REPUBLIC OF RWANDA

MINISTRY OF HEALTH
P o Box 84 Kigali
www.moh.gov.rw

National Oral Health Strategic Plan 2019-2024

September, 2019

TABLE OF CONTENTS

Abbreviations and Acronyms iv
Foreword vi
Executive Summary vii
Background and Context 1
1.1. Rationale and justification 1
1.2. Process and methodology to develop the NOHSP 2
1.3. Situational Analysis 3
1.3.1. Country context 3
1.3.2. Rwanda's Healthcare System and Oral Health 3
1.3.2.1. Health Facilities and Service Delivery 3
1.3.2.2. Leadership and Governance 4
1.3.2.3. Legal and policy context 4
1.3.2.4. Institutional framework and Stakeholders 6
1.3.2.5. Health workforce 7
1.3.2.6. Medical Products and Health Technology 7
1.3.2.7. Service Delivery 8
1.3.2.8. Health Financing 8
1.3.2.9. Health Information and Research 8
1.3.3 The status of Oral Health in Rwanda 9
1.3.3. SWOT Tables (summary of Strengths, Weaknesses, Opportunities and Threats) for Oral Health in Rwanda 10
1.3.3.1 Infrastructure, drugs and equipment 10
1.3.3.2 Trainings and Human Resources 10
1.3.3.3 Service Delivery 11
1.3.3.4 Health Financing 11
1.3.3.5 Monitoring, evaluation and research 12
1.3.3.6 Leadership and Governance 12
1.3.4 Priority areas of Oral Health 13
II. THE NATIONAL ORAL HEALTH STRATEGIC PLAN (NOHSP) 14
2.1. Vision and Mission of the NOHSP 14
2.1.1. Vision 14

2.1.2. Mission....14
2.2. Goal and Objectives of the NOHSP....14
2.2.1. Goal....14
2.2.2. Strategic objectives....15
2.3. Strategies and interventions to be prioritized during implementation of the NOHSP....16
2.3.1. To strengthen the governance and coordination of Oral Health within the National Health System....16
2.3.2. To raise awareness and advocacy on the issues of Oral Health in Rwanda....16
2.3.3. To provide appropriate infrastructure, avail and equitably distribute quality equipment for oral health in Rwanda....17
2.3.4. To train the needed qualified workforce and establish the retention measures for the provision of comprehensive oral health services at all levels of healthcare.....17
2.3.5. To provide comprehensive and quality preventive and curative oral health services at primary, secondary and tertiary levels....18
2.3.6. To strengthen M&E and research for Oral Health activities....18
2.4. Results Matrix for the NOHSP....19
Outcome 4: Quality Oral health care medicines, commodities, equipment, and appropriate infrastructure are availed and equitably distributed....25
2.5. Coordination and implementation mechanisms....31
2.6. Monitoring and Evaluation Framework....31
2.7. Budget of National Oral Health Strategic Plan (NOHSP 2019-2024)....32
2.7.1. Summary Table: NOHSP Budget 2019-2024....34
2.7.1.1. Summary of costs for HSS (USD)....34
2.7.1.2. Detailed budget by activities....35
Documents Consulted....43

Abbreviations and Acronyms

BCC	Behavior Change Communication
BPOC	Basic Package of Oral Care
CBHI	Community Based Health Insurance
CHAI	Clinton Health Access Initiative
CHUB	Centre Hospitalier Universitaire/University Teaching Hospital of Butare (UTHB)
CHUK	Centre Hospitalier Universitaire/University Teaching Hospital of Kigali (UTHK)
CHWs	Community Health Workers
CMHS	College of Medicine and Health Sciences
CPD	Continuous Professional Development
CSOs	Civil Society Organizations
DH	District Hospital
DHMT	District Health Management Team
DHU	District Health Unit
DPs	Development Partners
EAC	East African Community
EICV	Household Living Conditions Survey
FADA	Fondation Dentaire en Afrique
FBO	Faith Based Organizations
HRH	Human Resource for Health
GDP	Gross Domestic Product
HC	Health Center
HSSP	Health Sector Strategic Plan
HSWG	Health Sector Working Group
JADF	Joint Action Development Forum
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
MIFOTRA	Ministry of Labor and Public Service
MINALOC	Ministry of Local Government
MINECOFIN	Ministry of Finance and Economic Planning
MINEDUC	Ministry of Education
MoH	Ministry of Health
MTR	Mid-Term Review
NCDs	Non-Communicable Diseases
NGOs	Nongovernmental Organizations
NISR	National Institute of Statistics Rwanda
NOHSP	National Oral Health Strategic Plan
NST	National Strategy for Transformation
PH	Provincial Hospital
PHC	Primary Health Care
PPP	Public Private Partnership
RAHPC	Rwanda Allied Health Professional Council
RBC	Rwanda Biomedical Centre
RDA	Rwanda Dental Association
RDSA	Rwanda Dental Surgeons Association

R-HMIS	Rwanda Health Information Management Information
RMC	Rwanda Medical and Dental Council
RMH	Rwanda Military Hospital
SDGs	Sustainable Development Goals
SMM	Senior Management Meeting
SOPs	Standard Operating Procedures
SPIU	Single Project Implementation
TUG	Tandsundhed Uden Graenser (Dental Health Without Borders)
TWG	Technical Working Group
U-5	Children aged under five years
UHC	Universal Health Coverage
UN	United Nations
UR	University of Rwanda
USD	United States Dollar
WHA	World Health Assembly
WHO	World Health Organization

Foreword

Oral health is fundamental to the genera health. It enables people to breathe, eat, swallow, speak or even smile. Impairment of these functions can seriously interfere with the ability to interact with others, attend school, and work. Oral diseases are among the most common and preventable no communicable diseases and share the same risk factors of the most important NCDs (cardiovascular diseases, chronic pulmonary diseases, cancer and diabetes).

In Rwanda, Oral diseases, especially tooth caries and gum diseases rank in the top ten causes of morbidity at each level of health care and for all age-groups. Also, at least 64.9% of the population has experienced a dental caries, while 54.3% of them were untreated. Among adults aged 20 years and above, 32.4% had substantial oral debris and 60.0% had calculus, while the majority (70.6%) had never visited an oral health provider. To date, Oral Health has been focusing on curative services (dental clinics), established mainly in referral and district hospitals and in many private Dental Clinics mainly located in the City of Kigali, with a limited access by the general population.

The current National Oral Health Strategic Plan (NOHSP 2019-2024) has been developed to scale-up oral health services in order to ensure its integration in the primary health care with the move to put oral health service delivery closer to the population, to reinforce the tertiary oral healthcare and to strengthen preventive measures so as to reduce the burden of oral diseases. To this end, effective community participation will be highlighted. The NOHSP is aligned to the Health Sector Policy and the 4th Health Sector Strategic Plan (2018-2024).

It is then expected to contribute to the overall goal of "continuously putting in place an effective healthcare system capable of providing increasingly specialized services, that focus on healthcare accessibility, affordability, quality, efficient delivery of healthcare, and the use of technology as enablers to achieving Universal Health Coverage and ensuring the wellbeing of the population.

The development of the National Oral Health Strategic Plan has been made with the financial support of Dental Health without Boarders (TUG), a Danish NGO working for better oral health in less affluent communities, through SOS-Children's Villages Rwanda and I take this opportunity to thank them for their contribution. I also acknowledge the contributions of health institutions, organizations and individuals who participated in the process to develop the strategic plan. Finally, I thank all Dental Health Professionals who have been continuously providing oral healthcare and participated in awareness campaign, despite the conditions of scarce resources.

MINISTERE DE LA SANTE

Dr. Diane GASHUMBA
Minister of Health

Executive Summary

Oral health contributes to achieving universal health coverage (UHC) and it is currently considered as key indicator of overall health, wellbeing and quality of life. For decades, this area of health has not attracted enough attention, given the burden of communicable diseases that was prevailing.

The National Oral Health Strategic Plan (NOHSP 2019-2024) has been developed to provide a strategic approach to prevent, treat, control and then reduce the burden of oral diseases as the most common non-communicable diseases and one of the top ten causes of morbidity in Rwanda. The strategic plan will guide and help to mobilize all the needed efforts of the Rwanda Health Sector and other stakeholders to prevent, treat and control oral diseases and conditions.

The plan has been developed in line with the Rwanda Health Sector Policy and the Rwanda fourth Health Sector Strategic Plan 2018-2024 (HSSP IV) and draws from global recommendations and initiatives to reduce the burden of oral diseases.

The NOHSP comprises two main sections: (1) the contextual background information and justification; (2) strategic goals, objectives and interventions. The first section describes the context, process and methodology used to develop the plan. It provides a quick overview of the current status of oral health in Rwanda throughout the national health system.

A comprehensive situational analysis of oral health in Rwanda has been conducted. The situation is presented and presented through the health system building blocks: leadership and governance, oral health service delivery within the Rwanda Healthcare System, human resources, medicines, equipment and technology, health management information and health financing. The available information sets the basis and rationale for the development of the strategic components of the National Oral Health Strategic Plan (NOHSP) 2019-2024.

The second section of the strategic plan contains details related to the goal, purpose, strategic objectives, interventions, activities, coordination mechanisms, monitoring and evaluation framework and the budget for the period 2019-2024.

Strategic goal, objectives and strategies are presented together in a result matrix with series of practical resources for the management, monitoring and implementation of the plan. The second section of the strategic plan provides also a roadmap for delivering quality oral health prevention and care services for the entire population of Rwanda. The strategic plan will focus on integration of oral health in the primary health care to strengthen the prevention and community participation. Also, it is meant to reinforce secondary and tertiary care to ensure a holistic and continuous quality oral health service delivery.

To ensure successful implementation of the NOHSP, an implementation arrangement has been proposed and it is expected that the strategy will allow the mobilization of partners to ensure the needed multi-sectoral collaboration and partnerships.

Background and Context

1.1. Rationale and justification

During almost 15-year period, Rwanda acknowledged an important development of its health system and the health status has improved through implementation of successive Health Sector Strategic Plans (HSSP). The HSSP IV (2018-2024) is aligned to the Rwanda National Strategy for Transformation (NST) 2018-2024. It prioritizes accessible, affordable, quality, and efficient delivery of healthcare that enable Rwanda to achieve the Universal Health Coverage.

The rapid transformation of the National Healthcare System has been accelerated by clear strategic actions that currently focus on the development of sub-sector strategic plans, and priority given to areas that need more efforts. To continuously improve the health status of the population and to ensure universal health coverage where no one is left behind, a special attention is being given to diseases and conditions that have not been enough prioritized in the last decades. To this move, HSSP IV has been designed to cover all those aspects of healthcare that must be considered and integrated as integral parts of the healthcare system.

