THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF HEALTH, COMMUNITY DEVELOPMENT, GENDER, ELDERLY AND CHILDREN

THE SECOND GUIDELINES FOR PROVISION OF ORAL HEALTH SERVICES IN TANZANIA

JANUARY, 2020

TABLE OF CONTENTS

FOREWORD

Oral health is multifaceted and includes the ability to speak, smile, smell, taste, feel, chew, swallow, and convey a range of emotions through facial expressions with confidence and without pain, discomfort, or disease of the craniofacial complex. With the formulation of concise oral health guidelines, a clear vision for the future can be established with targets and points of reference for the short and medium terms. Furthermore, explicit oral health guidelines enable priorities to be outlined, build consensus and outlines roles and responsibilities amongst stakeholders.

The Guidelines for Provision of Oral Health Services in Tanzania are prepared to uphold the achievements gained during the implementation of the previous Guidelines for Oral Health and implement those interventions that were partially or not implemented. In addition, the guidelines outline the essential steps to be taken in the process of phasing down the use of dental amalgam in the Tanzanian Health Care Delivery System. The guidelines emphasize the reduction on the use of dental amalgam in order to minimize environmental pollution emanating from the disposal of dental clinic waste. This is in response to the Environmental Management Act No. 20 of 2004 and Minamata Convention on Mercury, 2013.

The implementation strategies outlined in the guidelines are derived and intended to be implemented under the guidance of eight policy documents that have important influence on the oral health care services: - six of which are Tanzanian, and two are international. Because oral health care is integrated into general health care, the strategies to be implemented are outlined for each of the six levels of a pyramidal structure of the health care delivery system in Tanzania – *ranging from the base (lowest) level at community to the tip (highest) level at national and referral hospitals.* The importance of integrating oral health interventions with those of common non-communicable diseases (NCDs) is stressed in the Guidelines for provision of oral health services. This is in response to the accumulated evidence that oral diseases share common risk factors, and that they also have bidirectional associations with other non-communicable diseases. In addition, operational plans for the (a) Ministry of Health, Community Development, Gender, Elderly and Children; (b) President's Office - Regional Administration and Local Government; and (c) Dental Training Institutions*;* have been outlined to delineate their roles and contributions for efficient achievement of the stated guidelines objectives.

It is the expectation of the Ministry that all stakeholders will use the guidelines as a guiding tool for the provision of oral health services in Tanzania.

Dr. Zainab A. S. Chaula
Permanent Secretary
Ministry of Health, Community Development, Gender, Elderly and Children

ACKNOWLEDGEMENT

The development of the guidelines for provision of oral health services in Tanzania benefited significantly from the inputs and support provided by outstanding expert groups of oral health professionals representing a balance of Government and Academic Institutions, NGOs and Associations. Thanks should go to the following members for their dedication and devotion: Dr. R. M. Masumo (Chief Dental Surgeon - MoHCDGEC), late Prof. E. N. Kikwilu (Chairman of the expert group), Mr. E.N. Mbanga (Director of Policy and Planning-MoHCDGEC), Prof. B. S. Lembariti, Prof. F. Kahabuka, Dr. A. Sijaona, Dr. M. N. Kabulwa, Dr. J. T. Kengia, Dr. I. Kida, Dr. J. Masalu, Dr. S. Isidore, Dr. J. Masaganya, Dr. J. Mwakatobe, Dr. G. Berege, Dr. L. Carneiro and Prof. D. O. Simba (Advisor of the expert group).

Moreover, I gratefully acknowledge the technical feedback from the Regional and District Dental Officers and Dental training institutions.

Further, my special recognition and appreciation goes to an NGO which is known as Agenda for Environment and Responsible Development (AGENDA) for the role it has played in facilitating and financing the development of this document.

Lastly, due to the difficulties in listing the names of all who participated in developing the guidelines, my sincere thanks are also extended to individuals and organizations which are categorically not mentioned above but have played a pivotal role, and that the successful completion of this document is the aftermath of their tireless efforts.

Prof. Muhammad Bakari Kambi
Chief Medical Officer
Ministry of Health, Community Development, Gender, Elderly and Children

LIST OF ABBREVIATIONS

ADO	-	Assistant Dental Officer
ART	-	Atraumatic Restorative Treatment
CO	-	Clinical officer
CDS	-	Chief Dental Surgeon
CPI	-	Community Periodontal Index
DDO	-	District Dental Officer
DMFT	-	Decayed Missing Filled Teeth
DO	-	Dental officer
DLT	-	Dental laboratory technician/technologist
DT	-	Dental therapist
FDI	-	World Dental Federation (Fédération Dentaire Internationale)
HSSP IV	-	Health Sector Strategic Plan IV
MoHCDGEC	-	Ministry of Health, Community Development, Gender, Elderly and Children
NCDs	-	Non-Communicable Diseases
OHE	-	Oral health education
SO	-	Strategic Objectives
TDA	-	Tanzania Dental Association
PHC	-	Primary Health Care
PO-RALG	-	President's Office, Regional Administration and Local Government
RCH	–	Reproductive and child health
WOHD	–	World Oral Health Day
WHO	-	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background

This document contains the national guidelines for provision of oral health services in Tanzania. Good oral health is essential to overall health and quality of life. Good oral health enables people to speak, smile, breath, drink, and eat. The oral cavity also plays a central role in the intake of basic nutrition and protection against microbial infections.

The Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC), being the custodian of delivering health services in the country, acknowledges that at present there are many ongoing initiatives by the government, non-government and private agencies in Tanzania Mainland to improve oral health services. However, there are no updated and well-organized national guidelines to support and lead these initiatives. These guidelines are therefore, intended to provide a standard approach to guide stakeholders in the provision of oral health services, countrywide. Guidelines on oral health services facilitate understanding of the roles of various stakeholders in the improvement of oral health covering, in as much as possible, basic preventive, curative and rehabilitative oral health care.

The current guidelines for oral health care services in Tanzania have been developed after reviewing the first guidelines which were intended to address efficient utilization of scarce trained personnel, physical and financial resources.
These guidelines are derived from and are intended to be implemented under the guidance of eight documents that have important influence on the oral health care services. These are:

National Health Policy 2020 (draft);
Health Sector Strategic Plan (HSSP IV) July 2015-June 2020;
Strategic Oral Health Plan 2012-2017;
Basic Standards for Health and Social Welfare Facilities;
Staffing Levels for Health 2014-2019;
WHO Africa Region: Regional Oral Health Strategy 2016-2025
Environmental Management Act, 2004 and
Minamata Convention on Mercury 2013.

What is new?

These guidelines outline the integration of oral health with non-communicable diseases (NCDs) and describe essential steps to be taken in the process of phasing down the use of dental amalgam in Tanzania Health Care Delivery System. The importance of integrating oral health interventions with those of common non-communicable diseases (NCDs) is stressed in these guidelines. This is in response to the accumulated evidence that oral diseases have common risk factors and a bi-directional association with NCDs.

These guidelines emphasize the reduction of use of dental amalgam in order to minimize dental clinical waste so as to protect human health and prevent environmental pollution. This is in response to The Environmental Management Act, 2004 and Minamata Convention on Mercury, 2013.

In addition, this document delineates the roles of key stakeholders and their contribution in the achievement of the stated guidelines objectives. The stakeholders include, among others, the:
(a) Oral Health sub-section, Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC);
(b) President's Office- Regional Administration and Local Government (PO-RALG); and
(c) Dental Training Institutions – *School of Dentistry, School of Dental Laboratory Technicians and Dental Therapists Schools.*

1.2 Scope of the Guidelines

These guidelines provide guidance related to the provision of oral health services both in public and private facilities in the country. The guidelines focus on the following key issues:

1. Oral health promotion and prevention of oral diseases and conditions;
2. Curative and rehabilitative services;
3. Development of oral health personnel;
4. Restorative care performed using mercury-free dental materials especially to vulnerable groups of the population (women of child-bearing age and children);
5. Environmental friendly dentistry;
6. Integration of oral health interventions and surveillance with those of the non-communicable diseases (NCDs);
7. Oral health research promotion and innovation;
8. Monitoring and evaluation of the implementation of the guidelines for Provision of Oral Health Services.

1.3 Users of the Guidelines

These guidelines are intended to be used by oral and general health personnel and other stakeholders responsible to overseeing and supporting provision of oral health services at all levels in public and private health facilities.

The objective of these guidelines is to ensure that all stakeholders involved, follow the same guidelines in providing oral health services in the country.

1.4 Rationale for Developing of the Guidelines

There are several key players and various levels for provision of oral health services in the country, which necessitates availability of national guidelines to guide the provision of the services. Absence of the guidelines might lead into lack of uniformity in quality service provision and undermines efficiency in coordinating the services countrywide. Thus, the rationale of developing these guidelines is to have a

standardized approach to guide different stakeholders at all levels, in their initiatives towards addressing oral health related problems through improving service delivery, research and advocacy.

