REPUBLIC OF KENYA

MINISTRY OF HEALTH

KENYA NATIONAL ORAL HEALTH STRATEGIC PLAN

2022 - 2026

REPUBLIC OF KENYA

MINISTRY OF HEALTH

Disclaimer

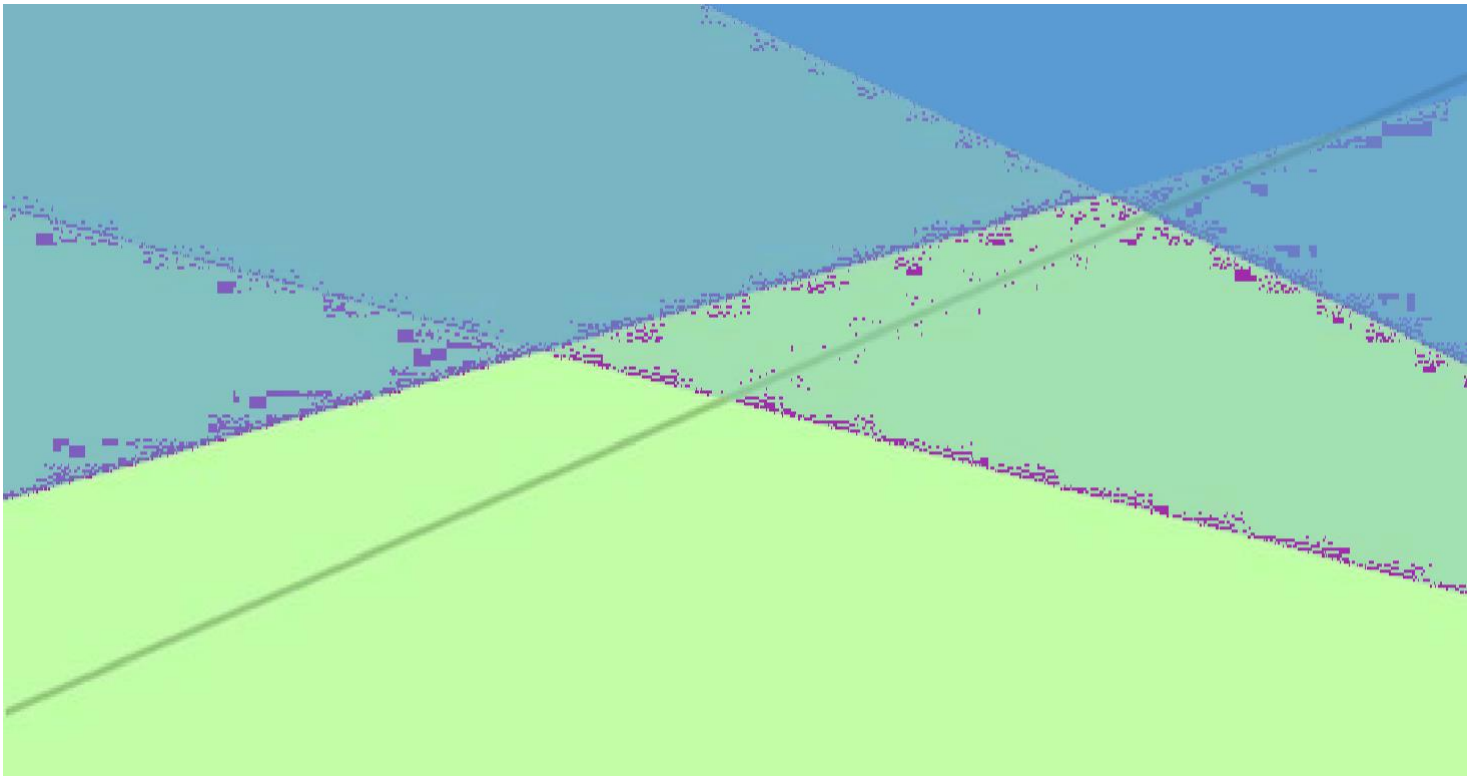
Nairobi, April 2022

Kenya National Oral Health Strategic plan 2022-2026

Published by:
Ministry of Health
Afya House, Cathedral Road
PO Box 30016 Nairobi 00100

REPUBLIC OF KENYA

MINISTRY OF HEALTH



KENYA NATIONAL ORAL HEALTH STRATEGIC PLAN

2022 – 2026

REPUBLIC OF KENYA

MINISTRY OF HEALTH

FOREWORD

The Bill of Rights within the Constitution of Kenya advocates for the "highest attainable standard of health, which includes the right to health care services for all Kenyans". The underlying determinants of the right to health are guaranteed in article [43(1)(a)]. Therefore, through the Constitution 2010, Kenya Vision 2030 and the UHC Strategy; an enabling environment has been created for all stakeholders to contribute to the realization of access to the highest attainable standard of healthcare for all.