Oral health is one of those areas that has been recommended to have a specific sub-strategic plan. Oral health is a neglected area of global health that could make a contribution to achieving universal health coverage (UHC) but it is a key indicator of overall health, wellbeing and quality of life. The Global Burden of Disease Study 2016 estimated that oral diseases affected 50% of the world's population (3.58 billion people) with dental caries in permanent teeth being the most prevalent condition assessed. It is estimated that 2.4 billion people suffer from caries of permanent teeth and 486 million children suffer from caries of primary teeth.

The oral cavity plays a critical role in physiologic processes, that include digestion, respiration, and speech. Oral health is a key indicator of overall health, wellbeing and quality of life. Although oral diseases, may directly affect a limited area of the human body, their consequences and impact affect the body as a whole. Unfortunately, a big proportion of people in Rwanda and elsewhere in the world, is not aware of what is oral health, its importance on overall health and the impact one has on each other.

The World Health Organization defines oral health as "a state of being free from mouth and facial pain, oral and throat cancer, oral infection and sores, periodontal (gum0 disease, tooth decay, tooth loss, and other diseases and disorders that may limit an individual's capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing.

Oral diseases are the most common non-communicable diseases (NCDs). Oral health is much more than just healthy teeth and good-looking smile. It affects some of our basic human functions, thereby shaping an individual's self-image and sense of well-being, with negative consequences on people throughout their lifetime, causing pain, discomfort, disfigurement and even death.

The mouth cavity is a mirror of the body, often reflecting symptoms of systemic diseases and disorders like HIV-infection, TB, diabetes, gastroesophageal reflux disease, anemia, avitaminosis (nutritional deficiencies), etc. Poor oral health increases the risk of destruction of periodontal tissue Severe periodontal (gum) disease, estimated to be the 11th most prevalent disease globally, may result in tooth loss, exacerbates diabetes, contributes to increase the risk for cardiovascular diseases and adverse pregnancy outcomes.

In developing countries, this situation is worsened by inadequate health system characterized by insufficient human, financial and material resources, unequal distribution of oral health personnel and the absence of appropriate facilities, resulting in limited or no access to primary oral health care especially for disadvantaged groups of populations.

Also, devastating tooth pain or debilitating infection issues often force people to seek emergency treatment in tertiary care facilities or outside the health system, resulting in catastrophic health expenditures with a higher risk of impoverishment. Furthermore, devastating tooth pain and lack of relief hereof often prevent adults from being able to work and in the same way keeps children from attending school. Finally, increasing risk factors caused by change in lifestyles associated with rapid urbanization contribute to increase of the burden of oral diseases: inadequate exposure to fluoride and poor access to primary oral health care services, heavy marketing of sugars, tobacco and alcohol that leads to growing consumption of unhealthy products.

Historically, oral health has been focusing on treatment while disease prevention and oral health promotion were left out. This approach has proved to have limitations as the burden of oral diseases remains high and even increases continuously, and the traditional curative model of oral health is very expensive for households and the countries, in terms of human and financial resources, and then, it is not sustainable. There is, therefore, a need to keep a strong focus on oral health promotion and preventive measures that can reduce the need for curative procedures and reduce the need for financial expenses.

Oral diseases and conditions are preventable, can be treated and can be controlled through primary health care strategies. More specifically, the two most common oral diseases, dental decay and gum disease are largely preventable by reducing the frequency of sugar consumption, by carrying out good oral hygiene and using fluoride toothpaste. This can be achieved in programs with activities that facilitates tooth brushing, oral hygiene and oral health literacy in the entire population e.g. programs based in the schools and in the families.

Under this broad vision and policy shift, it was therefore, recommended to strengthen the prevention and control of oral diseases through enhancement of community and health facility service delivery to prevent, treat and control avoidable causes of oral diseases. It is against this background that the National Oral Health Strategic Plan for the period 2019-2024 has been developed.

1.2. Process and methodology to develop the NOHSP

The development of the NOHSP consisted of the following six key phases:

- A "**Desk Review"** of existing national and international documents related to Oral Health was conducted to gather relevant qualitative and quantitative information needed for the development of the NOHSP;
- "**Field visits**" were carried out to collect opinions and inputs from stakeholders, especially healthcare service providers, Dental Health Professional bodies, as well as other information that may contribute to the design of evidence-based strategic actions for Oral Health.
- A "**Situation Analysis**" of the Rwanda health system and stakeholders has been conducted using information gathered from desk review and field visits, to identify existing actions and problems in relation with oral health service provision. All information has been summarized in a SWOT table.

- **"Consultative Stakeholders Meetings"** were also organized to brainstorm and build consensus on proposed strategies and actions for the strategic plan. During the meetings, people working in the area of oral healthcare provided their contribution to the design of the plan. Participants included officials from institutions and agencies that are involved in oral health activities. During the meetings, the findings from the situation analysis were validated, and an agreement was made on key priorities and strategic objectives to be achieved under the Oral Health strategy.
- After the situation analysis, a draft of NOHSP was prepared and shared with all participants during the consultative meetings for inputs. A consensus was then made on strategic objectives, strategic interventions, implementation, and monitoring mechanisms.
- All the relevant inputs and comments drown from previous consultations were integrated and a final draft of the National Oral Health Strategic Plan that was prepared and submitted to Stakeholders for review and final inputs.
- Thereafter, the final draft was costed. After the costing, the last step was to submit the final version to the Ministry of Health for internal approval and validation process of strategic documents.

1.3. Situational Analysis

1.3.1. Country context

Using the projections made from the 4th population and housing census of 2012, the population of Rwanda is currently estimated at 12,374,397 people (estimation of 2019), of which 48% are youth aged under 17 years. The majority of the population lives in rural areas (71%), and depends on agriculture, which contributes to 31% of GDP (2017). In 2017, the GDP was 774 USD, up from 414 USD in 2007. Over the last 15 years, Rwanda has achieved important progress in terms of socioeconomic development. For instance, Rwanda has achieved all health-related MDG targets. All the health indicators have been continuously improving, and the rate of utilization of healthcare services improved to 1.53 in 2017, up from 1.07 in 2014.

1.3.2. Rwanda's Healthcare System and Oral Health

1.3.2.1. Health Facilities and Service Delivery

The national health system has a very strong public health sector and comprises four levels of healthcare service delivery, from the community to the national level. It provides integrated and continuous care that starts with the community and continues through health posts and health centres, district hospitals, provincial hospitals, up to the national referral hospitals. There is a good geographical coverage with a functional referral system, and an adequate fleet of ambulances for the pre-hospital and emergency services. In 2017 Healthcare packages have been revised for each level (2017). At each level of administrative level there is a corresponding healthcare structure having a respective healthcare service package.

Primary Health Care is provided at the community level (Community Health), where Community Health Workers (CHWs), live in close contact with the population, and participate in the disease prevention, treatment and health promotion programs, using the Community Health package of services. Health Centres and health posts are responsible for the majority of infectious disease consultations and all common promotional and preventive interventions.

Secondary healthcare is made of preventive and curative healthcare provided in District hospitals that receive cases referred from Health centres. At the tertiary level, referral and provincial hospitals provide specialized healthcare services to cases referred from district hospitals. Provincial and referral hospitals provide more specialized and advanced healthcare services and conduct research. They also have teaching and training for medical staff in their package.

In practice, oral health services are provided in the referral hospitals that are supposed to deliver the full package, in all the district hospitals and in some health centres in Gicumbi District. There are currently many private dental clinics and dental services in the polyclinics, mostly located in the City of Kigali and in some other secondary cities. Dental Specialists, General Dental Surgeons and dental therapists ensure the provision of oral health care service delivery within their scope of practice.

Primary oral health service is only provided in health posts and health centres in the form of analgesics for pain release and cases are mostly referred to hospitals for dental care and management of infection. Since oral healthcare is provided in hospitals not easily accessible due to distance, this may result in overload of patients in some hospitals, unneeded horizontal and vertical referrals, with additional expenses for the patients that cause frequent abandonment of the treatment by the patients.

Available oral health services are mostly curative and rehabilitative, while in district hospitals, dental equipment, mostly dental chairs, is not functional due to problems of maintenance, and there is lack of appropriate space for oral healthcare services.

1.3.2.2. Leadership and Governance

To date, there is no specific policy, strategy, or plan that is specifically dedicated to oral health in Rwanda. As oral diseases are the most common non-communicable diseases, oral health is integrated in different policy and regulatory documents related to NCDs, especially in NCDs policy and strategic plan. Also, Oral health service provision is mentioned in the Public Health Facilities Service Package, but it is mostly restricted in provincial and referral hospitals. Strategies for primary oral healthcare are still missing and then not implemented.

In general, Oral health is not yet included in the existing coordination mechanisms. Specifically, there is a need for the focal person in-charge of oral health in the MOH to ensure the coordination and monitoring of oral health interventions and to address issues related to oral health in the country.

1.3.2.3. Legal and policy context

This National Oral Health Strategic Plan draws inspiration from the Rwanda Vision 2050, the National Strategy for Transformation 2018-2024, the National Health Sector Policy of 2015, the 4th Health Sector Strategic Plan 2018 -2024, the National NCDs Policy of 2014 and the National NCDs strategy.

Globally, the Universal Declaration of Human Rights (art. 25) adopted in 1948 states that health is part of the right to an adequate standard of living. The right to health was further clarified by the 1966 International Covenant on Economic, Social and Cultural Rights and these declarations and conventions have been ratified by the Government of Rwanda. The International Conference on Primary Health Care, held in Alma Ata in 1978 reaffirmed that health is a fundamental human right and that the attainment of the highest possible level of health is a most important world-wide social goal.

It was also agreed that PHC is most appropriate to address the main health problems in the community, providing promotive, preventive, curative and rehabilitative services accordingly, and should be sustained by integrated, functional and mutually supportive referral systems. Then, all governments were called upon to formulate national policies, strategies and plans of action to launch and sustain primary health care as part of a comprehensive national health system and in coordination with other sectors. Later in Harare (1987) and in Ouagadougou (2008), the concept of PHC implemented at district level was also reaffirmed for Africa.

With regard to Oral Health, the World Health Assembly (WHA) recognized the "intrinsic link between oral health, general health and quality of life". In 2007, the WHA adopted a resolution to reaffirm its commitment to integrate oral health within PHC (resolution WHA60.17) and emphasized the need to incorporate oral health into prevention and control of NCDs within the framework of enhanced PHC.

The resolution further highlighted the need to build capacity in oral health systems at primary health care level as a means of prevention and control of oral diseases. To strengthen national efforts to address the burden of NCDs, the 66th World Health Assembly endorsed the WHO Global Action Plan for the Prevention and Control of NCDs 2013-2020 (resolution WHA66.10)

In Africa, through the 2011 Brazzaville Declaration on NCDs prevention and control, Member States committed to develop integrated national action plans and strengthen institutional capacities for NCD prevention and control, including oral diseases as they share major risk factors with the leading NCDs, including tobacco use (WHO Framework Convention on Tobacco Control (FCTC-2003), harmful alcohol consumption and unhealthy diets high in sugar, all of which are increasing in the Region.