1.5 Objectives of the Guidelines

Overall, these guidelines are intended to put in place a uniform and harmonized approach in the provision of oral health services all over the country. The guidelines offer practical guidance for effective and efficient provision of oral health services with ultimate contribution to improved quality of oral health services in Tanzania. Specifically, the guidelines are intended to:

i. Provide technical guidance on oral health promotion and prevention of oral diseases and conditions.
ii. Provide technical guidance on curative and rehabilitative oral health services.
iii. Improve research, monitoring and evaluation of oral health services for continuous quality improvement

1.6 Organization of the Document

These guidelines are structured into four chapters. ***Chapter one*** outlines the background, scope of the guidelines, users of the guidelines, rationale for developing the guidelines and objectives of the guidelines for provision of oral health services in Tanzania. ***Chapter two*** summarizes the overview of oral health services provision at global, regional and national level perspective.
Chapter three describes the Guidelines for provision of oral health services (2020) with eight key result areas. ***Chapter four*** describes the roles of key actors and summarizes the implementation strategies.

CHAPTER TWO

GENERAL OVERVIEW OF ORAL HEALTH SERVICES PROVISION

2.1 What is Oral Health?

The World Health Organization (WHO) defines oral health as a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum) disease, tooth decay, tooth loss and other diseases and disorders in the oral cavity.

According to the World Dental Federation (FDI), oral health is multi-faceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow and convey a range of emotions through facial expressions with confidence and without pain, discomfort and disease of the craniofacial complex.

2.2 Oral Health Problems: A Global, Regional and National Perspective

Worldwide, the most common oral diseases are dental caries (cavities, decay), periodontal (gum) disease, oral cancer, oral infectious diseases, trauma from injuries and hereditary lesions. Around the globe, 60-90% of school-aged children and nearly 100% of adults have tooth decay and periodontal diseases, respectively. Dental caries (which includes all stages of tooth decay) is the most common, yet preventable chronic disease on the planet and constitutes a major global public health challenge. The Global Burden of Disease Study 2016 estimated that oral diseases affected half of the world's population (3.58 billion people) with dental caries being the most prevalent condition assessed. Dental treatment is costly, averaging 5% of total health expenditure and 20% of out-of-pocket health expenditure in most high-income countries. The oral health care demands are beyond the capacities of the health care systems in most low-and middle-income countries (LMICs).

In the WHO AFRO region around 40% of population is suffering from oral disorders including dental caries, periodontal diseases, edentulism etc. **Table 1** shows the prevalence and ranking of various oral health and other conditions WHO AFRO region:

Table 1: Ranking of Prevalence of Diseases, Injuries in 2017 in WHO AFRO Region based on GBD2017

No.1: Tension-type headache
No.2: Latent tuberculosis infection
No.3: Caries of permanent teeth (25% of population suffering from untreated dental caries)
No.4: Dietary iron deficiency
No.5: Vitamin A deficiency

In Tanzania, it is estimated that among ten children of age below five years, six children have decayed teeth and million school days are missed each year due to dental-related illnesses. The population between 20 and 29 years of age has on average one missing tooth, which increases to eight among those over aged 60 years. Generally, among ten adults of 45 years old, about eight have periodontal diseases.

2.3 Overview of Oral Health Services in Tanzania

The oral health services in Tanzania have since 1980 been organized and run through approved national plans for oral health. The first National Plan for Oral Health (1980-1983) named 'Changing and Developing Oral Health Care in Tanzania' was succeeded by the 2nd National Oral Health Plan (1984-2002) and later the Policy Guidelines (2003-2009). The aim of the first National Plan was to change the orientation of oral health services from a colonial model which focused on curative to one that emphasizes prevention of oral diseases. Unlike the first National Plan, which had no specific objectives, the second National Plan clearly stipulated the goals and objectives to be achieved. In response to the health sector reforms, which emphasized decentralization, the 2nd National Plan for Oral Health was reviewed in 2002 and the policy guidelines developed. That is when the oral health coordinating office of the Ministry of Health assumed a role of overseeing the policies rather than being an implementer. The strategic oral health plan (2012-2017) was developed to concentrate on the objectives that can be achieved by the Central Oral Health Section of the Ministry of Health, leaving out the objectives that could be achieved through other stakeholders.

2.4 The National Health Policy 2020 (draft)

The National Health Policy 2020 (draft) states that "health services such as the ENT; **Oral health**; Eyes care; Skin; Emergency medical services, etc. need to be strengthened for improving the delivery of specialized services in the country". The demand of such services is huge at all levels of health care delivery system. Effective, efficient, accessible and available services for the mentioned diseases and conditions are of critical importance to improve the health of the community. As such the Government has continued to strengthen and establish such services at all levels. However, the availability of such services in health facilities at all levels varies and does not meet the requirements. This is due to budget constraints, shortage of human resources, equipment, supplies, machinery and infrastructure to provide such services in the country. Thus, outreach services need to be enhanced to make these services accessible at all levels.

The Policy Objective for Oral Health within the National Health Policy 2020 document is *"to have a range of oral health services that meet the needs of citizens at all levels"*. Policy statements derived from policy objective are:

a) to continue to expand and enhance access to oral health services at all levels of healthcare delivery;
b) to continue to strengthen and coordinate the use of research and technologies for treating oral diseases and conditions;

Table 2 shows the implementation strategy of Health policy cited specific in the area related to oral health:

Table 2: Implementation strategy of Health policy

Policy Objective	Policy Statement	Strategy	Target and expected output
Have a range of health services that meet the needs of citizens at all levels	Continue to expand and enhance access to oral health services at all levels of healthcare delivery	Enhancing availability of service providers, relevant equipment, supplies and infrastructure at all levels	Evidence based planning and decisions on the use of best technology for treating such diseases and conditions by June, 2030
	Continue to strengthen and coordinate the use of research and technologies for treat oral diseases and conditions		Oral health services are available at all primary health care facilities based on demand by June, 2030
			Oral health services are available at all regional referral hospitals by June, 2030
			Best treatment options and interventions that are effective in the areas of the Oral health are known by June, 2025

2.5 Policy Guidelines for Oral Health Care in Tanzania (2002/3-2008/9)

The first Policy Guidelines for Oral Health Care in Tanzania (2002/3-2008/9) were derived from the Second National Plan for Oral Health 1988-2002. The motive behind it was to provide the impetus to accelerate the realization of the ten strategic objectives of the Second National Plan for Oral Health 1988-2002.

The formulation of the Policy Guidelines for Oral Health was necessitated by the Health Sector Reforms taking place in Tanzania at that time. With reforms, the Ministry of Health assumed a role of policy formulation and guidance rather than being an implementer of the policies. The slogan "Eyes on, hands off" guided the thinking and implementation of health policies in Tanzania. There was therefore a need to spell out what needs to be done by managers and service providers at various levels of health care.

The Policy Guidelines sought to improve oral health of all Tanzanians focusing on those most at risk by ensuring that oral health services are available and accessible to both urban and rural areas; sufficiency of oral health personnel at all levels; sensitized community on preventable oral health problems; and appropriate action through community involvement. These were to be achieved by ensuring provision of promotive, preventive, curative and rehabilitative oral health services, which are efficiently managed.

A number of strategies were outlined in the implementation of the guidelines. These included promotion of lifestyles conducive to best oral health practices; reduction of preventable oral conditions; provision of basic curative and rehabilitative oral health services to those in the target population in greatest need; and development of the oral health services to cover the entire population with emergency and promotive oral health care. In the implementation of the guidelines, emphasis was put on the reduction of dental caries; fluorosis and periodontal diseases. The guidelines also emphasized on the need for care and treatment of neoplasms; equitable distribution of emergency oral health services (for maxillofacial trauma); and the establishment of a database system for monitoring oral health program.

Following the implementation of the guidelines, a noticeable achievement was recorded in the provision of emergency dental services. First aid was provided by clinical officers at dispensary and HCs. Urban health centres were able to manage simple trauma cases, but not rural health centres. Almost all district dental clinics managed referrals and performed Atraumatic Restorative Treatment (ART) but very few municipal and city health centres performed ART. In addition

Sporadic campaigns were conducted by Tanzania Dental Association (TDA) members during the World Oral Health Day (WOHD) and other occasions on the effect of frequent sugar consumption, tooth cleaning aids and materials, importance of oral hygiene and imparting skills on effective use of tooth cleaning aides to prevent dental caries and periodontal diseases.

Most dispensaries and rural health centres provided referral for dental caries and periodontal diseases, to higher level. Few of them provided emergency oral health care, rendered by Clinical Officers trained on emergency oral care.

Whereas, all district dental clinics provided preventive treatment and managed cases of neoplasms, there was no home-based care or promotional activities for patients with oral neoplasms.

Regarding endemic dental fluorosis, HCs and district dental clinics diagnose and refer cases of dental fluorosis. There was however, no evidence of identification of endemic fluorosis areas to suggest alternative solutions at all levels.

Health education and information to families, schools, communities for all intervention conditions were minimally engraved into health care delivery system for all the oral health conditions.

