMERGENCY ITEMS:

➢ The following first aid items are required for the oral health clinic or sections;

- Oxygen cylinder
- Ambu bag
- Endothelial tubes
- Nebulizers
- Blood pressure machine
- States cope
- First aid Kit

➢ At least there should be a complete set of the above items provided for each clinic to be used in event of any accident and/or emergency

7.4. DENTAL LABORATORY EQUIPMENT:

➢ The dental laboratory is specifically designed for the fabrication of dental prosthesis including dentures, obturators and other appliances.

➢ Both clinical and laboratory procedures can be done simultaneously in one surgery room if the dental fixed or mobile chair is provided, also.

➢ Most laboratory equipments are made of stainless steel metal and can have a life span of at least ten years if they are used with care and not abused.

➢ Replacement of any equipment needs proper assessment by the dental technician and the doctor of the clinic before request is made to the chief dental officer.

➢ Any changes to be made to the dental catalogue on the dental equipment, instruments, materials and their accessories should be done by the National Dental Standards Committee.

➢ Replacement of most dental equipments should be reviewed and considered after every five years.

❖ EQUIPMENT, INSTRUMENTS, MATERIALS AND ACCESSORIES:

➢ The laboratory instruments, materials and accessories are essential for the construction and fabrication of dental prosthesis in a hospital where there is a doctor.

- Some of the instruments are prone to wear and tear over a short period of time and therefore, are to be provided with at least five (5) of each types per technician annually.
- These laboratory items are listed in the dental catalogue with the prescribed requirements and therefore, it should be strictly adhered to when ordering and dispensing new and additional supplies.
- Orders for supplies are usually seen to be excessive and it is the responsibility of the dispenser to stick to the recommended quarterly requirements per staff for each level of the facility.
- It is standardized requirement that supplies are distributed based on and strictly determined by the performance monthly reports from each staff of the facility
- The requisitions or orders must be checked by the dental pharmaceutical officer who preferably should be a doctor before the supplies are dispensed to the facility

7.5. PROVISION OF INSTRUMENTS AND SUPPLIES:

- Safe and efficient practice is ensured through the provision of adequate and appropriate equipment and supplies.
- Essential basic supplies for patient care are procured and made available in sufficient quantities for routine and emergencies situations.
- Items designated for a single use only are NOT TO BE REUSED OR HAVE MULTIPLE USERS.
- Clinic environment including waiting, offices and surgeries rooms is clean and safe for patients, guardians, visitors and staff at all times.
- Regular inspections and maintenance work to the clinic environment is done on a yearly basis to ensure safety-building standards are maintained.
- Regular maintenance works is done to the biomedical equipments and instruments to ensure that these items are in a clean and safe working condition at all times.
- Maintenance services are to be inspected and work be done on biomedical and other equipments is strictly complied with the manufacturers' specifications and recommendations, and should be done by a qualified biomedical and other specialist engineer.

8.0. PATIENT CARE CLINICAL SERVICES AT ALL HEALTH FACILITIES.

STANDARD 25

8.1. SUITABLE PROVISION IS MADE FOR THE PERSONAL COMFORT AND SAFETY OF PATIENTS AND GUARDIANS.

- Waiting area should accommodate up to twenty (20) patients at a time furnished with chairs and/or forms for patients and their guardians to sit down and wait.
- Look for patients' consent in the patients' clinic book and medical records and if there is none, verbal explanation should be provided to the Patient/guardian of the need for the consent to be done with a written signature before any procedure is to be carried out.
- Oral health services Procedure Manual is to be consulted for any special clinical and management procedure that is required for a specialized condition.
- Proper medical records, specific forms, investigations, and treatment records are kept and unique number for identification for each patient.
- Proper filing and storage system of patients' diagnostic, treatment and management records are kept for future reference and continuity of care.
- Check for each patient's clinical and specific examinations and treatment records from the referring ward, clinic or hospital.
- Patients are provided with the chair/bed side education and demonstration on care for medication and disease prevention and promotion service is provided so that self care is build in.
- Effective communication link for consultation is established between the section, diagnostic services, wards, rural health centers or other referring hospitals when the patient's condition is not made clear enough.
- Results of specific diagnostic services include x-ray and pathology is made available in a timely manner for differential diagnosis and treatment planning procedures.
- Analyzed information is fed back to the service providing agency for improvement process so that appropriate actions to address the problem and meet any improvement required.
- Patients for consultation and examination is seen with their rights of privacy and dignity assured and protected within the constraints of the individual treatment plan.
- There is a policy on confidentiality and privacy of all information obtained from the patient relating to their treatment which should be held as professional secrecy.
- Policies, guidelines and procedures ensure continuity of care particularly in regard to communication with other services and /or doctor for reviews and follow up.