The Sustainable Development Goals (SDGs) set out a holistic agenda to guide global development until 2030, with Goal 3 focusing on good health and well-being. The SDG agenda which includes social determinants of health, NCDs and universal health coverage, is providing an anchor and entry point for better prioritization of oral health in the Region.

In August 2016, the Regional Committee for Africa adopted the Regional Oral Health strategy 2016–2025: addressing oral diseases as part of non-communicable diseases and requested Member States to develop and implement a multi-sectoral national oral health action plan including a monitoring and evaluation framework for prevention and control of oral diseases as part of NCDs and strengthen political commitment at the highest levels to address oral health as one of priority area related to NCDs.

Rwanda has ratified the international conventions and protocols related to the right to health. Rwanda has also enacted national legal and policy instruments for the protection of the right to health, including those related to the prevention and control of non-communicable diseases, that include oral diseases and conditions. Some of instruments in place include:

- Law No 47/2012 of 14/01/2013 relating to the regulation and inspection of food and pharmaceutical products
- Law N°08/2013 01/03/2013 relating to the control of tobacco
- Law Nº 003/2018 of 09/02/2018 establishing Rwanda Food and Drugs Authority to regulate pharmaceutical products, vaccines, human and veterinary processed foods and other biological products used in clinical settings
- National Food and Nutrition Policy (2014)
- Occupational health and safety policy (2014)

1.3.2.4. Institutional framework and Stakeholders

Oral diseases are included in the Non-communicable diseases that require a multi-sectoral action. There are many institutions whose mandate and missions contribute to address the issue of NCDs in Rwanda. First, the Social Cluster brings together social Ministries and associated institutions or agencies having in their attributions, the promotion of the health status of the population.

In the other side, non-governmental stakeholders play an important role in the promotion of oral health The Rwanda Dental Surgeons Association (RDSA) and the Rwanda Dental Association advocate for promoting science and professionalism of dentistry so as to improve oral health of the community in Rwanda. Under their scope of work, they are committed to fostering effective and efficient oral health service delivery in the country. The University of Rwanda, College of Medicine and Health Sciences (UR-CMHS) is the only academic institution that is training the workforce needed for the provision of oral healthcare.

In the area of prevention and primary oral health, SOS-Children's Villages Rwanda, under the financial support of Dental Health without Borders (TUG), a Danish NGO, initiated and implemented a project to promote oral health through the provision of Basic Package of Oral Care (BPOC) and prevent dental diseases among Rwanda children and youth, while providing daily oral health and carrying out general hygiene activities in targeted seven primary schools in the three districts of Gasabo, Gicumbi and Nyamagabe.

The project started in 2015 involving 13 schools in the three districts and its second phase will run up to 2021. In addition to schools, vulnerable families and CHWs are concerned with the project, and dental students are trained in practical oral health promotion out of the clinic by the project in cooperation with the School of. Dentistry, University of Rwanda. Also, Voluntary Dental Health professional missions are organized 2 times a year in SOS-CV Rwanda, and they work with health facilities neighboring the targeted schools.

With regard to partnership, TUG already mentioned participates in oral health activities through SOS-CV Rwanda. FADA, a Netherlands NGO is assisting Gicumbi District to create dental services in remote HCs. These 2 experiences seem to be positive and may be extended in other districts. Another example of partnership is the Nyanza and Remera-Rukoma DHs that have acquired dental services in collaboration with partners.

FDI (Fédération Dentaire Internationale) collaborates with national dental professional associations in their actions to ensure that oral health is recognized and accepted as a core element of general health; to integrate oral health into prevention and treatment of other non-communicable diseases (NCDs); and to mobilize members to build national capacity to effectively influence and shape oral health priorities. It assists members in setting norms, standards, guidelines and regulations in the field of Oral Health and participates in the celebration of the National Oral Health Day, which the SOS/TUG-project has also done every year since 2016.

The list of non-government stakeholders in oral healthcare includes non-government organizations supporting oral healthcare interventions in Rwanda. Non-governmental organizations that have been operating in Rwanda in the area of oral healthcare are:

- Harvard School of Dental Medicine
- FADA (Fondation Aide Dentaire en Afrique)
- TUG (Dental Health without Borders)

- SOS-Children's Villages Rwanda
- Clinton Health Access Initiative (CHAI)
- Partners in Health
- University of Maryland
- FDI-World Dental Federation

To date, only Harvard School of Dental Medicine, TUG, SOS-CV Rwanda, FDI and FADA are still active. Also, in partnership with WHO, MoH has developed a booklet and a training tool aiming at promoting hygiene and nutrition. Risk factors for NCDs have been included in the booklet and the training tools. Also, in collaboration with Oral Health Professional Associations, WHO organize the National Oral Health Day, that is scheduled in March 20th of every year. As for the private sector, several dental clinics have opened mainly in urban areas: Kigali City and other secondary cities.

1.3.2.5. Health workforce

Compared to the standards recommended by WHO to have at least one dental surgeon per 7,000 populations, the number of health professionals in the area of Oral healthcare is still limited in Rwanda. By 2018, there were some 48 Oral health specialists (42 licensed by RMC in May 2019), many of them being expatriates and 10 others have recently graduated, waiting for deployment. Also, some 420 Dental Therapists are deployed in Hospitals and private clinics (at least 2 dental therapists in a DH).

In the public sector, Dental Surgeons are mostly working in referral hospitals and in some provincial hospitals and strategic hospitals like Gisenyi District Hospitals, where the full package of oral health is provided.

Some health centers are in process to acquire dental services like in Gicumbi District. In private clinics, the oral health staff is distributed in the many dental clinics located in the City of Kigali. Only some hospitals and clinics are able to provide the full package of oral healthcare services. The provision of oral health is impaired by a problem of equipment and some time there is a lack of consumables in health facilities. To date, there is no skilled oral health staff appointed in health centers where most packages of primary healthcare is meant to be delivered.

1.3.2.6. Medical Products and Health Technology

The Rwanda Ministry of Health regularly publishes a list of minimum medicines, consumables and commodities needed for a basic healthcare system. The last list of essential medicines, that include some medicines, consumables and commodities for oral health was issued in 2015.

Availability of essentials medical products seems to be ensured in district hospitals, but serious stock outs are observed in some others due to problems of procurement in those facilities. Some products are available only in private pharmacies, meaning that the list needs to be revised and completed with the missing items related to oral diseases.

1.3.2.7. Service Delivery

Oral diseases are the most common NCDs. Oral Health is integrated in the NCDs policy and NCDs strategy. Oral health services are operational in referral, provincial and district hospitals. In District hospitals, at least 2 Dental Therapists have been appointed to provide oral health services as defined in their scope of work. Dental services have the basic equipment, while medicines and consumables can be procured from District pharmacies. The very important problem observed is the lack of maintenance of this equipment. In Health centers, the basic primary oral care is not provided and all patients are transferred in district hospitals. In health centers, patients may receive some medicines for pain relief or for a suspected infection and there is a risk of delay for timely having appropriate treatment and risk to refer complicated cases.

1.3.2.8. Health Financing

Medical consultations, interventions and treatment related to oral diseases and conditions are covered by health insurance. Currently oral health is not provided in health centers where primary health care is provided and this limits geographical access by the general population, mainly in rural areas

Since available oral services are not close to the general population, utilization rate is low and the risk to face catastrophic expenditures is high, for example in case of pain. The problem of access to quality oral health exposes the population to visit traditional health that cannot help a lot, but also to frequent private providers where the costs are very high.

Oral health does not attract many partners and the funding of oral health activities requires the mobilization of internal revenues through better utilization of oral health services availed in the public health facilities and the public-private partnership using the model of Health Posts, since oral health services can be self-sustainable.

1.3.2.9. Health Information and Research

With regard to health management information and research, the Ministry of Health conducts regular population based surveys and studies. Health facilities data are routinely tracked through the Health Management Information System (HMIS). Health facility data related to oral health service delivery are currently collected at all levels, from health centers up to referral hospitals. Reports are made on quarterly and annual basis.

Only tooth and periodontal diseases are reported in the HMIS, other conditions being under the item "Others". It is then not possible to estimate the frequency of diseases labelled under "others", but oral diseases (teeth diseases) rank in the top ten causes of morbidity in health centers and in hospitals for all age-groups

In the field of research, the MoH has the National Health Research Agenda and the guidelines to ensure all the research conducted in the health sector is aligned with the national and sector priorities. Only one national survey on oral diseases has been conducted. This means that Oral health needs to be integrated in the National Health Research Agenda. For the knowledge management related to oral health, only some papers have been published so far by students ending their dental studies. Some papers published include dissertation papers of students.

1.3.3 The status of Oral Health in Rwanda

As for other developing countries, oral diseases constitute an important burden. Data from the Rwanda Health Management Information System (R-HMIS) published in 2016 showed that tooth and periodontal diseases are among the top ten causes of morbidity in health facilities for all age groups. Inadequate integration of oral health in the healthcare system, associated with insufficiency of health infrastructure, equipment, and of skilled workforce, insufficiency in training, result in ineffective oral health service delivery. There are also increasing risk factors caused by change in lifestyles associated with rapid urbanization: inadequate exposure to fluoride and poor access to primary oral health care services, heavy marketing of sugars, tobacco and alcohol that leads to growing consumption of unhealthy products.

In Rwanda, the first national oral health survey indicated that: (64.9%) of the participants in the survey had experienced dental caries, while 54.3% of them were untreated. Among adults aged 20 years and above, 32.4% had substantial oral debris and 60.0% had calculus, while the majority (70.6%) had never visited an oral health provider.

Due to these oral conditions, 63.9% of patients reported pain, difficulty chewing (42.2%), and difficulty in participating in usual activities (35.4%). Tooth and gum diseases rank 6th (6.2%) in the top ten causes of morbidity among U-5 children, 4th (4.2%) among people over 5 years and adults and first cause of consultation in hospitals (22.4%).

In school children, an evaluation report of the Basic package of oral care (BPOC) project (2015-2018) implemented by SOS-CV Rwanda and supported by Danish Oral Health without Borders (TUG), indicated that among the primary school children recruited for the project in 13 schools, 45% had visible dental caries, 44% had pain in the mouth, while 64% had bleeding gums.