2.6 The Strategic Oral Health Plan in Tanzania (2012-2017)

The strategic oral health plan stipulated the Overall goal; Purpose; Vision; Mission; Strategies; and Strategic objectives; all derived from the previous National Plans for Oral Health:

1. ***Vision:*** "To be a model of excellence in the delivery of quality and equitable oral health."
2. ***Mission:*** "Facilitate the provision of quality oral health services to all people to enable them improve their wellbeing"
3. ***Seven (7) Strategic Objectives (SO):***
    1. SO 1: Routine and appropriate oral health education in clinics, RCH, ordinary primary schools, primary schools for children with disabilities, and public provided;

2. SO 2: Appropriate and uninterrupted curative, rehabilitative and corrective quality oral health services at all levels of oral care provided;
3. SO 3: Development of oral health personnel coordinated and facilitated;
4. SO 4: Oral health research coordinated and facilitated;
5. SO 5: HIV transmission in oral health care settings prevented;
6. SO 6: Gender mainstreaming and equity in oral health services improved;
7. SO 7: Oral health care services monitored and evaluated.

2.6.1 Key result areas:

a) Oral health promotion and prevention of oral diseases and conditions;
b) Curative and rehabilitative services;
c) Development of oral health personnel;
d) Research results disseminated and translation into action; and
e) Monitoring and evaluation.

2.6.2 Achievements and challenges

Strategic objective	Agreed strategies	Achievement	Remarks
Routine and appropriate oral health education in clinics, RCH, ordinary primary schools, primary schools for children with disabilities, and public provided	Raise awareness on dental issues among Tanzanian population	Inadequate routinely organized health education in clinics, RCH, ordinary primary schools, primary schools for children with disabilities, and public provided	Need reinforcement
Appropriate and uninterrupted curative, rehabilitative and corrective oral health services at all levels of oral care provided	Avail dental equipment, instruments, materials and supplies at all levels of care	Inadequate availability of dental equipment, instruments, materials and supplies almost in all levels	Need reinforcement
	Reduce disability, impairment and handicap, which is caused by fluorosis	Currently, no organized interventions to reduce disability, impairment and handicap caused by fluorosis	Need urgent attention
	Facilitate availability of the required human resource at all levels of care	Efforts are going on to increase the dental therapist schools and increasing the number of enrolments	Maintain
	Ensure adherence to Professional standards	Rendered	Maintain
Development of oral health personnel Coordinated and facilitated	Provide continuing education regularly	Sporadic training coordinated by TDA	Need reinforcement
	Introduce Competent Based curriculum	Rendered	Maintain
Oral Health research coordinated and facilitated	Conduct oral health research and Dissemination	Currently, no organized guideline on research conduct and dissemination	Need urgent attention
	Institute quality control measure on dental products	Currently, no organized interventions to control the quality of dental products	Need urgent attention

HIV transmission and Other communicable diseases in oral health care settings prevented	Prevent transmission of HIV and other Communicable diseases among dental workers	Rendered	Maintain
	Prevent HIV and other communicable diseases transmission in oral health care clinics	Rendered	Maintain
Gender mainstreaming and equity in oral health services improved	Ensue gender sensitive oral health services	Rendered	Need more reinforcement
	Ensure equal opportunity for male and female in training, recruitment and promotion	Rendered	Need more reinforcement
Oral health care services monitored and evaluated	Monitor and evaluate oral health services	Currently, minimal routine organized supportive supervision	Need reinforcement

2.7 Health Sector Strategic Plan (HSSP IV) July 2015-June 2020

The Health Sector Strategic Plan (HSSP IV) outlining possible applications and implications of Strategic Oral Health Plan 2012-2017 to reach all households with quality health care based on Big Results Now (BRN) initiative is emphasizing on:

a) Provision of quality health care that is enjoyed by all households;
b) Better performance of health facilities;
c) Better performance of individuals (human resource for health) within the health system;
d) Improved prioritization to attain equity in health and social welfare;
e) Ensuring well-stocked health facilities in-terms of medicines and other supplies.

The Objectives of the HSSP IV are as follows:

a) The health and social services sector will achieve objectively measurable quality improvement of primary health care services, delivering a package of essential services in communities and health facilities;
b) The health and social welfare sector will improve equitable access to services in the country by focusing on geographic areas with higher disease burdens and by focusing on vulnerable groups in the population with higher risks;
c) The health and social welfare sector will achieve active community partnership through intensified interactions with the population for improvement of health and social wellbeing;

d) The health and social welfare sector will achieve a higher rate of return on investment by applying modern management methods and engaging in innovative partnerships; and

e) To address the social determinants of health, the health and social welfare sector will collaborate with other sectors, and advocate for the inclusion of health promoting and health protecting measures in other sectors' policies and strategies.

2.8 Revised staffing levels for dental personnel at different levels of Health care 2014-2019

Staffing levels for MoHCDGEC departments, Health Service Provision Facilities, Health Training Institutions and Agencies 2014-2019 were revised and have indicated that staffing levels for oral health personnel have remained constant. This is summarized in Table 3.

These guidelines recognize the need for adjustment based on the current needs. The proposed adjustments are indicated below in asterisk:

Table 3: Staffing levels for dental personnel at different levels of health care delivery system

	Personnel required						
Health care level	Dental therapist	Assistant dental officer	Dental officer	Specialist dental officer	Dental laboratory technologist	Medical attendant	Assistant nursing officer
Dispensary	1	0	0	0	0	0	0
Health centre	1-2	1	1*	0	0	0	0
District hospital	1-2	1-2	1-2*	0	1*	1	1*
Regional hospital		3-4	2-3	1-5*	2-4	2	1
Zonal and National hospitals			As per assessed need	As per assessed need	As per assessed need	As per assessed need	As per assessed need

2.9 Basic Standards for Health Facilities

Volume 2 of the document on Basic Standards for Health and Social Welfare Facilities: Dispensaries and Health Centres stresses on the importance of dental services at dispensary and health centre levels.

The document stipulates that every dispensary needs to have a room designated for dental services with basic equipment for dental services (mouth mirrors, probe and pair of tweezers, ART kit, scalers, extraction forceps and elevators).

In addition, the document spells out that the dispensary will employ one Dental Therapist to render oral health services that include emergency oral care, restorative

care using atraumatic restorative treatment (ART), oral health education and promotion.

At the health centre level, an additional one more oral health staff to dispensary i.e. the Assistant Dental Officer should be employed to render dental services commensurate to their job descriptions. Further, in high volume health centres and based on the needs these guidelines recommend the employment of a Dental Officer to offer services in the catchment area.

2.10 The National Environmental Management Act, 2004

In 2004, Tanzania enacted a law titled "The National Environmental Management Act, 2004". Under this Act, five General Principles are stressed in Sections 4; 5; 6; 8; and 9 as follows:

Section 4: Every person living in Tanzania shall have a right to clean, safe and healthy environment.

Section 5: Every person may, where a right referred to in section 4 is threatened as a result of an act or omission which is likely to cause harm to human health or the environment, bring an action against the person whose act or omission is likely to cause harm to human health or the environment.

Section 6: Every person living in Tanzania shall have a stake and a duty to safeguard and enhance the environment and to inform the relevant authority of any activity and phenomenon that may affect the environment significantly.

Section 8: Any person performing a public function who, in the course of performing that function is required to take any action, make a decision, create, revise, or implement any policy, plan, strategy, legislation, guideline or procedure, that is likely to affect the management, conservation or enhancement of that environment or the sustainable management of natural and cultural resources, shall have regard to principles of environmental management.

Section 9: All persons exercising powers under this Act or under any other written law having a bearing on the management of the environment shall, strive to promote and have regard to the National Environmental Policy.

2.11 WHO Africa Region: Regional Oral Health Strategy 2016-2025

This strategy stresses the importance of integrating oral health interventions and surveillance with those of non-communicable diseases (NCDs). This is based on the fact that the risk factors for oral diseases are similar to those of common NCDs. In addition, there is accumulating evidence showing that oral diseases have direct relationship with common NCDs, and that the relationship is bidirectional in nature. Therefore, having integrated oral health interventions and surveillance with NCDs is likely to be cost effective compared to vertical interventions.

The aim of this strategy is to contribute to the reduction of NCDs burden and related risk factors by providing effective prevention and control of oral diseases for all people in the African Region within the context of universal health coverage through implementing the following four objectives:

1. To strengthen national advocacy, leadership and partnerships for addressing oral diseases as part of NCDs through multi-sectorial approach;
2. To reduce common risk factors, promoting oral health and ensuring access to appropriate fluorides;
3. To strengthen health system capacity for integrated prevention and control of oral diseases; and
4. To improve integrated surveillance of oral diseases, monitoring and evaluation of programs and research.

2.12 Minamata Convention on Mercury 2013

This convention arose as a response to scientific proof of the adverse effects of polluting the environment with mercury associated with human activity, and its subsequent adverse effects to human health. This led to an international agreement to limit or stop the extraction, concentration and use of mercury and mercury products to limit or even eliminate environmental pollution with mercury to safeguard safety of the environment on which human lives are dependent. Dental amalgam is one of many products that contain mercury and therefore, the need to: limiting its use in order to minimize human exposure to all forms of mercury as much as possible; and to reduce the release of mercury to the environment.

The Minamata Convention on Mercury, 2013 proposes the following nine (9) measures that each Party (member country) is required to take to phase down the use of dental amalgam:

1. Setting national objectives aiming at dental caries prevention and health promotion, thereby minimizing the need for dental restoration;
2. Setting national objectives aiming at minimizing its use;
3. Promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration;
4. Promoting research and development of quality mercury-free materials for dental restoration;
5. Encouraging representative professional organizations and dental schools to educate and train dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices;
6. Discouraging insurance policies and programmes that favour dental amalgam use over mercury-free dental restoration;
7. Encouraging insurance policies and programmes that favour the use of quality alternatives to dental amalgam for dental restoration;
8. Restricting the use of dental amalgam to its encapsulated form; and
9. Promoting the use of best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land.