- Patients clinical and management records can be entered into a computer and this is optional depending on the importance of the case.
- All patients' records should be clearly and accurately written out as well as verbal explanation of the treatment, management and follow up procedures in the patient's own clinic book.
- Appointment list for initial or revision patients are accurately written in the clinic appointment books with times and dates.
- The same information is entered into the patients' clinical record card/ book and also with a verbal explanation and instruction.
- Patient is explained well on the compliance of appointment time and failure result in the patient having to pay additional service fees to be treated or to complete the treatment.
- All patients' attendance as initial or revision, types of diseases, treatment types provided and fees collected are accurately recorded in the standard daily record of treatment sheets.
- This daily statistical records of performance are very essential as a source of information for the monthly and annual reports which are eventually compiled as the management information system database.
- Patients referred to another facility are provided with the appropriate discharge or referral form completed with full patient history, examination, diagnostic, treatment and management procedures provided.

8.1. BUILDING REQUIREMENTS INCLUDING FUNCTIONAL DESIGN AND LAYOUT:

Recommend using table here also

STANDARD 26

- A separate building for the OHS is ideal to accommodate for the number of surgery rooms required to perform the different Sub- specialties of dental services.
- A specific building design and lay out of rooms for a dental clinic should be obtained from a Dental manufacturing company so that these specific requirements are met.
- The building must accommodate for not less than twenty rooms that is required to provide a full scale of OHS specialty services.
- They include a waiting room with the required spacing of 6.5m x 4.2m that should hold up to twenty (20) patients at a time.
- The room must contain space for adequate number of forms and/or chairs for the patients to sit down, a coffee table for magazines, drinking water fountain, floor tiling with stick surfaces, good lightings and cooling fans or air conditioning.

- Reception room should have adequate space to accommodate draws, cabinets and cupboards for cards, forms, and office table and chairs, telephones and computers and space for free movement of staff.

- Surgery cubicle should have space of 4.2m x3.6m for free movement, a scrub-up hand basin and sinks, fans, static dental unit, stools for operator and assistant, instrument cabinets and cupboards, work benches and general lightings.

- Should have at least three rooms for offices, the doctor, therapists, secretarial and reception for management services and should be well furnished with the required items like tables, chairs, cabinets, cupboards, telephones and computers etc.

- Laboratory room shall have adequate space (5.0m x 6.5m) is equipped and furnished with required biomedical equipment, instruments and materials to provide patient care services.

- A store room with space of (6.5m x 4.2m) and provided with storage cabinets, cupboards, and selves, and refrigerators along with all the equipment and supplies.

- A central sterilization room space (6.5m x 4.2m) must have bench tops to hold autoclaves, storage cabinets and cupboards for instruments and two double basins sinks with running water.

- Radiology services room should accommodate a static or mobile radiographic machine either floor or wall mounted. It should have storage cupboards with bench top to hold the film processing unit

- The unit can be manually or electrically operated with the double basins sinks and running water.

- Rest (toilet) room space of (4.2m x 2.5m) for staff and patients, one each for the males and females staff and one for the patients with sinks, the required items and running water.
- Conference room shall have a space capacity of (10mx12m) to hold between twenty-five (25) to forty (40) people at a time.

- Plant room space of (4.2m x 3.6m) for centralized air compressor unit for all hospital based oral health facilities.

- Dental clinics should have a recovery room (4.2mx 3.6m) equipped with a basic resuscitation unit.

- Storage room for safe and secure keeping of Gas bottle and other surgical units as required.

- Infection control room should have sufficient space to keep all required tools, toiletries and waste disposal bins.

➢ Surgeries of the clinic should have laminated floor with no stick surface with easy to push open or swinging doors with no fixed joints, a sink with foot or elbow control handles, at least three power points placed in and preferably air conditioned.

- Number of dental surgeries for each level of the facility is depended on the number of specialized services to be provided by that hospital and the catchments population.
- The suggested minimum surgery rooms requirements should be;

  - Level one hospital –8 to 10 surgery rooms.

  - Level two hospitals -5 to 7 surgery rooms.

  -Level three hospitals - 4 to 6 surgery rooms

  -Level four hospitals – 3 to 5 surgery rooms.

  - Level five hospital - 2 – 4 surgery rooms.

- A health center should have at least two surgery rooms (depends on the need of the Community).
- Oral health sections in rural hospitals and the major health centers should have a capacity to treat an average of about twenty (20) patients daily.
- Hospitals level 4 to 5 should be able to hold up to thirty (30)
- Hospitals level 2 to 3 should hold up to fifty (50) patients at any one time each day.
- Hospital level one should hold up to sixty (60) patients at any one time each day.

9. REFERENCES:

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