At the end of the phase 1 in 2018, the proportion of dental caries reduced to 16%, bleeding gums to 18%, and pain was observed in only 7% of students. This means that implementation of the BPOC can result in improvement of oral health in schools and in community. In Rwanda, Oral health is integrated the national health system and services are delivered mostly in the referral and district hospitals. However, they are not properly functional due to lack of space, absence of maintenance (preventive and curative) for basic dental equipment. More functional dental services are located in the capital and are not affordable for the poor population. Also, oral health services are not operational in health centers and community.

Consequently, there is no functional oral health within the primary health care system. Then, a large proportion of the population do not access to appropriate oral health care services. This results in a high proportion of untreated oral diseases, with significant needs and demands for essential oral health care services that are not satisfied.

In order to ensure that patients access basic oral health services, it has been constantly proposed that Dental Therapists be also deployed in health centers, but this has an important budget implication. Dental services are considered to be self-sustainable. Then, a PPP alternative may be envisaged like what has been done with the health posts.

For African region, it has also been proposed high impact population based interventions that include a mix of preventive population wide and patient-centered care, with a clear focus on health promotion and empowerment for effective self-care.

1.3.3. SWOT Tables (summary of Strengths, Weaknesses, Opportunities and Threats) for Oral Health in Rwanda

1.3.3.1 Infrastructure, drugs and equipment

STRENGTHS	WEAKNESSES
• Functional and well organized supply chain. • Priority medicines and consumables for oral health included in the Essential Medicines List • Oral services and oral medicines included in CBHI • Oral (dental services) created in all hospitals	• Oral health services not prioritized in some District and Provincial Hospitals • Lack of enough space for Oral (dental) services • Some medicines and Consumables for oral health not included in the Essential Medicines List, then not part of the supply chain • Chronic shortage of consumables, in some hospitals • Absence of maintenance (preventive and curative) for dental equipment • Dental equipment is not standardized
OPPORTUNITIES	**THREATS**
• More commitment of the MoH to improve the performance of oral health	• Lack of financial support for Oral services • Absence of expertise for maintenance of dental equipment

1.3.3.2 Trainings and Human Resources

STRENGTHS	WEAKNESSES
• Training of Dental Therapists since 1998. More than 500 have already graduated • Training of Dental Surgeons since 2013. Already 10 dentists graduated. • Existence of technical support for the training of Dental Surgeons • Existence of residency training for Dental surgeons at UR-CMHS.	• General shortage of Dental surgeons • Dental staff training focuses mainly on curative aspects of oral health and not much on prevention and public health aspects. • No mechanisms to ensure continuous (CPD) training for Dental Therapists
OPPORTUNITIES	**THREATS**
• Almost all Dental Therapists hold Bachelor's degree • Dental Therapists have the required expertise to provide oral healthcare in District Hospitals and deliver satisfactory service to the population • Commitment of Partners to support the training.	• High turnover of Dental Therapists that are attracted by private sector in urban settings • Inadequate retention measures • Training of enough Dental Surgeons is long, expensive and will take long time to produce the needed number of specialists.

1.3.3.3 Service Delivery

STRENGTHS	WEAKNESSES
• Oral healthcare created in all public hospitals • Several private dental clinics opened in the capital and other secondary cities integrated in the health system, at all levels • Satisfactory oral health package is provided at district level • Rapid expansion of dental clinics in the private sector	• Oral (dental) services are not fully operational in all hospitals due to broken basic equipment (dental chairs) • Lack of oral healthcare at primary health care level (HCs, Community) with absence of preventive actions • Absence of community participation in the promotion of oral health • The Management of hospitals do not prioritize oral health service provision • Important proportion of unmet needs (unavailability of service in health facilities, unawareness of patients, high costs, problem of geographical accessibility since oral health service operate in hospitals only) • No outreach organized from district hospitals to health centers • Persistence of barriers to utilization of oral health services
OPPORTUNITIES	**THREATS**
• Availability of enough and skilled Dental Therapists to provide oral health services at decentralized level • Improvement of service delivery with the new structure of the health facilities in Rwanda • Equitable distribution of public health facilities • Inclusion of oral health indicators in HMIS	• Lack of expertise for the maintenance of dental equipment

1.3.3.4 Health Financing

STRENGTHS	WEAKNESSES
• Oral health services, oral health medicines and consumables included in CBHI • Inclusion of main drugs for oral health service in the National Essential Medicines List • Quality oral health services are capable of generating substantial revenues for the health facilities	• Medical acts and medicines for complex oral conditions not covered by CBHI • Oral health service delivery not yet included in health facilities' indicators for performance based-financing. • Equipment/supplies for oral health care not prioritized in the procurement process
OPPORTUNITIES	**THREATS**

• Compared to other health services, oral health service delivery may be self-sustainable • Possibility to extent dental services in Health Centers (Gicumbi experience)	• Traditional Partners not committed to support oral health services • High staff turnover in the public & attraction by the private sector • Oral health services are expensive and their cost may limit access to the poor groups of the population

1.3.3.5 Monitoring, evaluation and research

STRENGTHS	**WEAKNESSES**
• Oral health services integrated in the health system, from referral to the district level • Oral health indicators routinely reported through HMIS	• Existence of different but conflicting guidelines in relation with oral health service provision and referrals. Need of harmonization • There is no clear referral system • Partial inclusion of oral health indicators in the HMIS
OPPORTUNITIES	**THREATS**
• Oral health indicators are integrated in the HMIS • Private sector is highly interested by Oral Health	• Lack of Partners to Oral Health

1.3.3.6 Leadership and Governance

Strengths	**Weaknesses**
• Oral Health integrated in the NCDs policy and strategy	• Weak coordination mechanisms • Legal and policy frameworks for Oral Health not satisfactory implemented • Oral health not prioritized by Decision-makers • Lack of policies and regulations that ensure optimal fluoride to prevent or reduce the burden of dental caries
• **Opportunities**	• **Threats**
• Existence of Legal framework for some NCDs risk factors (tobacco, alcohol)	•

1.3.4 Priority areas of Oral Health

Given the priority areas of Oral Health and the priority oral diseases identified for Africa, considering the gaps, weaknesses identified in the situation analysis of Oral Health in Rwanda, considering the status of oral health in Rwanda, the general objective of the National Oral Health Strategic Plan will be to ensure universal access (geographical and financial) to **quality Oral Healthcare services** (preventive, curative, rehabilitative and promotional) for all Rwandans.

In this move, the following actions will guide national efforts to expand and strengthen Oral Health for the period 2019-2024:

- Strengthening the leadership and governance for Oral health in Rwanda;
- Raising public awareness on risk factors, causes, prevention measures and community participation,
- Availing quality oral healthcare care
- Scaling-up of Oral Health services across the Rwanda healthcare system through a comprehensive institutional capacity development and a health system strengthening that includes: infrastructure, equipment, training, oral health workforce, service delivery, health information, and research.

II. THE NATIONAL ORAL HEALTH STRATEGIC PLAN (NOHSP)

The National Oral Health Strategic Plan draws from the National Transformation Strategy (NST1). It is designed in accordance with the mission and vision of the Rwanda Health Sector Policy and the Rwanda Health Sector Strategic Plan 2018-2024 (HSSP IV).

Considering the vision and mission of the Health Sector Policy and then for Oral health, given the strengths, weaknesses, opportunities, and threats highlighted in the situation analysis,

Considering that the majority of the population are affected by oral diseases, considering the recommendation to integrate oral health in the primary health care and considering that the most common oral diseases are mostly preventable and treatable, the following are Vision, Mission, Goal, and Objectives for the NOHSP

2.1. Vision and Mission of the NOHSP

Article 41 of the Rwandan Constitution, as amended to date clearly declares that health is a Human Right: "All citizens have rights and duties relating to health. The State has the duty of mobilizing the population for activities aimed at promoting good health and to assist in the implementation of these activities. All citizens have the right of equal access to public service in accordance with their competence and abilities."

2.1.1. Vision

The vision of the NOHSP has been set in line with the Rwanda vision to become an upper middle Income country by 2035 and a high Income country by 2050. It is also in line with the vision of the Health Sector Policy (2015). Then, the vision of the NOHSP is to pursue an integrated and community-driven development process through the provision of equitable, accessible and quality oral health care services,

2.1.2. Mission

The Rwanda Health Sector mission is to provide and continually improve affordable promotive, preventive, curative and rehabilitative health care services of the highest quality, so as to ensure universal health coverage thereby contributing to the reduction of poverty and enhancing the general well-being of the population.

2.2. Goal and Objectives of the NOHSP

2.2.1. Goal

Given the vision and the mission of the Health Sector and that of the NOHS, the goal (overall objective) of the National Oral Health Strategic Plan is to reduce the burden of oral diseases and conditions through improvement of preventive, promotive, curative and rehabilitative oral health services; and ensure that all Rwandans enjoy equitable quality oral health care services.

2.2.2. Strategic objectives

a. To strengthen the governance and coordination of Oral Health within the National Health System
b. To establish and strengthen the preventive measures to reduce the burden of oral diseases and to raise awareness and advocacy in relation with oral diseases
c. To train the needed qualified workforce and establish the retention measures for the provision of comprehensive oral health services at all levels of healthcare.
d. To provide appropriate infrastructure, avail and equitably distribute quality equipment for oral health in Rwanda
e. To improve the quality of oral health service delivery at primary, secondary and tertiary levels.
f. To improve the monitoring and evaluation of oral health programs and interventions. Promote research in the field of Oral Health

2.3. Strategies and interventions to be prioritized during implementation of the NOHSP

2.3.1. To strengthen the governance and coordination of Oral Health within the National Health System

Gaps- challenges	Proposed strategies/interventions
• Weak coordination mechanisms • Legal and policy frameworks for Oral Health not satisfactory implemented • Oral health not prioritized by Decision-makers	• Establishment and implementation of oral health coordination mechanisms at central and decentralized levels • Develop and implement national guidelines for the implementation of oral health interventions and adapt them to the existing healthcare system • Strengthen the enactment and enforcement of legal and regulatory framework

2.3.2. To raise awareness and advocacy on the issues of Oral Health in Rwanda

Gaps- challenges	Proposed strategies/interventions
• Population not aware of oral health problems in general • Population not aware of the advantages of oral hygiene and the prevention of oral diseases • Oral health interventions not implemented at community level • Oral health not prioritized by Decision-makers	• Design and implement strategies to inform the population and decision makers about the issues of oral health and their consequences on health and wellbeing • Raise public awareness and advocacy on oral health issues, prevention measures, availability of services and sensitization for their utilization • Design and implement preventive measures to reduce the burden of oral diseases in health facilities and in community • Ensure that laws, policies and regulations for minimizing risk factors for oral diseases and accidents are implemented and enforced by all concerned parties • Integrate oral health in the school health programs and ensure their implementation • Develop strategies to improve the community participation in the prevention of oral diseases (promotion of oral hygiene) • Integrate oral health promotion in the MCH programs and other NCDs

2.3.3. To provide appropriate infrastructure, avail and equitably distribute quality equipment for oral health in Rwanda

Gaps-Challenges	Proposed strategies/interventions
• Many hospitals do not yet have appropriate space and enough equipment meeting standards and norms for oral health service provision • Dental equipment is not standard and has been provided by different partners. • Total lack of maintenance service for dental equipment	• Design, construct, renovate, upgrade and equip wings for oral health units in health facilities. • Conduct an inventory of dental equipment in all health facilities to identify gaps and needs. • Purchase a standardized new equipment, ensure its equitable distribution according to the package of services allocated to each level and establish a functional maintenance plan. • Expand the national essential medicine list to adequately provide for priority oral diseases and ensure such medicines are available at all levels. • Advocate to manufacturing companies for the supply of low cost fluoride tooth paste and tooth brush and for their production within Rwanda.