CHAPTER THREE

THE SECOND GUIDELINES FOR PROVISION OF ORAL HEALTH SERVICES IN TANZANIA

3.1 Overview

The second Guidelines for Provision of Oral Health Services in Tanzania are prepared in such a way as to uphold the achievements gained during the implementation of the previous Guidelines for Oral Health Care and implement those interventions that were not implemented.

In addition, the guidelines outline the essential steps to be taken in the process of phasing down the use of dental amalgam in Tanzania Oral Health Care Delivery System.

The guidelines take into account:

a) the new changes in the leadership of hospitals: national, zonal and regional hospitals being under the Ministry of Health, while health facilities in the districts, health centres and dispensaries are under the President's Office, Regional Administration and Local Government (PO-RALG);

b) the pyramidal structure of referral system of oral health care delivery, which is part and parcel of general health care delivery system;

c) the stewardship roles of the Oral Health Sub-section of the Ministry of Health based on the health sector reforms that capitalize on decentralized health care;

d) the stewardship roles of the President's Office, Regional Administration and Local Government (PO-RALG);

e) the dental training institutions' roles of generating human resource for oral health.

These second guidelines will be implemented under the guidance of the following main policy documents: (1) Health Sector Strategic Plan (HSSP IV) July 2015-June 2020; (2) National Health Policy 2020; (3) Strategic Oral Health Plan 2012-2017; (4) Basic Standards for Health and Social Welfare Facilities; (5) Staffing levels for health (2014-2019); (6) WHO Africa Region: Regional Oral Health Strategy 2016-2025; (7) Environmental Management Act, 2004 and (8) Minamata Convention on Mercury 2013.

3.2 Objectives of the guidelines

Overall, these guidelines are intended to put in place a uniform and harmonized approach in the provision of oral health services all over the country. The guidelines offer practical guidance for effective and efficient provision of oral health services

with ultimate contribution to improved quality of oral health services in Tanzania. Specifically, the guidelines are intended to:

i. Provide technical guidance of oral health promotion and prevention of oral diseases and conditions.
ii. Provide technical guidance on curative and rehabilitative oral health services.
iii. Improve research, monitoring and evaluation of oral health services for continuous quality improvement

Key Result Areas of the Second guidelines for Oral Health Provision

1. Oral health promotion and prevention of oral diseases and conditions provided at all levels;
2. Curative and rehabilitative oral health services provided at all levels;
3. Development and recruitment of oral health personnel to all levels;
4. Restorative care performed using mercury-free dental materials for women of child-bearing age and children;
5. Environmental friendly dentistry provided at all levels;
6. Integration of oral health interventions and surveillance with those of non-communicable diseases (NCDs) provided at all levels;
7. Oral Health Research promotion and innovation provided at all levels;
8. Monitoring and Evaluation of the Guidelines for Oral Health care.

Key Result Areas

KRA 1: Oral health promotion and prevention of oral diseases and conditions provided at all levels

Overview

Since the publication of results of the Inter-country collaborative study on oral health care delivery systems in 1985, it has been internationally agreed that there is no country that can improve the oral health of her people if prevention and people's participation in promoting their own oral health are ignored. This is mainly due to the fact that oral diseases and conditions are lifestyle in nature, thus behavioural related. People's involvement in preventing these diseases and conditions is therefore mandatory for their effective control.

Much of the improvements in oral health recorded worldwide to-date have been largely credited to people's involvement in the control of these diseases and conditions. In the same thinking, Tanzania has adopted this philosophy into her national oral health plans and policies as a backbone for improving oral health of Tanzanians. In addition to having effective control of oral disease, oral health promotion and prevention avert the pains that associated with advanced oral diseases, thus improving quality of life of the population. Accumulated evidences indicate strong association between advanced oral diseases and various forms of systemic diseases and conditions such as adverse pregnant outcomes, cardiovascular diseases, chronic renal diseases, and diabetes. Preventing oral

diseases at their early stages reduce the occurrence of these adverse systemic consequences of advanced oral diseases.

STRATEGY
Routine and appropriate oral health education in clinics, RCH, ordinary primary schools, primary schools for children with disabilities, and public provided as a complete package of NCDs

As noted earlier, oral diseases and conditions are behavioural related, and therefore they can best be managed by modifying the relevant behaviours. The best time for modifying the behaviour is at its formative state. Reproductive and Child Health (RCH) clinics attendees if well informed on how to take care of children health, children will go through primary socialization with necessary habits/behaviours conducive to oral health. Likewise, if the same oral health information/education is rendered to primary school children, they will attain the necessary skills for oral hygiene behaviours as well as dietary habits conducive to oral health during secondary socialization.

Given the fact that oral diseases and common NCDs share the risky factors, and accumulated evidence of the bidirectional association between oral diseases and common NCDs, all dental personnel are called upon to actively engage in behaviour modification in favour of good general and oral health to their clients in dental clinics. The in-charges of dental clinics should take an active role of ensuring that there is adherence to a schedule for his/her staff to undertake routing oral health education to Reproductive and Child Health attendees as well as primary school pupils nearest to their dental clinics. Whenever resources allow, schedules to visit primary schools far from dental clinics can also be arranged. Given the call to integrate oral health interventions and surveillance with those of common NCDs, efforts should be undertaken to pool the scarce resources to effectively render effective oral health education and promotion as part and parcel of common NCDs to a larger population. It suffice to note that the job description for all oral health professionals include community interventions in the form of oral health education and promotion.

KRA 2: Curative and rehabilitative oral health services provided at all levels

Overview
To-date, scientists have not yet recorded interventions single or in combination that have eliminated all forms of diseases in the community through primary prevention because there will always be defaulters. In addition, at any particular time of implementing any intervention, there will be a segment of the population that is already affected by disease or condition. Therefore, the current guidelines provide an option for curative and rehabilitative services to take care of those who develop disease and those who have already been affected to the point of requiring rehabilitative care.

STRATEGY
Appropriate and uninterrupted curative, rehabilitative and corrective quality oral health services at all levels of oral care provided

At any particular time, there will be people which oral diseases and conditions at different stages of their development. In recognition of this fact, the guidelines stipulate how curative, rehabilitative and corrective oral health care should be rendered to obtain tangible benefit out of these services. Reinforcing curative services will, as well, provide an acceptable balance of the Decayed, Missing and filled teeth among Tanzanians by increasing the F component of the DMFT. Curative, rehabilitative and corrective oral health care is expensive. Manufacturers, through technological advances are feeding the oral health market with a variety of dental products of different cost and effectiveness. It is expected that stewards will use the expertise the country have to ensure that only appropriate cost effective technologies, yet scientifically sound and acceptable are absorbed in our dental clinics. This will reduce the burden of the cost of various curative, rehabilitative and corrective services (which is currently the most dissatisfying aspect of oral health care) to match with the purchasing power of majority of Tanzanians while maintaining quality.

The issue of constant supply of necessary materials in dental practice is of paramount importance to maintain trust of patients/people to their government health institutions. This is because it is very disheartening to patients who postponed their economic activities to come for oral health services and then they are told that a particular dental procedure cannot be undertaken because the materials required are out of stock. It is also very embarrassing to oral health care providers who have to tell the patients who come to receive oral care such disheartening information.

KRA 3: Development and recruitment of oral health personnel to all levels

Overview
Oral health is a specialized branch of medicine that deals with the diagnosis and management of oral diseases and conditions. It has developed overtime as an independent profession, with its code of conduct. The skills required of a dental professional are imparted to dental students during their training in dental schools. In addition, oral diseases and conditions are behavioural related, and therefore, vary from community to community. For any country to achieve noticeable improvements in oral health of her people Tanzania included, development of her own oral health personnel is of primary importance.

Tanzania has adopted the deployment of a mix of oral health personnel from auxiliary cadre to dental specialists. This has enabled Tanzania to deploy oral health personnel at different levels of oral health care with ease compared to other countries whose oral health care delivery systems do not allow oral health practitioners of lower qualifications than a general dentist. These guidelines recognize the importance of deploying different cadres of oral health practitioners to reach the

most rural populations. In this regard, the training of non-dental health personnel (Clinical Officers) will continue to provide personnel to render emergency and promotive oral care in rural health centres and dispensaries. The dental therapists will continue to be trained and deployed in dental clinics situated in health centres and district hospitals. The dental officers – degree graduate dentists and specialists will continue to be trained and deployed in dental clinics situated in districts, regional, zonal and national level hospitals. It is expected that the more dental therapist are trained, more chances of reaching the rural population with trained dental professionals. These will slowly replace the non-dental health personnel who are currently rendering emergency oral care in rural populations.