2.3.4. To train the needed qualified workforce and establish the retention measures for the provision of comprehensive oral health services at all levels of healthcare.

Gaps-Challenges	Proposed strategies/interventions
Insufficient oral health workforce, mainly Dental surgeons, but also other staff in charge of basic primary oral services	• Strengthen the capacity of the UR-CMHS School of Dentistry for the production of more dentists. • Establish capacity to produce enough human resources that will provide basic primary oral care. • Develop the curriculum and strengthen the capacity of UR-CMHS for the training of Dental subspecialists • Train enough Dental subspecialists to ensure availability of comprehensive tertiary oral health care. • Promote the skill-mixed training approach through continuous professional development/trainings • Revise the training curricula to include preventive and public health aspects of oral health

2.3.5. To provide comprehensive and quality preventive and curative oral health services at primary, secondary and tertiary levels

Gaps-Challenges	Strategies/Interventions
• Oral health services not fully operational in all hospitals. • Lack of oral healthcare at primary health care level (HCs, Community) • Absence of community participation in the promotion of oral health • The Management of hospitals do not prioritize oral health service provision • Important proportion of unmet needs and high rate of patients that do not seek oral healthcare.	• Define and implement service packages for Oral health services at all levels of the healthcare system; • Define and update the guidelines for Oral health service provision and referral and disseminate it. • Ensure that all hospitals are provided with operational oral health (dental) services according to their package of service • Develop and implement oral primary health care through the provision of Basic package of oral care (in HCs and Community) • Design and implement the school based oral health program • Promote oral hygiene in the community and schools • Introduce oral health indicators in the performance based-financing to ensure the control of the quality and outcomes of oral health services across the health system. • Advocate for more expansion of the private sector for the provision of oral healthcare

2.3.6. To strengthen M&E and research for Oral Health activities

Gaps-Challenges	Strategies/Interventions
Previously, oral health was a neglected area of healthcare that was provided in referral hospitals. Even if dental services have been created in hospitals, several issues continue to hamper the development of oral health in general ○ Lack of Partners that limit availability of funds ○ Management of facilities that not consider oral health as priority ○ Health Facility data about oral health are only confined to dental caries and periodontal diseases ○ Oral health indicators not clearly defined in the R-HMIS ○ National surveys are not regularly conducted to estimate the burden of oral diseases and develop evidence-based policies and strategies ○ The number of researches on Oral health is limited to dissertations of students ○ Inadequate supportive supervision	• Define and update oral health indicators that allow to track real data on oral diseases • Establish and strengthen mechanisms to track data on oral health service provision in all health facilities, public and private. • Promote targeted researches on oral health interventions in Rwanda. • Conduct regular national surveys on oral diseases and conditions to inform policy decision and strategic planning. • Include oral health in the routine reporting (quarterly, annual) of NCDs division • Define clearly the flow of information between primary, secondary and tertiary care • Integrate oral health supervision in the existing mechanism • Integrate oral health indicators in PBF

2.4. Results Matrix for the NOHSP

Output	Indicator	Baseline	Source of data	Targets		Actions	Key stakeholders
				2021	2024		
Outcome 1: Leadership, governance and advocacy efforts for Oral health care are strengthened in Rwanda							
Legal and policy frameworks for oral disease prevention and care enforced and fully implemented	Oral health guidelines reviewed and adapted to healthcare system	0	Annual reports	100%	100%	• Review and update Oral health guidelines and adapt them to the existing structure of healthcare provision from the community to referral level.	MoH RBC
						• Establish intersectoral collaboration mechanisms to support regulations that reduce risk factors related to oral health: taxation and pricing, food labelling, school nutrition policies, support to nutrition programs, etc.	
Oral health interventions, reporting and stakeholders coordination are well coordinated	Oral health coordination desk created and supported at the national level.	-	RBC Annual report	-	-	• Appoint a coordinator for Oral health • Create an Oral Health sub-Technical Working Group under the Disease Prevention and Control TWG	MoH/RBC Partners
• **Outcome 2: Public awareness and advocacy are raised and community participation is improved about oral health issues**							

Public awareness about Oral Health services across the board is raised. Knowledge, attitudes and practices about risk factors for oral health are improved	Number of IEC/BCC materials produced Number of information campaigns organized	TBD	Annual reports	TBD	TBD	• Avail and disseminate IEC/BCC tools to improve population and health staff awareness about oral health problems and prevention measures	MoH RBC WHO
						• Integrate oral health in all IEC/BCC programs for the prevention of NCDs, giving priority to major NCDs risk factors	MoH RBC WHO Partners
						• Improve the quality of information and awareness about oral health risk factors in the public, health professionals, decision makers and in the road circulation	MoH RBC WHO Partners
						• Educate the general population and the community on existing mechanisms to prevent oral diseases and advantages of early treatment	MoH RBC RDA RDSA
						• Promote effective community participation in the prevention of oral	MoH RBC RDA RDSA

						diseases and the promotion of oral health	
						• Build effective partnership between local leaders, community, health professionals and Civil Society for the prevention of oral diseases	MoH RBC RDA RDSA
						• Advocate for institutional collaboration for effective prioritization of oral health	MoH RBC RDA RDSA
Oral Health issues are integrated in Hygiene and Health promotion programs	Number of oral health messages integrated in Hygiene and Health promotion messages	0	Annual reports	50%	100%	• Integrate oral health messages in Hygiene and health promotion interventions	MoH RBC RDA RDSA Partners
Preventive measures are introduced for vulnerable groups		-	-	-	-	• Introduce preventive measures for oral diseases in vulnerable groups (prisons, refugees, elders)	RBC Partners
Systematic check-up of oral cavity established in consultations	Number of HFs that have introduced check-up	0	Annual reports	50%	50%	• Establish systematic oral cavity check-up in all OPD, Pediatrics, ANC consultations	MoH RBC Partners
National Oral Health Day celebrated every year	-	-	Annual report	2	5	• Organize the national oral health day	MoH, RBC WHO RDA

							RDSA
Level of compliance with laws, policies, and regulations to minimize the risk factors of oral health is improved	-	-	-	-	-	• Inform and educate the general population and the community on existing laws, policies and regulations for minimizing risk factors related to oral health	MoH, RBC WHO RDA RDSA
Outcome 3: Sufficient and skilled workforce is availed and retained to provide Oral health services at all levels							
The number of human resources that provide primary oral care is increased.	Number of health centers and health posts with at least two nurses trained primary oral health care	0	Annual reports	TBD	TBD	• Conduct an inventory of Dental Health Professionals available in the country • • Organize refresher trainings to ensure that quality Basic package of oral care is provided in all HCs and health posts Deploy nurses trained on Primary oral care in all health posts and health centers	MoH RBC Districts HFs Partners
	Number of private and public nursing schools with integrated Basic package of oral care (BPOC) training curricula	0	Annual reports	8	8	• Ensure that the Primary Oral care curriculum is integrated in the nursing curricula of all nursing schools and provided to students	MoH RBC Districts HFs Partners

	Number of medicalized health centers with at least one Dental Therapists (Rutare, Gatenga, Kanyinya, Remera, Bigogwe, Gikonko, Mageragere, Rutare,etc)	0	Annual reports	8	8	• Deploy the required oral health skilled staff in all medicalized health centers	MoH RBC Districts HFs
The training of another category of oral health professionals is started in the UR-CMHS considering the need of the population	Curriculum of Dental sub-specialists and other oral health professionals developed considering the future needs of the population	0	Annual reports	TBD	TBD	• Develop the curriculum of other categories of oral health professionals, considering the needs of the population • Start and strengthen the training program in the UR-CMHS as defined in the curriculum	MoH MINEDUC HEC UR
Sufficient Dental Therapists are deployed in District Hospitals	Number of DHs with all the needed DTs	3 DTs /DH	Annual reports	TBD	TBD	• Complete the missing DTs to attain 3 DTs/DH	MoH RBC
Sufficient Dental Therapists are deployed in Provincial Hospitals	Number of PHs with all the needed DTs	3 DTs	Annual reports	TBD	TBD	• Complete the missing DTs to attain 3 DTs/DH	MoH RBC
Sufficient Dental Therapists are deployed in Referral Hospitals	Number of RHs with all the needed DTs	3 DTs	Annual reports	TBD	TBD	• Complete the missing DTs to attain 3 DTs/DH	MoH RBC
Sufficient Dental Therapists are deployed in Teaching Hospitals	Number of UTHs with all the needed DTs	3 DTs	Annual reports	TBD	TBD	• Complete the missing DTs to attain 3 DTs/DH	MoH RBC

Enough Dental Surgeons are trained in the UR-CMHS	Number of Dental Surgeons that graduate every year	2 DSs	Annual reports	TBD	TBD	• Continue the training of Dental Surgeons in the UR-CMHS	MoH MINEDUC HEC UR
Dental sub-specialists are trained	Number of Dental Sub-specialists that are trained	0	Annual reports	TBD	TBD	• Develop curriculum and strengthen the capacity of UR-CMHS to train Dental subspecialists • Organize the training of dental sub-specialists in-country or outside	MoH MINEDUC HEC UR
Required Dental Surgeons are deployed in DHs	Number of DHs with at least one Dental Surgeon	1	Annual reports	35	36	• Recruit and appoint at least one Dental Surgeon in DHs	MoH RBC Partners
Required Dental Surgeons are deployed in PHs	Number of PHs with at least one Dental Surgeon	1	Annual reports	4	4	• Recruit and appoint the required Dental Surgeons in PHs	MoH RBC Partners
Required Dental Surgeons are deployed in RHs	Number of RHs with at least one Dental Surgeon	2	Annual reports	6	6	• Recruit and appoint the required Dental Surgeons in RHs	MoH RBC Partners
Required Dental Surgeons are deployed in UTHs (CHUB/K, RMH)	Number of UTHs with at least 3 Dental Surgeon	3	Annual reports	TBD	TBD	• Recruit and appoint the required Dental Surgeons in UTHs	MoH RBC Partners
Dental Sub-specialists are deployed in Referral Hospitals (UTHs)	Number of UTHs having at least 2 Dental Sub-specialists	?	Annual reports	TBD	TBD	• Recruit and deploy the required number of Dental Subspecialists	MoH RBC Partners
The skill-mixed training approach through continuous professional	Number of integrated polytechnic regional centers (IPRC) with integrated	0	IPRC HMIS	8	8	• Negotiate with IPRCs to integrate a curriculum for the maintenance of oral	MoH RBC IPRC HFs

development/trainings is supported and promoted	dental equipment training curricula					health equipment in IPRCs	Partners
Retention mechanisms are established for Dental Workforce	The scope of practices for Oral Health workforce is updated and disseminated	-	Annual reports	-	-	• Establish a grading system for Dental health staff	MoH RMC RAHPC
Outcome 4: Quality Oral health care medicines, commodities, equipment, and appropriate infrastructure are availed and equitably distributed							
Health facilities are provided with appropriate space for Oral health units according to their package (oral health units are constructed, renovated, upgraded and equipped for quality oral healthcare services).	Number of District Hospitals with minimum number of 4 wings for oral health units, dental theatre and imaging	0	HMIS	18	36	• Provide DHs with enough space for oral health service provision, including one oral theatre and imaging	MoH RBC Districts DHs Partners
	Number of Provincial Hospitals with minimum number of 4 oral health wings plus one dental theater and imaging	0	HMIS	4	4	• Provide PHs with enough space for oral health service provision, including one oral theatre and imaging	MoH RBC Districts PHs Partners
	Number of Referral Hospitals with minimum number of 4 oral health wings plus one dental theater and imaging.	0	HMIS	3	3	• Provide RHs with the required space needed for tertiary oral health service provision	MoH RBC Districts RHs Partners
	Number of UTHs with minimum number of 4 oral health wings plus one dental theater and Laboratory	0	HMIS	3	3	• Provide UTHs with the required space needed for full package of oral health service provision	MoH RBC Districts RHs Partners
Oral health equipment is purchased, equitably	Number of health facilities with a minimum and	546	HMIS	TBD	TBD	• Conduct an inventory of existing equipment	MoH RBC

distributed and well maintained	functioning oral health equipment as per the package of each level.					and materials in all HCs, DHs, PHs, and RHs • Develop the norms and standards for oral health equipment and materials to be utilized at all levels of healthcare. • Equip all health facilities (HCs, DHs, PHs, RHs) with the required equipment • Health centers to be equipped with one dental chair and 1 dental X-ray machine.	Districts HFs Partners
	Centre of Excellence for Oral Health designed	0	Annual report	50%	100%	• To design a master plan for the Centre of Excellence for Oral Health	MoH RBC
						• Mobilize private sector for the construction of the Centre of Excellence	MoH RBC
	Number of health facilities with maintenance plan for oral health equipment.	1	HMIS	551	551	• Update or develop a maintenance plan that includes oral health equipment • Procurement officers and health professionals to be provided with SOPs and be trained for	MoH RBC Districts HFs Partners

						utilization of oral health equipment	
Oral health medicines, commodities, equipment supply chain is effective.	Number of health facilities with a standard stock for oral health medicines and consumables	2	HMIS	551	551	• Update the list of oral health medicines, consumables and commodities and include it in the Essential Medicines List • Establish an effective supply chain for medicines, consumables, commodities and equipment for oral health	MoH RBC (MPPD) HFs Districts Partners
Optimal levels of fluoride are constantly maintained to reduce the prevalence of dental caries	Prevalence of dental caries		Annual report	TBD	TBD	• Establish mechanisms to ensure constant optimal Fluorides from fluoridated drinking-water, salt, milk, mouth rinse or affordable toothpaste, etc.	MoH RBC MININFRA MINICOM
Local production of low price fluoridated toothpaste is effective	Local production of low price toothpaste and toothbrush	0	Annual report	TBD	TBD	• Mobilize private sector for the local production of low cost toothpaste and toothbrush	MoH RBC PSF
Outcome 5: Comprehensive and quality oral health service delivery is scaled-up and strengthened at primary, secondary and tertiary levels							
Guidelines for oral health service delivery	Number of guidelines developed and disseminated		Annual report	TBD	TBD	• Review, update and disseminate oral health guidelines	MoH RBC HFs

are developed and disseminated							Partners
Guidelines for school oral health are developed and disseminated						• Develop and disseminate school oral health guidelines	MoH RBC HFs Partners
Referral system for Oral Health put in place	Existence of reviewed referral system with OH included	-	-	-	-	• Develop oral health referral guidelines and integrate it in the existing guidelines	MoH RBC HFs
Oral health integrated in the Community health package	Community health package with oral health integrated	-	-	-	-	• Develop, integrate and operationalize the community oral health package	MoH RBC HFs Partners
Oral cavity check-up is established and institutionalized	Guidelines for oral cavity check-up published	-	Annual report	-	-	• Develop guidelines for systematic oral cavity check-up during consultations	MoH RBC
Measures for Infection prevention and control established in oral health services	Guidelines for infection prevention and control integrated in the general guidelines	-	Annual report	-	-	• Develop guidelines for oral health and integrate them in the general measured for infection prevention and control	MoH RBC
Oral health integrated in the School health package	Percentage of schools (primary, post-primary) that undergo oral health screening	0	Annual reports			• Conduct regular school screenings to identify children with oral diseases and conditions (1 or 2 years) • Promote oral health in schools	MoH RBC MINEDUC Partners

Oral health integrated in the primary healthcare package	Number of HCs providing basic oral healthcare package	0	Annual reports	50%	100%	• Define and adapt basic oral healthcare package for HCs	MoH RBC HFs
Oral healthcare package for District hospitals defined and disseminated	Number of DHs utilizing updated and harmonized Oral Healthcare service package	0	Annual reports	100%	100%	• Review and update the Public Health Facilities package of service to integrate oral health at all levels of service delivery	MoH RBC HFs Partners
Scope of work for Oral Health Professionals clearly defined	Existence of norms, standards and competencies of Oral health professionals	0	Annual report	1	1	• Review and clarify the scope of work for all oral health professionals	MoH RBC HFs Partners
Outreach programs that include oral health are regularly organized	Number of Health Facilities that organize outreach programs including oral health	0	Annual report	50%	100%	• Organize regular outreach from tertiary to secondary, and from secondary to primary healthcare levels	MoH RBC HFs Partners
Private dental clinics are providing comprehensive oral healthcare	Number of private clinics that provide both preventive and curative oral healthcare	0	Annual reports	TBD	TBD	• Encourage private dental clinics to provide preventive and curative oral healthcare	MoH RBC HFs Partners
Public-private partnership for oral health is established	Number of PPP dental clinics created at sector and district level	0	HMIS	TBD	TBD	• Engage PPP dialogue with Dental health professionals and establish appropriate regulation	MoH RBC
Outcome 6: Monitoring and Evaluation of Oral Health programs and interventions are strengthened and coordinated							
Annual oral health symposium organized	Number of annual symposia organized	0	RBC annual report	3	5	• Conduct 1 oral health symposium on annual basis	MoH RBC Partners

Oral health international conference organized	One oral health international conference organized over the next five years	0	RBC annual report	1	2	• Organize 1 oral health international conference over 2-3 year period	MoH RBC Partners
Joint field supervision/visits of oral health services is organized.	Number of joint field supervision/visits done	0	RBC annual reports Reports of joint field visits	2	2	• ?Organize 1 field visits every year	MoH RBC Partners
Oral health performance based financing introduced and sustained	List of oral health PBF indicators	0	MoH annual report	TBD	TBD	• Define and include oral health indicators in PBF	MoH RBC Partners
MTR and end-term evaluation conducted	Report on MTR and end-term evaluation	0	Reports	MTR	End-term evaluation	• Conduct the NOHSP MTR and end-term evaluation	MoH RBC Partners HFs

2.5. Coordination and implementation mechanisms

Implementation of the National Oral Health Strategic Plan (NOHSP) will be coordinated by the Ministry of Health in collaboration of the Rwanda Biomedical Centre, under the support of other national and international stakeholders.

The mechanisms to coordinate the implementation of the NOHSP are similar to those put in place to coordinate the implementation of HSSP IV. The following coordinating structures have been created within the Health Sector, in accordance with the provision of the Cabinet Manual on strategic planning:

First, the Health Sector Working Group (HSWG) is composed of representatives from MOH and affiliated institutions, Development Partners (DPs), Private Sector and Civil Society. HSWG ensures the coordination of activities and harmonization of procedures of both GoR and DPs in order to increase effectiveness and efficiency of aid in the health sector and to ensure better alignment of DPs to HSSP, with an enshrined principle of mutual accountability, as provided in the Health Sector Policy (2015).

Second, the NCD Disease Prevention and Control Technical Working Group: It is one of the 3 Technical Working Groups (TWG) composing HSWG, where technical and policy issues are discussed between MoH staff and representatives of Development Partners, NGOs, FBOs and CSOs working in the concerned area. TWG operates under the authority of the HSWG. To ensure better coordination of the NOHSP, there is a need to create a specific Oral Health Technical Working Group (OHTWG (a sub-TWG) to coordinate all activities related to Oral health, while a national coordinator will be appointed to ensure the day-to-day monitoring of activities related to NOHSP.

Oral health activities are mostly funded by the Government and implemented by the public health sector, but several dental clinics are currently managed by the private sector. Not only the NOHSP will need much more engagement by the Government, but also, strong efforts will be deployed to mobilize more funds, and the private sector will be encouraged to provide more comprehensive healthcare and to create oral health services outside the cities under PPP. Finally, external financial and technical assistance will be needed to achieve the strategic objectives of NOHSP.

At the district level, the monitoring of activities related to health service provision is assigned to the District Health Unit (DHU) and the overall coordination is ensured by the District Health Management Unit (DHMT) in collaboration with the Joint Action Development Forum, JADF.

2.6. Monitoring and Evaluation Framework

The monitoring and evaluation (M&E) system exists to track and evaluate progress towards strategic objectives of a strategic plan and to inform strategic decision-making. Within this plan of action, the M&E of implementation will be ensured by the NCDs Division in RBC, under the Unit of Injuries, Disabilities.

Regular national surveys to generate evidence on prevalence and pattern of diseases will be conducted, in addition to the first national survey carried out and published in 2017. M&E for routine monitoring and periodic evaluation of results and implementation processes, with appropriate methods of data collection, data quality audit, data management, data reporting and dissemination is explained in the HSSP IV (2018-2024).