STRATEGY
Development of coordinated oral health personnel that are integrated into general health

Tanzania has adopted the deployment of a mix of oral health personnel from auxiliary cadre to dental specialists. In addition, the training institutions for these cadres do not fall under one ministry. The training of non-dental personnel to render emergency oral care is done locally at district level at the discretion of the district health management team. The training of dental therapists and dental laboratory technicians is under the MoHCDGEC, while the training of degree dental graduates and specialists is under the Ministry of Education and Vocational Training. During the cause of implementing the second guidelines, efforts will be made to coordinate the training, production and deployment to ensure oral health personnel are integrated in general health and an even distribution of number and mix of oral health personnel in Tanzania is achieved. Since from independence to-date the oral health personnel are limited to urban areas mainly in government administrative centres, efforts to facilitate the training of more dental personnel will be facilitated to bridge the oral health personnel distribution imbalance that exist to-day.

KRA 4: Restorative care performed using mercury-free dental materials for women of child-bearing age and children

Overview
The Minamata disease that affected residents of Minamata small town in Japan which was abundant in fishing resources was proved to be associated with methyl mercury poisoning by consuming fish contaminated with methyl mercury from industrial wastes that was disposed into the river/sea. The Minamata disease is characterized by various neurological disorders such as Hunter-Russell syndrome, dysarthria, hearing impairment, disturbance of ocular movement, equilibrium disturbance, tremors, and many others including increased number of stillbirths and abortions. Therefore, the Minamata Convention stresses the importance of protecting public from all forms of mercury contamination.

Exposure to even small amount of mercury may cause serious health problems and is a threat to development of a child *in utero* and early in life (WHO). This fact makes women of child-bearing age and children to be most vulnerable to mercury

exposure. Therefore, phasing down dental amalgam in dental clinics will contribute to the prevention of mercury pollution to our environment as well as avoiding direct adsorption of mercury vapours through mucous membranes of these groups. It will prevent effects of mercury to these groups from even the small amounts of mercury release from dental amalgam fillings.

In developed countries, dental amalgam waste is recycled to recover mercury for other essential uses. Unfortunately, the technology for recycling the left-over dental amalgam is lacking in all least developed countries including in Tanzania. The common prevailing practice is to incinerate it in health care facilities; a practice which makes mercury to vaporize and pollute the environment.

Already, a range of actions, worldwide, are being taken to reduce use of mercury containing products e.g. in health care, mercury containing thermometers and sphygmomanometers are being replaced by alternative devices. The WHO and the Minamata Convention consider phasing down use of dental amalgam should be pursued by promoting disease prevention and alternatives to amalgam, among other options.

STRATEGY
All women of child-bearing age indicated for restorative care will be receiving mercury-free restorations by 2023 at all levels of oral health care

Studies have shown elevated mercury levels in blood and urine of patients who were treated with dental amalgam. Studies have also shown that mercury circulating in the blood of pregnant women do cross the placenta barrier into the blood stream of the foetus in the womb. Although the levels of mercury that go into blood circulation of dental patients treated with dental amalgam is considered low, considering the fact that mercury has tendency to bio-accumulate, these low level should not be considered safe. There is no point of taking risk, given the well documented adverse outcomes of the mercury intoxication and the fact that no level of mercury is safe in human body. The availability in market of equally effective mercury-free dental materials for restoring decayed teeth supports the assertion of replacement of dental amalgam with mercury-free restorative materials care as per the third Strategic Objective of the second guidelines.

STRATEGY
All children indicated for restorative care will be receiving mercury-free restorations by 2023 at all levels of oral health care

The Minamata disease that was discovered in Minamata Township in Japan mostly affected children. Therefore, banning use of amalgam in children is a sound intervention in the efforts of preventing possible adverse outcomes of mercury poisoning in Tanzania.

KRA 5: Environmental friendly dentistry provided at all levels

Overview

In the daily practice of dentistry, dentists use dental amalgam, acrylic powder and liquids; and impression material polymers which if not well disposed may cause pollution to the environment. In addition, dental clinics generate blood and saliva soiled wastes that are also hazardous to the environment if not properly disposed of.

The disposal of dental clinic wastes has been through incineration that is safe for soiled wastes such as gauze, cotton rolls and other soiled linen. But clinic wastes containing amalgam, acrylic and polymers are likely to cause pollution to the environment if disposed through incinerators. Alternative means for disposal of such dental clinic wastes must be adopted to safeguard the environment in response to The Tanzania Environmental Management Act No. 20 2004, and to Minamata Convention on Mercury 2013.

STRATEGY

All wastes from the dental clinics at all levels of care are disposed in an environmentally friendly manner by 2023

Waste generated in dental clinics need to be disposed in such a manner that it does not cause infection to people who accidentally come into contact with it. In addition, waste from dental clinics such as remains of amalgam after placing an amalgam restoration; old amalgam fillings replaced with new one, acrylic materials generated in the dental laboratories, expired polymer liquids and powders are toxic and if not well disposed may cause pollution to the environment.

STRATEGY

Dental care facilities at all levels operated in a friendly environment for all patients seek oral health care by 2023

Patients who seek care at dental care facilities have a range of environmental and social needs. Clients of different physical and mental abilities do visit dental facilities seeking oral health services. To ensure that all clients receive oral health services that are client friendly, the dental facilities need to be set in a way that they can be reached and used by people of different physical and mental abilities. This may entail accommodation of such needs while constructing new facilities or modifying the existing physical structures.

KRA 6: Oral health interventions and surveillance integration with those of non-communicable diseases (NCDs) provided at all levels

Overview

Oral diseases are behavioural related and therefore share most of the risk factors with those of common NCDs. In addition, there is cumulative evidence that show that oral diseases have direct relationship with common NCDs, and that the relationship is bidirectional nature. Having integrated oral health interventions

and surveillance with NCDs is cost effective and more appealing to the communities compared to vertical interventions.

Such interventions include restriction of sugar, alcohol and tobacco consumption; and encouraging balanced healthy diet including that rich in vitamins and soluble fibre. Advocacy on oral cleanliness in conjunction with body hygiene as part of normal body grooming is important in the control of oral diseases and other general diseases and conditions associated with body hygiene. Encouraging regular exercises and activities that reduce stress has benefits to both oral and general health.

STRATEGY
Oral health services at all levels of care reoriented to take into consideration the interrelationships between oral diseases and common NCDs by 2023

The fact that oral disease and common NCDs share risk factors, and the bidirectional association between them, call for the need to reorient oral health services to utilize expertise from medical colleagues specialized in common NCDs to facilitate a holistic management of dental patients who may also have or develop common NCDs. Likewise, experts in common NCDs should be taken on board to ensure that whenever they are managing NCDs patients' consultations with nearest dental practitioner is undertaken to enable a holistic management of NCDs patients because of the ample evidence that untreated oral diseases complicate the management of NCDs and vice versa.

KRA 7: Oral health research promotion and innovation provided at all levels

Overview
A lot of research efforts have been focusing on oral health issues, and the world is filled with ample scientific evidence on factors that interplay to cause the oral diseases and conditions, and best ways to control them. But there is still a wide gap between the accumulated scientific knowledge and application. Disseminating and translating research findings into action will accelerate the realization of the goal of the second guidelines on oral in Tanzania.

To have a vibrant implementation of the Second Guidelines for oral health care, essential oral health research needs to be part and parcel of the implementation process at all levels of oral health care. A well-coordinated data generation system for oral health care is essential. Effective use of the current District health information system (DHIS) would contribute to the generation of essential clinic data necessary for managing of oral health in Tanzania. Effective use of this information will ensure evidence based, cost effective and value for money practices. Any challenges arising from data generated through this system should be addressed by well-designed essential health researches. This can be achieved if Tanzania will have deliberate efforts in promoting oral health researches and innovations. Given the dwindling status of essential oral health research in Tanzania, it is prudent for

the second guidelines to put in place a mechanism for promoting essential oral health research and innovation. Integration of oral health research in those of non-communicable diseases would allow a cost-effective way of undertaking essential research because these diseases have common risk factors.

STRATEGY
Oral Health Research and Innovation promoted, facilitated and coordinated at all levels of care as part and parcel of NCDs by 2023

During implementation of the policy guidelines at any level of oral health care, there are likely to emerge issues needing research. Such issues may be of technological, managerial, financial or even those related to risk factors and aetiology of oral diseases and conditions. Given the big size of Tanzania, coordination of such research issues is likely to be of paramount importance to avoid duplication of efforts, thus misuse of the meagre resources in the country. Joining efforts with the department of NCDs would ensure economic use of the existing researches.

KRA 8: Monitoring and Evaluation of the Guidelines for Oral Health care

In order to achieve any tangible results, reporting and monitoring of the implementation of the second guidelines is mandatory. This enables stewards to be sure that the actors in the process of implementing the guidelines are actually performing their expected tasks in accordance with the laid down procedures. In addition, challenges facing the implementers can be identified and addressed as they arise to ensure success of the guidelines. It is also important to undertake evaluation of the guidelines so as to document successes and or failures for future improvements. Therefore, reporting, monitoring and evaluation have been identified as one of the key result areas for the second guidelines.

STRATEGY
Oral health care services reported, monitored and evaluated
Reporting, monitoring and evaluation are essential tools to enable stewards know the progress of the interventions being implemented. The second guidelines outline the requirements for reporting, monitoring and evaluating the implementation of the same.

CHAPTER FOUR

ROLES OF KEY ACTORS

4.1 Operational Objectives for Oral Health sub-section of the Ministry

Ensure Information, Education and Communication (IEC) materials to relevant users are regularly updated and distributed.

Oral health information and education given to communities need to be simple, accurate and similar to avoid confusion and misinformation. To facilitate this, there is a need to have a common centre where IEC materials are prepared and distributed. The Oral Health sub-section at MoHCDGEC is the suitable office to handle this task. It is expected that the sub-section will provide templates of the IEC materials for the regions and districts to adopt and reproduce the same for use in their respective regions and districts.

Ensure uninterrupted stocking of dental materials and supplies at Medical Store Department (MSD).

Dental supplies are very expensive. If the purchases are left to individual dental clinics, most clinics are likely to fail to have constant supply of essential dental materials. There is a need to have a central coordinating office for purchases of dental materials and supplies. MSD is the best government department to be utilized for the purchases of dental materials and supplies. Nevertheless, most officers in the MSD are not conversant with dental materials and supplies. To ensure smooth professionally directed purchases, dental clinics in the country need forecast the quantity of dental supplies they require annually under guidance of 'Essential Health Commodities Quantification Guideline 2018' and forward their requirements to PO-RALG via CHMT and RHMT for primary health care facilities while the regional referral, zonal hospitals need to send directly to MoHCDGEC.

The sub-section of Oral Health at the MoHCDGEC is the office that oversees dentistry in Tanzania, therefore, should also give professional assistance to ensure professionally directed purchases of the dental materials and supplies by MSD.

Purchases and allocation of dental equipment to regions and districts coordinated.

Dental equipment cannot be expected to be stocked by the MSD because they are not fast-moving items. Dental equipment is bought when need arises and may take several years before a dental clinic needs to buy one. In this regard, dental fraternity requires an office that will coordinate the needs and purchases of dental equipment. The sub-section of Oral Health at the MoHCDGEC is the best office to handle this task.

In order to ensure constant supply of dental materials, this guideline recognizes the current reforms in Direct Health Facility Financing and Prime Vendors mechanism to supplement existing systems that ensure constant availability of Health commodities in Health facilities. The sub-section of Oral Health at the MoHCDGEC shall give technical assistance to ensure professionally directed purchases of the dental materials and supplies by MSD and Prime Vendors.

Data for deployment of dental personnel in number and mix in all dental facilities regularly updated.

Dentistry is a very specialized medical profession and need a close monitoring in terms of numbers to be trained, especially that the government is to a large extent funding the training cost. In addition, the deployment needs also to be closely monitored so that there is a fair distribution to different parts of Tanzania. Since Tanzania has adopted the training of different cadres of oral health professionals, it is of economic value to have a mechanism in place for monitoring deployment of different cadres of dental personnel. Data on deployment of dental personnel in number and mix in different dental care facilities is important. The sub-section of Oral Health at the MoHCDGEC shall collaborate with the PO-RALG Health Department to handle this task.

Databank on oral health issues, reviews and policy briefs prepared and updated regularly.

The best performing oral health system is one that is supported by up-to-date data on oral diseases and conditions, performance of oral health care and regular rating of oral health status against other conditions afflicting the population in question. The sub-section of Oral Health at the MoHCDGEC being a steward in oral health requires having an up-to-date data bank on oral health issues.

Supportive supervision to national and zonal hospitals, referral regional hospitals, district, and health centre and dental facilities conducted regularly;

The oral health care delivery system is built on a referral system that assumes a pyramid structure, where the base is primary oral health care. The tip of the pyramid is specialized care rendered at the national Hospital. In order to ensure that oral health care is rendered to the expectation of the referral system, supervision is required. Now that the regional hospitals are under the MoHCDGEC, while the district, health centres and dispensaries are under the local government, supervision is needed to ensure that these parts of the health system referral system is working as expected. The sub-section of Oral Health at the MoHCDGEC is the suitable office to undertake technical supportive supervision, whereas PO-RALG Health Department shall undertake the administrative and managerial supportive supervision in the Councils.

4.2 Regional Administration and Local Government (PO-RALG)

The implementation of PO-RALG operational plan depends upon the functionality of existing structure in the Councils i.e. The Councils Health Management Teams (CHMTs) that recognizes the roles of the District Dental Officers, the Regional Health Management Teams (RHMTs) with the roles of the Regional Dental Officer (RDO) in the coordination of oral health services and PO-RALG Health Department that provides a country-wide oversight of oral health services and the linkage with the MoHCDGEC in the interpretation and implementation of policies and guidelines in Local Government Authorities (LGAs). These guidelines recognize the need to strengthen the existing structure in the Regions and Councils and the functionality of PO-RALG Health Department through the formulation of a functional unit to coordinate the implementation of the operational objectives below.

Ensure appropriate number and mix of oral health care personnel deployed in all dental clinics

In order to render oral health services that respond to the needs of the communities served, an appropriate number of and mix of oral health personnel is needed. The local governments are responsible for recruitment and employment of oral health services provider, just like other health personnel. In recognition of this important role of the PO-RALG, these guidelines have spelt out this objective to be fulfilled by PO-RALG to accelerate the realization of the goals and objectives of the guidelines.

Ensure uninterrupted supply of relevant dental materials

The central government funding for health services are channelled through PO-RALG. The locally generated funds in districts are also managed by PO-RALG. These guidelines in recognition of this important responsibility of PO-RALG of managing funds for health in the districts, coupled with the fact that without financial assistance, the oral health services are likely to collapse, it was deemed necessary to spell out this important role of the PO-RALG in ensuring that the guidelines become fruitful.

Ensure dental practitioners deployed in various dental clinics undertake routine community oral health services

Integrating clinical care with oral health promotion in communities has been shown to improve oral health of communities compared to focusing only in clinical treatment of oral diseases. Therefore, reorienting oral health services to include community work component has been reinforced in all strategic oral health plans as well as in the first policy guidelines. Despite of this fact, few if any oral health personnel have integrated clinical work with routine community work. This entails that there is not enough reinforcement on this aspect of care. It is high time that second guidelines solicit the contribution of local governments who are the employers of dental practitioners in districts to realize this important task.

Ensure that oral health activities in the councils are as much as possible integrated with those of NCDs

It has been proved beyond doubt that oral diseases share risk factors with common non-communicable diseases (NCDs) such as cardiovascular, lung, and kidney diseases and diabetes and including adverse pregnancy outcomes. There are also bidirectional associations between oral diseases and NCDs. Given the limited resources allocated to health, it is prudent to ensure that the meagre resources allocated to health are used the most efficient way. Designing interventions in a district that cutter across dentistry and NCDs is likely to be cost effective than having separate interventions targeting common risk factors.

Facilitate oral health practitioners in their councils to undertake regular continuing education and professional development (CPD) courses

Health profession, including dentistry is continuously loaded with new advancements for improved care. It is therefore indisputable fact that a professional who does not update professional knowledge and skills soon becomes outdated and is likely to pose danger to his/her clients. If oral health care in districts is to respond adequately to the policy documents guiding standard heath care including dental care, district

authorities need to have an objective plan that will give equal opportunity for their health personnel to attend continuing education and professional development courses.

Supportive supervision to district, health centre and dispensary dental facilities conducted regularly

In order to ensure that oral health care is rendered in primary health care facilities, supervision is required. PO-RALG Health Department in collaboration with the MoHCDGEC, RHMTs and CHMTs shall undertake supportive supervision in the primary health care facilities.

Appropriate infrastructure to render dental services in primary health facilities facilitated

The issue of appropriate infrastructure is important to ensure the delivery of quality oral health services in primary health facilities. The needs in the construction and equipping primary health facilities in accordance to the required standard stipulated in relevant documents issued by the MoHCDGEC needs to be coordinated by PO-RALG.

To ensure incorporation of Oral Health Services' budget in the Local Government Authorities' budget and plans

Planning is an important tool to ensure resources are allocated for priority health interventions including oral health services. PO-RALG Health Department in collaboration with MoHCDGEC and RHMTs are required to ensure oral health interventions are planned and budgeted in primary health care facilities.

4.3 Institutions – School Of Dentistry, School of Dental laboratory technicians and Schools of Dental Therapists

Realign the training curriculum with the nationally agreed action plan for phasing out amalgam in dental practice

The current guidelines for oral health care target to phase down the use of amalgam to children and women of child-bearing age by 2023. This entails adoption of restorative techniques appropriate for alternative restorative materials. The currently acceptable and scientifically sound techniques for restoring carious teeth using alternative restorative materials for amalgam include techniques for composite restorations and the atraumatic restorative treatment (ART) that use high viscosity glass-ionomer cement. Both techniques require thorough skills development during formal dental training. The dental training institutions need to revisit their training curriculum to satisfy themselves that the currently used curricula adequately inculcate the skills necessary for handling composite restoration as well as ART. The importance of including ART in basic training for dental practitioners in Tanzania is based on the fact that not all regional, district and health centre dental clinics are equipped with necessary facilities required for handling composite restorations.

Accredit the Continuing Professional Educational Development courses aimed at retraining the in-service dental practitioners to cope with the guidelines

For many years since independence, dental amalgam has been the most used dental restorative material in Tanzania. Many practicing dental practitioners are more conversant working with amalgam, and less conversant with other restorative materials currently advocated as alternative dental material to replace dental amalgam. To be able to meet the set target of phasing out amalgam to children and women of child-bearing age by 2023, there is an urgent need to improve practices of the dental practitioners working in different dental clinics in Tanzania on skills necessary for composite and ART restorations.