As for other health services, the monitoring of performance will be carried out quarterly and annually through HMIS, using only 2 indicators. However, there is a need to define specific oral health indicators and integrate them in the Metadata Dictionary. Also, oral health needs to be effectively integrated in the existing supervision mechanisms.

Finally, a mi-term review and an end-term evaluation will be conducted in 2021 and 2024 respectively, while national surveys to generate evidence on prevalence of diseases, pattern of diseases, estimation of oral diseases burden in the country will be conducted on a regular basis. Those initiatives have also objective to assess the progress in achievement of strategic objectives, identify challenges, document best practices, and formulate recommendations that will help to meet the goal of the NOHSP.

2.7. Budget of National Oral Health Strategic Plan (NOHSP 2019-2024)

Costing is an integral part of every planning process and different tools are used for health strategic planning. To support the process of national health strategic planning and costing, the WHO One Health Tool is recommended for the low- and middle-income countries. The role of One Health Tool is to facilitate the assessment of resource needs and costs associated with the key strategic interventions and activities, where integrated planning and strengthening health systems are prioritized.

The National Oral Health Strategic Plan is a sub-sector plan. In this way, the costing process uses "Inputs Based Costing Methodology "or Ingredient Costing Method combined with its equivalent, the "Activity Based Costing Methodology" applied to health services. This methodology is based on the fact that every program or plan uses inputs with identifiable costs. The general steps of the methods are:

- Identification of activities involved in the production process;
- Classification of each activity according to the expected outcome (cost hierarchy)
- Estimation of different unit costs
- Identification and accumulation of total costs of each activity;
- Calculation of total units of the cost relevant to each activity;
- Calculation of the total cost of each outcome;
- Calculation of the total cost of the strategic plan.

The costing exercise was conducted considering the application of five guidance frameworks for costing exercises: (1) Identify resources used to produce the services being costed. (2) Estimate the quantity of each input used. (3) Assign a monetary value to each unit of input and compute the total cost of the input. (4) Allocate the costs to the activities in which they are used. (5) Use measures of service output to calculate average costs.

Key ingredients and costs are first identified and described, and a cost per unit of effectiveness is calculated. Interventions and activities are detailed with their indicators and targets, and the resources needed to deliver corresponding outputs are indicated. Then the costs are calculated using the steps previously listed. The methodology is simple and recommended for the costing of health services in lower delivery levels of developing countries.

The estimation of costs needed to deliver the packages of health interventions identified in the NOHSP for the period 2019 - 2024 included the following:

- The costs of the intervention related to service delivery that are prioritized in the NOHSP for each level of service delivery.
- Costs related to health system strengthening: Human Resources, Infrastructure, Governance, Information Systems, and Logistics.
- The program support (training) required to improve the quality of Oral Health services, and activities proposed for monitoring, evaluation and research.
- The quantity of services required was estimated using the coverage planned within the NOHSP (baselines and targets) for each intervention prioritized.

As a subsector strategic plan, no major Costing assumptions were considered (origin of funds, resource allocation to health, investment and recurrent costs, GDP, etc.) as it is usually made for HSSP. The calculation was made in USD as inflation was not considered, and all the unit prices are expressed in US dollars.

2.7.1. Summary Table: NOHSP Budget 2019-2024

2.7.1.1. Summary of costs for HSS (USD)

Note: This budget is only estimation based on the costs of the new infrastructure, equipment and activities. It does not take into account existing equipment. It should be adjusted according to the report of inventory of infrastructure, equipment and workforce that are currently available in health facilities and needs that will be identified.

Institutional capacity development	**2019-2020**	**2020-2021**	**2021-2022**	**2022-2023**	**2023-2024**	**2024-2025**	**Total**
Governance and Leadership	20,800	81,600	51,600	91,600	51,600		297,200
Public awareness and advocacy	170,000	190,000	170,000	190,000	160,000		880,000
Human Resources	80,000	187,000	146,000	206,000	146,000		765,000
Infrastructure, equipment, Medicines	325,000	2,795,000	2,635,000	1,915,000	2,095,000		9,765,000
Service Delivery	100,000	220,000	300,000	290,000	290,000		1,200,000
M&E, HIS, Research	35,000	165,000	140,000	65,000	190,000		595,000
Grand Total	**730,800**	**3,638,600**	**3,442,600**	**2,757,600**	**2,932,600**		**13,502,200**

2.7.1.2. Detailed budget by activities

Input category	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	Total
1. Leadership, Governance							
Appointment of a national focal person for Oral Health ($1800/month)	10,800	21,600	21,600	21,600	21,600		97,200
Establishment of the Oral Health Technical Working Group	0	30,000	30,000	30,000	30,000		120,000
Development and dissemination of integrated clinical guidelines for oral health	10,000	0	0	10,000	0		20,000
Establishment of intersectoral collaboration mechanisms to support regulations that reduce risk factors related to oral health: taxation and pricing, food labelling, school nutrition policies	0	30,000		30,000	0		60,000
SUBTOTAL	**20,800**	**81,600**	**51,600**	**91,600**	**51,600**		**297,200**
2. Public Awareness and Advocacy							
Development and dissemination of IEC/BCC tools to improve population and health staff awareness about oral health	30,000	30,000	30,000	30,000	30,000		150,000
Designation and dissemination of standard IEC/BCC materials on oral health	30,000	30,000	30,000	30,000	30,000		150,000
Integration of oral health in the IEC/BCC programs for the prevention of NCDs, giving priority to major NCDs risk factors	10,000	0	10,000	0	0		20,000
Organization of a tailored information and awareness campaigns about oral health risk	0	10,000	0	10,000	0		20,000

factors in the public, health professionals, decision makers and in the road circulation							
Promotion of effective community participation in the prevention of oral diseases and the promotion of oral health	20,000	20,000	20,000	20,000	20,000		100,000
Integration of oral health messages in Hygiene and health promotion interventions	0	20,000	0	20,000	0		40,000
Introduction of preventive measures for oral diseases in vulnerable groups (prisons, refugees, elders)	30,000	30,000	30,000	30,000	30,000		150,000
Establishment of systematic oral cavity check-up in all OPD, Pediatrics, ANC consultations	10,000	10,000	10,000	10,000	10,000		50,000
Organization of the national oral health day	10,000	10,000	10,000	10,000	10,000		50,000
Sensitization of the population and the community on existing laws, policies and regulations for minimizing risk factors related to oral health	10,000	10,000	10,000	10,000	10,000		50,000
SUBTOTAL	**170,000**	**190,000**	**170,000**	**190,000**	**160,000**		**880,000**
3. Human Resources							
Conduction of inventory of Dental Health Professionals available in the country	10,000	0	0	10,000	0		20,000
Development of curriculum for Primary Oral care. Integration in the nursing curricula of all nursing schools and provision to students	10,000	0	0	0	0		10,000

Development of the curriculum and strengthen the capacity for UR-CMHS to train Dental subspecialists	0	15,000	0	0	0		15,000
Training of Dental Surgeons in the UR-CMHS to ensure their availability in hospitals	0	0	0	0	0		0
Training of Dental Therapists in the UR-CMHS to ensure their availability in hospitals	0	0	0	0	0		0
Integration of a curriculum for the maintenance of oral health equipment in 8 IPRCs Alternatively, introduce a curriculum for the training of dental technicians in the higher education	0	50000	50000	50000	50000		200,000
Organization of the training of dental sub-specialists in-country or outside ((12,000$/student/year)	60,000	72,000	96,000	96,000	96,000		420,000
Appointment of the missing DTs to attain 3 DTs/DH	0	0	0	0	0		0
Appointment of the missing DTs to attain 3 DTs/PH	0	0	0	0	0		0
Appointment of the missing DTs to attain 4 DTs/RH	0	0	0	0	0		0
Appointment of the missing DTs to attain 4 DTs/UTH	0	0	0	0	0		0
Recruitment and appointment at least one Dental Surgeon in DHs	0	0	0	0	0		0
Recruitment and appointment at least one Dental Surgeons in PHs	0	0	0	0	0		0
Recruitment and appointment at least 2 Dental Surgeons in RHs	0	0	0	0	0		0
Recruitment and appointment at least (3) Dental Surgeons in UTHs	0	0	0	0	0		0

Recruitment and deployment of Dental Subspecialists in UTHs	0	0	0	0	0		0
Definition of the scope of work and establishment of a grading system for oral health professionals	0	0	0	0	0		0
SUBTOTAL	**80,000**	**187,000**	**146,000**	**206,000**	**146,000**		**765,000**
4. Infrastructure, Equipment, Medicines							
Development of norms and standards for oral health infrastructure, equipment and materials to be utilized at all levels of healthcare	10,000	0	0	0	0		10,000
Conduct an inventory of Oral health infrastructure and equipment in all public health facilities to establish a baseline	0	10,000	0	0	0		10,000
Design of a master plan for the Centre of Excellence for Oral Health	0	0	30,000	0	0		30,000
Provision of enough space for oral health service provision, including one oral theatre and imaging in 37 DHs ($40,000 each)	0	375,000	375,000	375,000	375,000		1,500,000
Provision of enough space for oral health service provision, including one oral theatre and imaging in 4 PHs ($60,000 each)	0	120,000	120,000	0	0		240,000
Provision of the required space needed for tertiary oral health service provision in 3 RHs ($60,000 each)	0	60,000	120,000	0	0		180,000
Provision of the required space needed for full package of oral health service provision, oral health laboratory and maxillo-facial surgery	0	100,000	100,000	100,000	0		300,000

in 3 UTHs: CHUB, CHUK, RMH ($100,000 each)							
Purchasing and distribution of equipment needed for oral health in accordance with the defined package of services in 34 DHs ($50,000 each)		425,000	425,000	425,000	425,000		1,700,000
Purchasing and distribution of equipment needed for the defined oral health package in 4 PHs ($60,000 each)		120,000		120,000			240,000
Purchasing and distribution of equipment needed for tertiary oral health package in 3 RHs ($150,000 each)		150,000	150,000	150,000			450,000
Purchasing and distribution of equipment needed for oral health in 4 strategic hospitals (Gisenyi, Gihundwe, Kibagabaga, Nyagatare) ($100,000 each)		100,000	100,000	100,000	100,000		400,000
Purchasing and distribution of equipment needed for the full oral health package, including Laboratory and maxillo-facial surgery in 3 UTHs		400,000		400,000	400,000		1,200,000
Equipment of 8 medicalized health facilities with one dental chair and X-ray machine ($15,000 each		30,000	30,000	30,000	30,000		120,000
Creation of oral health service in HCs using the PPP mechanisms	0	0	0	0	0		0
Mobilization of private sector for the construction of the Centre of Excellence for Oral Health	0	0	0	0	0		0
Updating or development of a maintenance plan that includes oral health equipment	0	0	0	0	0		0