Undertake operational research to enable the Oral Health Care Delivery System function based on up-to-date scientifically sound information in the course of implementing the current guidelines for provision of the oral health services

While many of the research findings generated from different countries can be utilized for decision making in health care including oral health care, yet data generated locally work better for successful implementation of different interventions. This is because many of the explanatory variables for oral health and oral health care vary among communities. Due to this fact, each nation requires institutions that can generate research findings from local communities. The training institutions are globally recognized as potential centres for research. In the same thinking, dental training institutions in Tanzania are tasked to assume this important role in the current guidelines for providing the oral health services.

REFERENCES

1. Arnljot HA, Barmes DE, Cohen LK, Hunter PB, et.al. (1985). Oral health care systems: an international collaborative study. WHO; Geneva-1985.Available:http://www.who.int/iris/handle/10665/42831.

2. Petersen PE, World Health Organization. The World Oral Health Report 2003: Continuous improvement of oral health in the 21st century - the approach of the WHO Global Oral Health Programme. Geneva (Switzerland): WHO; 2003. Available: http://www.who.int/oral_health/media/en/ orh_report03_en.pdf.

3. World Dental Federation. FDI's definition of oral health. Available: http://fdiworldental.org/oral-health/ vision-2020/fdis-definition-of-oral-health.aspx

4. NariukiHachiya. The history and the present of Minamata disease - entering the second half of the century. JMAJ 2006; 49: 112-118.

5. Van Palenstein Helderman WH, Benzian H. Implementation of a Basic Package of Oral Care: towards a reorientation of dental NGOs and their volunteers. Int. Dent J. 2006; 56:44-8.

6. Björkman L, Sjursen TT, Dalen K, Lygre GB, Berge TL, Svahn J, Lundekvam BF. Long term changes in health complaints after removal of amalgam restorations. Acta.Odontol Scand.2017; 75:208-219.

7. Kielbassa AM, Glockner G, Wolgin M, Glockner K. Systematic review on highly viscous glass-ionomer cement/resin coating restorations (Part I): (Do they merge Minamata Convention and minimum intervention dentistry? Quintessence Int.2016; 47:813-823.

8. Gul N, Khan S, Khan A, Nawab J, Shamshad I, Yu X. Quantification of Hg excretion and distribution in biological samples of mercury-dental-amalgam users and its correlation with biological variables. Environ SciPollut Res Int.2016; 23:20580-20590.

9. Sun YH, Nfor ON, Huang JY, Liaw YP. Association between dental amalgam fillings and Alzheimer's disease: a population-based cross-sectional study in Taiwan. Alzheimers Res Ther. 2015; 12:65.

10. Hilgert LA, de Amorim RG, Leal SC, Mulder J, Creugers NH, Frencken JE. Is high-viscosity glass-ionomer-cement a successor to amalgam for treating primary molars? Dent Mater. 2014; 30:1172-8.

11. Mortazavi SM, Neghab M, Anoosheh SM, Bahaeddini N, Mortazavi G, Neghab P, Rajaeifard A. High-field MRI and mercury release from dental amalgam fillings. Int J Occup Environ Med. 2014; 5:101-5.

12. Central Oral Health Unit. Policy guidelines for oral health care in Tanzania. Ministry of Health and Social Welfare, the United Republic of Tanzania, Dar e s Salaam, Tanzania 2002.

13. Ministry of Health and Social Welfare. Strategic Oral Health Plan 2012-2017. Ministry of Health and Social Welfare, the United Republic of Tanzania, Dar es Salaam, Tanzania 2012.

14. Ministry of Health, Community Development, Gender, Elderly and Children. The National Health Policy 2019 (Draft). Ministry of Health, Community Development, Gender, Elderly and Children, the United Republic of Tanzania, Dar es Salaam, Tanzania.

15. Ministry of Health and Social Welfare. Health Sector Strategic Plan July 2015 – June 2020 (HSSP IV). Ministry of Health and Social Welfare, the United Republic of Tanzania, Dar es Salaam, Tanzania, 2015.

16. The United Republic of Tanzania. Ministry of Health and Social Welfare, Health Quality Assurance Division. Basic Standards for Health and Social welfare facilities. Volume 2: Dispensaries and Health Centres. Dar es Salaam, March 2015.

ANNEXES

ANNEX-1: SPECIFICATIONS FOR DENTAL UNIT

The dental unit should incorporate the dental chair, chair mounted spittoon, saliva ejector, high speed suction outlet, operating light, unit with 3 in 1 syringe and 3 outlets plus 1 doctor's stool and 1 assistant's stool.

Chair: Electromechanically operated by foot control with a minimum of 2 programmable movements and return to zero. The chair should incorporate an adjustable double articulated headrest and 2 moveable arm rests. The foot control should vary the height of the seat and inclination of the backrest. The chair covering should be of aseptic seamless material and easy to clean. The base should be constructed in metal, with rust proof paint.

Unit: Chair mounted, pneumatically operated with air switches, 3 in 1 syringe outlets, 3 x 4 hole Midwest fitting outlets and built in Scaler with 3 autoclave-able inserts, instrument tray holder and swinging arm. The unit should incorporate a progressive soft start independent foot control and be suspended on a chair mounted support arm with pneumatic arm lock. There should be a pressurized water bottle to ensure clean air at the correct pressure. Complete with unit mounted touch pad for the chair and light controls and service box for waste, water, electrics, etc.
Light: Chair mounted with natural lighting and 2 intensive Lux (high) – 15,000 Lux (low) with wide focal 65cm.

Spittoon: With water tumbler filler, bowl rinse, high volume suction tube and saliva ejector. To incorporate a removable ceramic spittoon with filter and controls for tumbler filler and spittoon flush. Incorporating assisting arm with 3 in 1 syringe and control panel with independent controls for the chair's movement, light intensity and spittoon activation

ANNEX -2: BASIC STANDARDS OF DENTAL EQUIPMENT AND INSTRUMENTS FOR DELIVERY OF ORAL HEALTH SERVICES AT VARIOUS LEVELS OF CARE

** Dental radiology and imaging equipment available on Specifications of Medical Radiology and Imaging Equipment at Each Level(pp.14) ***'National Guidelines for Standard Medical Radiology and Imaging Equipment'***

1. DISPENSARY AND HEALTH CENTRE

S/NO	NAME OF DENTAL EQUIPMENT/INSTRUMENT	QUANTITY
1	Dental chair incorporating chair mounted spittoon, saliva ejector, high speed suction outlet, operating light, unit with 3 in 1 syringe and 3 outlets plus 1 doctor's stool and 1 assistant's stool	1
2	Air compressor oil free housed in metal independent quiet housing with noise baffle-maximum noise level 50dcb, tank size 38 litres	1
3	Light cure machine	1
4	Autoclave	1
5	Ultra sonic scaler	1
6	Turbine high speed hand piece	2
7	Low speed contrangle hand piece	2
8	Set of dental examination instruments	1
9	Set of extraction forceps and elevators	2
10	Set of hand instruments for filling	1
11	Set of ART instruments	1
12	Set of instruments for scaling and polishing	1

2. COUNCIL (DISTRICT) HOSPITAL

S/NO	NAME OF DENTAL EQUIPMENT/INSTRUMENT	QUANTITY
1	Dental chair incorporating chair mounted spittoon, saliva ejector, high speed suction outlet, operating light, unit with 3 in 1 syringe and 3 outlets plus 1 doctor's stool and 1 assistant's stool	2
2	Air compressor oil free housed in metal independent quiet housing with noise baffle-maximum noise level 50dcb, tank size 38 litres	1
3	Light cure machine	2
4	Autoclave	1
5	Ultra sonic scaler	2
6	Turbine high speed hand piece	3
7	Low speed contrangle hand piece	2
8	Set of dental examination instruments	2
9	Set of extraction forceps and elevators	2
10	Set of hand instruments for filling	1
11	Set of ART instruments	1
12	Set of instruments for scaling and polishing	2
13	Set of endodontic files and reamers	2
14	Endodontic box	1
15	Set of oral surgical operation forceps	2

3. REGIONAL REFERRAL HOSPITALS

S/NO	NAME OF DENTAL EQUIPMENT/INSTRUMENT	QUANTITY
1	Dental chair Incorporating chair mounted spittoon, saliva ejector, high speed suction outlet, operating light, unit with 3 in 1 syringe and 3 outlets plus 1 doctor's stool and 1 assistant's stool	4
2	Air compressor oil free housed in metal independent quiet housing with noise baffle-maximum noise level 50dcb, tank size 90 litres	1
3	Light cure machine	4
4	Autoclave	1
5	Ultra sonic scaler	3
6	Turbine high speed hand piece	6
7	Low speed contrangle hand piece	6
8	Set of dental examination instruments	2
9	Set of extraction forceps and elevators	2
10	Set of hand instruments for filling	2
11	Set of ART instruments	1
12	Set of instruments for scaling and polishing	2
13	Set of endodontic files and reamers	2
14	Endodontic box	1
15	Set of oral surgical operation forceps/instruments	2
16	Equipment and instruments for fabrication of dental prosthesis	1
17.	Assorted Impression Trays	20