Development of SOPs for utilization of oral health equipment and train Procurement officers and health professionals	0	0	0	0	0		0
Updating of the list of oral health medicines, consumables and commodities and inclusion in the Essential Medicines List	0	0	0	0	0		0
Purchase essential consumables and commodities for oral health care		240,000			240,000		480,000
Establishment of mechanisms to ensure constant optimal Fluorides from fluoridated drinking-water, salt, milk, mouth rinse or affordable toothpaste, etc.	0	0	0	0	0		0
Mobilization of the private sector for the local production of low cost toothpaste and toothbrush	0	0	0	0	0		0
SUBTOTAL	**325,000**	**2,795,000**	**2,635,000**	**1,915,000**	**2,095,000**		**9,765,000**
5. Comprehensive and quality oral health service delivery							
Review, update and dissemination of guidelines for the diagnosis, treatment and referral of oral diseases	10,000	0	0	10,000	0		20,000
Development of guidelines for systematic oral cavity check-up during consultations	0	0	0	0	0		0
Development, integration and implementation the community oral health package	50,000	50,000	50,000	50,000	50,000		250,000

Development and dissemination of guidelines for infection prevention and control in oral health services	20,000	0	0	20,000	0		40,000
Development and implementation of school based oral health programs		100,000	100,000	100,000	100,000		400,000
Definition of adapted basic package of oral care for HCs	0	10,000	0	0	0		10,000
Implementation of Basic Package of Oral Care (BPOC) in health centers			100,000	100,000	100,000		300,000
Review of the Public Health Facilities package of service to integrate oral health at all levels of service delivery	0	10,000	0	0	0		10,000
Organization of regular outreach from tertiary to secondary, and from secondary to primary healthcare levels	0	0	0	0	0		0
Integrate Oral Health in Accreditation program	30,000	30,000	30,000	30,000	30,000		150,000
Involvement of private dental clinics to provide preventive and curative oral healthcare		10,000		10,000			20,000
Engage dialogue with Dental Health Professionals in PPP	0	0	0	0	0		0
Subtotal	**100,000**	**220,000**	**300,000**	**290,000**	**290,000**		**1,200,000**
6. M&E, Research, Knowledge management							
Organization of 1 oral health symposium on annual basis		30,000	30,000	30,000	30,000		120,000
Organization of 1 oral health international conference over 2-3 year period		100,000			100,000		200,000
Participate in international oral health conferences	5,000	5,000	5,000	5,000	5,000		25,000

Organization of 1 field visits for oral healthcare every year	10000	10,000	10,000	10,000	10,000		50,000
Definition and inclusion of oral health indicators in PBF	0	0	0	0	0		0
Organization of a national survey on Oral health	0	0	50,000	0	0		50,000
Organization of the NOHSP MTR and end-term evaluation	0	0	25,000	0	0		25,000
Organization of the NOHSP end-term evaluation	0	0	0	0	25,000		25,000
Organization of a national survey on Oral Health	0		50,000	0	0		50,000
Integration of oral health in integrated supervision system	20,000	20,000	20,000	20,000	20,000		100,000
Definition of additional indicators for a better monitoring of oral health interventions and estimation of the burden of oral diseases	0	0	0	0	0		0
SUBTOTAL	**35,000**	**165,000**	**140,000**	**65,000**	**190,000**		**595,000**
GRAND TOTAL	**730,800**	**3,638,600**	**3,442,600**	**2,757,600**	**2,932,600**		**13,502,200**

Documents Consulted

Anderson L. (2013). Epidemiology of dental injuries. *J Endod 39*, pp. S2-S5.

Awirea IF, Chaprnand GN. . (2012). Oral manifestations of HIV/AIDS in sub-Saharan Africa: a systematic review. *Journal of Med Applied Biosci 4*, pp. 87-102.

Braine T. (2005). More oral health care needed for aging population. *Bulletin of World Health Organization 83*, p. 6467.

Britanny Seymour et al,. (2013). Including oral health training in a health system strengthening program in Rwanda. Global Health in Action.

Butali A, Mossey PA. (2009). Epidemiology of oro-facial clefts in Africa: Methodological challenges in ascertainment. *Pan Afr Med J. 2*, p. 5.

Catherine A Demko. (2016). Overview of Oral Health Topics for the Community Health Worker. *School of Dental Medicine, Case Western University*.

Fagan. (2009). Survey of ENT services in Africa: Need for a comprehensive intervention. *Global Health Action.*

G. J. Macfarlane et al. (1995). Alcohol, tobacco, diet and the risk of oral cancer: a pooled analysis of three case-control studies. *European Journal of Cancer Part B: Oral Oncology 31(B)*, pp. 181-187.

Gasana. (2014). Patterns and causes of hearing loss among patients consulting OPD/ENT at CHUK.

Gasana. (2014). Patterns and causes of hearing loss among patients consulting OPD/ENT at CHUK,.

Helene Ragovin. (2017). Rwanda: 12 million people. 48 Dentists. Tufts Dental Medicine.

Hosseinpoor AR, et al. (2010). Socioeconomic inequality in Oral Healthcare Covrage: Results from the World Health Survey. *Journaal of Dental Research*.

Jacob T Kaimenyi. (2004). Oral Health in Kenya. *International Dental Journal 54*, pp. 378-382.

Julienne Muhumuza et al,. (2017). Knowledge, Attitude and Practices of Dental Professionals in Rwanda towards the benefits and applications of Teledentistry. Rwanda Journal Series F: Medicine and Health Sciences Vol 4 No1.

Kassebaum NJ et al,. (2015). Global Burden of Untreated Caries: A Systematic Review and Metaregression. *Journal of Dental Research*.

Lam R. (2016). Epidemiology and outcomes of traumatic dental injuries: a review of the literature. *Australian Dental Journal 61 suppl 1*, pp. 4-20.

Lempert SM et al,. (2013). Association between body mass index and caries among children and adolescents. *Community Dent Oral Epidemiol*.

Levine R, Stillman-Lowe. (2009). The scientific basis of Oral Health Education 6th edition. *British Dental Journal*.

Marc KW. (2013). Noma: a neglected enigma. . *The Lancet Global Health 1*, pp. e58-e59.

Marcenes W et al,. (2013). Global burden of Oral Conditions in 1990-2010: A systematic Analysis. *Journal of Dental Research, 92(7)*, pp. 592-597.

MINALOC. (2014). *Social Protection Policy and Strategy.*

Ministry of Health Rwanda. (2011). HRH program. Oral Health Faculty Consortium. Dental HRH Concept Paper.

MoH. (2015). *National Essential Medicines List for Adults, 6th edition.*

MoH. (2015). *National Health Sector Policy.*

MoH. (2017). Health services packages in public health facilities.

MoH. (2017). Mid-term review of the health sector strategic plan 2012-2018.

MoH. (n.d.). *4th Health Sector Strategic Plan, 2018-2024.* Ministry of Health.

Mulwafu. (2017). *Strategies to combat ear and hearing disorders in a poor African country, the Malawi National Plan.* Global Journal of Laryngology.

NISR. (2012). Rwanda 4th Population and Housing Census. Kigali: National Institute of Statistics Rwanda.

NISR. (2012). Rwanda 4th Population and Housing Census. Kigali.

NISR. (2012). Rwanda 4th Population and Housing Census. *Report.* Kigali: National Institute of Statistics, Rwanda.

NISR. (2017). Statistical Yearbook.

O'Mullane et al,. (2016). Fluoride and Oral Health. *Community Dental Health 33(2)*, pp. 69-99.

Petersen PE et al,. (2005). WHO's action for continuous improvement in oral health. *Bulletin of World Health Organization 83*, p. 642.

Petersen PE et al. (2005). The Global burden of oral diseases and risks to oral health. *Bulletin of the World Health Organization, 83(9)*, pp. 661-669.

Petersen PE et al. (2010). The 7th WHO Global Conference on Health Promotion. (pp. 129-135). Nairobi, Kenya: Community Dental Health.

Petersen PE, Ogawa H. (2016). Prevention of dental caries through the use of fluoride- the WHO approach. *Community Dental Health 33(2)*, pp. 66-68.

Petti S et al,. (2018). World Traumatic dental injury prevalence and incidence, a meta-analysis- One billion living people have had traumatic dental injuries. *Dent Traumatol*.

Razali M et al. . (2005). A retrospective study of priodontal disease severity in smokers and non-smokers . *British Dental Journal 198*, pp. 495-498.

Ruberangeyo. (n.d.). *Rwanda Social Protection, an ongoing process.*

SIDA. (2014). *Disability rights in Rwanda.*

The Lancet. (2017). Global Burden of Disease Study 2016. *The Lancet 390(10100)*, pp. 1211-1259.

UNICEF. (2016). *A study on children with disabilities and their right to education: Republic of Rwanda).*

UNICEF, C. (2016). *Report on national assessment of centres caring for children with disabilities in Rwanda .*

Watt RG. (2005). Strategies and approaches in oral disease prevention and health promotion. *Bulletin of the World Helth Organization 83*, pp. 711-8.

WHO. (2000). Prevention of hearing impairment from chronic otitis media. (pp. 5-32). London: htpp://www.who.int/pbd/deafness/en/chronic_otitis_media.pdf.

WHO. (2013). Multi-country assessment of national capacity to provide. Geneva: WHO.

WHO. (2015). *Ear and Hearing Care Planning and Monitoring National Strategies. A Manual.* World Health Organization.

WHO. (2017). Global costs of unaddressed hearing loss and cost-effectiveness of interventions.

WHO. (2017). *WHO model list of essential medicines, 20th list.*

WHO. (2018). *World Hearing Day, 2018.* Geneva.

WHO. (n.d.). Grades of Hearing Impairment. Geneva.

WHO. (n.d.). *State of hearing and Ear care in South-East Asia Region.*

WHO/Regional Committee for Africa. (2016). Regional Oral Health Strategy 2016-2025: Addressing Oral Diseases as part of Non-communicable Diseases. Addis-Ababa, Ethiopia.

World Health Organization. (1998). *Oral Health in the African Region: A Regional Strategy 1999-2008.* Brazzaville.

World Health Organization. (2009). *Implementation of the Regional Oral Health Strategy: updte and way forward.* Brazzaville.

World Health Organization. (2009). The Brazzaville Declaration on Non-Communicable Diseases Prevention and Control in the WHO African Region. Brazzaville.

World Health Organization. (2011). The Brazzaville Declaration on Non-communicable Diseases Prevention and Control in the WHO African Region. Brazzaville.

World Health Organization. (2013). Regional consultative meeting on integrating oral diseases into the NCD policy framework. Final Report. Harare.

World Health Organization. (2015). *Guideline: Sugars intake for adults and children.* Geneva.

World Health Organization. (n.d.). *Oral Health: action plan for promotion and integrated disease prevention. WHA60.17.*