4. ZONAL AND NATIONAL HOSPITAL

S/NO	NAME OF DENTAL EQUIPMENT/INSTRUMENT	QUANTITY
1	Dental chair Incorporating chair mounted spittoon, saliva ejector, high speed suction outlet, operating light, unit with 3 in 1 syringe and 3 outlets plus 1 doctor's stool and 1 assistant's stool	4-8
2	Air compressor oil free housed in metal independent quiet housing with noise baffle-maximum noise level 50dcb, tank size 90 litres	1
3	Light cure machine	4
4	Autoclave	1
5	Ultra sonic scaler	4
6	Turbine high speed hand piece	6
7	Low speed contrangle hand piece	6
8	Set of dental examination instruments	3
9	Set of extraction forceps and elevators	3
10	Set of hand instruments for filling	2
11	Set of ART instruments	3
12	Set of instruments for scaling and polishing	4
13	Set of endodontic files and reamers	5
14	Endodontic box	1
15	Set of oral surgical operation instruments	4
16	Set of equipment and instruments for fabrication of dental prosthesis (Acrylic)	1
17	Set of equipment and instruments for fabrication of dental prosthesis (metal work)	1
18.	Assorted Impression Trays	40

ANNEX-3: BASIC STANDARDS OF EQUIPMENT FOR DENTAL LABORATORY

1. ACRYLIC PROSTHESIS

NO	ITEM	DESCRIPTION	QUANTITY
1	Work bench for Dental Technician	It should consist of: Single Station Workbench, Metal Frame With Special Powder Coating And Hardened Formica Top With Stainless Steel Plate. Complete With 3 Drawers, Models Shelf With 12 Model Trays, Overhead Light, Bunsen Burner, Work Peg And Suction With Dust Extraction. Complete With Technicians Chair, With Gas Height Adjustment And Adjustable Back Rest. Dimensions 110X60X90mm (WXDXH)	1
2	Plaster Bench	Metal Frame With Special Powder Coating With 3 Drawers, Waste Door, Waste Container And Stainless Steel Top With Splash Back. Dimensions: 100X60X95mm (WXDXH)	1
3	Sink Unit	Metal Frame With Special Powder Coating With 2 Doors, Plaster Trap, Double Mixer Taps, Stainless Steel Top, With Drain Section And Splash Back Dimensions: 100 X60X95mm (WXDXH)	1
4	Double Storage And Bench Unit	Metal Frame With Special Powder Coating Complete With 2 Doors, 2 Drawers And Hardened Formica With Splash Back Dimensions: 100 X60X95mm (WXDXH)	1
5	Round Denture Flask	Gun Metal Upper And Lower Dimensions: 104X98X63mm	10
6	Crown Flask	Gun Metal Complete With Clamp For Acrylic Crowns	2
7	Flask Clamp	For Up To 2 Denture Flasks	3
8	Manual Bench Press	Manufactured In Steel, For Up To 2 Denture Flasks Dimensions: 450X190X150mm	1
9	Hydraulic Bench Press	Complete With Safety Valve, For Up To 3 Denture Flasks	1
10	Micromotor	For Speeds Up To 25000rpm, Complete With Micromotor, Cable, Foot Control, Control Unit and Handpiece. Be supplied with spare Hand piece and 10 bushes	1
11	Suspension Motor	18000rpm Complete With Motor, Cable Arm, Foot Control, Laboratory Hand piece And	1

11	Suspension Motor	18000rpm Complete With Motor, Cable Arm, Foot Control, Laboratory Hand piece And Bench Support Stand. Be supplied with flexible arm and 10 bushes as spare parts	1
12	Model Trimmer	Powerful, Quiet Running With Adjustable Model Table, Safety Banded Trimming Wheel And 2 Spare Wheels Dimensions: 330X300X310mm	1
13	Polishing Unit	Quiet Efficient Bench Top Polishing Unit Complete With Integrated Suction System To Provide Dust Free Environment. Unit To Be Supplied Complete With Two Rubber Troughs, Built In Lights, Easy To Replace Filter Bags And Two Brush Chucks Dimensions: 445X680X580mm	1
14	Paco Bath Polymerisation Unit	For Wet Curing Of Dental Material. Stainless Steel Unit With Lid, Complete With 14 Hour Timer Capacity: 4 X 3 Flasks Clamps, Dimensions 435LX435WX335Dmm, Weight 12KG	1
15	Articulators	Plain Line, Simple Metal Articulator With Hinge	6
		Free Plane, Lightweight Free Plane Articulator Offering excellent lateral & Posterior Views And Movements, Complete With Metal Mounting Plates And Occlusal Plane Plate	1
16	Plaster Vibrator	Suitable For Up To 4 Flasks Complete With Variable Speed Control And Removable Rubber Top. Dimensions: 225X205X95mm	1
17	Model Surveyor	Single Arm Unit Complete With Adjustable Model Holder And Instrument Set Dimensions: Height (Approx) 330mm, Base (Approx) 160 X 240mm	1
18	Wax Boil Out Unit	A Self Emptying Container With Perforated Tray Dimensions: 200X260X460mm	1
19	Laboratory Instrument Kit	Consisting of Wax Knife Large And Small, Plaster Knife Large And Small, Le Cron Carver, Wax Spatula, Iwanson Gauge, Scissors, Wax Carver, Tweezers, Mosquito Forceps, Plaster Spatula, Plaster Cutters, Wire Cutters, Adams Pliers, Rubber Bowl Large And Medium, Hammer And Plaster Saw With Blades	1

2. METAL PROSTHESIS

NO	ITEM	UNIT	QUANTITY
1	Lathe motor with dust extractor Bench top polishing unit type J Dimensions: 400H x 800W x 500D mm Weight: 53kg Output lathe: 220 watts each 2850 rpm, 600 watts each 1425 rpm, extractor fan 485m/hour Lighting: 11 watt fluorescent cool white tube To be supplied with filters as spare parts	Each	1
2	Electroplating Machine Electroform Dimensions: 450H x 400W x 520D mm Number of baths: 2 Capacity: 2 litres each Electrical: 5 amps/12v Weight: 10kg To be supplied with electrodes as its spare parts	Each	1
3	Sandblaster Single chamber Dimensions: 230H x 240W x 240D mm Weight: 3.75kg Operating pressure: 50-85psi To be supplied with Rubber seal and Rubber gloves as its spare parts	Each	1
4	Gas Torch For welding and brazing Fire crest torch kit minimum hole size 0.07 mm The gas used should that which is easily available	Each	1
5	Furnace Dimensions External 560H x 435W x 40D mm. Internal :120H x 175W x 355D mm Maximum temp: 12000 degrees Celsius Weight: 57kg To be supplied with Crucibles as spare parts	Each	1
6	Casting Machine Dimensions: 640W x 670D x 940H mm Melting capacity :using graphite lined crucible for precious alloys 5cc – using unaligned ceramic crucibles 15cc Melting time: approx.60sec. for 30gm alloy Weight: 159kg To be supplied with metal for casting, electrodes and crucibles as spare parts	Each	1
7	Vacuum Porcelain Furnace Dimension: 525H x 374W x 343D mm Weight :24kg	Each	1

8	Casting Rings No.1. 30-55mm No. 3, 48-55mm No. 6, 65-55mm No. 9, 80-55mm	Each	10 for each size
9	Furnace tongs large 51cm and small 40cm	Each	10
10	Dental laboratory stool Fitted with fully ergonomic mechanism allowing full seat and back adjustment. Supplied castors. Fixed or adjustable. Height adjustment 450-600mm	Each	2
11	Separating disc (metal cutting disc). Separating discs for separating sprues 25X 0.5mm	Pack of 100	5
12	Separating disc (metal cutting disc). Separating disc for separating ceramic 22X0.3mm	Pack of 100	5
13	Rough grinding stones .Ceramically bonded for rough grinding large areas, shank size 2.35mm	Pack of 12 pieces	10
14	Fine grain grinding stones with a high cutting capacity Shank size 2.35mm ISO REF 051 ISO REF 035 ISO REF 050	Pack of 100pieces	5
15	Diamond grinding stones sintered-medium grain	Piece	20
16	Duplicating flask .Duplicating flask for partial denture technique with wedge top, base and 2 base formers(2 sizes)	Piece	10
17	Base socket mould formers for crown and bridge work. For making moulds with metal rings with hard base plate(Size 3,6,9)	Set of 4 pieces for each size	4
18	Vacuum mixing bowl. For mixing investment material with plaster. Vacuum mixing bowl 250ml Quantity of powder 60-180g	Piece	1
19	Dental laboratory micro motor control unit. Speed 60,000rpm, bench top micro motor featuring a compact heavy duty control unit and ergonomic 60k rpm	Piece	2
20	Carvers and carving instruments. 7A Wax carver 7 wax carver Le Cron De carver	Each	5 pieces for each size
21	Measuring cylinder high type. Measuring cylinder high type with high precision +/- 0.5ml for optimal control of the concentration. Capacity of 50ml	Piece	3
22	Porcelain brush. Size 0-Size 7	Set of 12 pieces	4