Oral health is an integral component of general health, quality of life and wellbeing. Good oral health has a positive impact on work productivity, educational performance, growth, development and quality of life.

Despite efforts to address oral diseases and conditions, half of the world population suffers from oral diseases, making up for 3.5 billion people. Dental caries and gum diseases are the most common while oral cancer is on the rise across many regions in the world. This is even the more regrettable as oral conditions are largely preventable. The Kenya National Oral health survey,2015 reported high prevalence of; dental caries especially in children, gum disease across the population as well as dental fluorosis. Apart from poor oral hygiene, many of dental diseases share the same risk factors common to non-communicable diseases namely; high sugar intake, tobacco use and excessive alcohol consumption.

Apart from pain and social exclusion, oral diseases account for a large economic burden. This involves direct costs related to treatment as well as indirect costs caused by absenteeism at the workplace and at school. There is evidence that poor oral health contributes to diabetes, cardiovascular diseases, cancer and premature birth. Prevention of oral diseases is fundamental for avoiding tooth loss and thus proper food intake for better nutrition.

The Kenya National Oral Health Strategic plan 2022 – 2026 provides a framework for both state and non-state actors at National and County levels to implement the Kenya National Oral Health Policy 2022 – 2030. It sets out strategic focus action areas with the aim of mainstreaming oral health by strengthening integration, partnerships and coordination, development and maintenance of oral health infrastructure, strengthening oral health education and awareness, community involvement in promotion and prevention of oral diseases, resource mobilization and establishing effective monitoring and evaluation systems for oral health.

This comprehensive strategic plan enables stakeholders to improve oral health collectively and effectively, thereby ensuring the wellbeing of all Kenyans including those in vulnerable situations.

Sen. Mutahi Kagwe, EGH
CABINET SECRETARY

REPUBLIC OF KENYA

MINISTRY OF HEALTH

PREFACE

This Oral health strategic plan presents the Ministry of Health's five year proposed strategies for oral healthcare in Kenya. It sets the strategic direction for the National Oral Health Care System and presents information on the priorities, objectives and indicators that the Ministry has adopted especially with regard to the common oral diseases and conditions in the country.

The common diseases include: Dental caries, Periodontal(gum) disease, Oral cancer, Oro-facial trauma, Dental fluorosis, Oro-facial infection, Cleft lip and palate. The strategic objectives are guided by the Kenya National Oral Health Survey,2015 and the WHO Africa Regional Oral Health Strategy 2016- 2025 among other local and international directions.

The Ministry of Health aims at strengthening partnerships and networking, coordination and joint monitoring with respect to various aspects of the Oral healthcare delivery system. The critical factors of success for this strategic plan will be built on: Governance structures both at National and county levels; Finances required to fund this strategy; Human resources to manage and offer quality services to patients; Integrated Community engagement for oral health promotion and disease prevention ; Operational Oral health information systems; Adequate and appropriate Oral healthcare products and technologies; Adequate and appropriate Oral health infrastructure and use of evidence in decision making and service delivery and any other aspects of implementation.

The mechanisms to assure quality in all aspects of implementing this plan are well in place and will act as a strong driver to the highest attainable standards of health for all Kenyans. The Ministry of Health National Oral Health Working Group will be reconstituted to oversee and coordinate the implementation of this Strategic plan. A detailed and joint Monitoring and Evaluation plan is in place with specific key performance indicators. The plan has been costed at about Ksh. 2.33 billion and the health financing strategy in this plan has outlined how this will be realized. In order to deliver guaranteed quality, efficient and effective services, support systems will be sought from various Oral health stakeholders, including; the two levels of government, development partners and both local and international Non-Governmental Organizations.

Ms. Susan N. Mochache, CBS

PRINCIPAL SECRETARY

REPUBLIC OF KENYA

MINISTRY OF HEALTH

EXECUTIVE SUMMARY

The most prevalent oral diseases include dental caries (tooth decay), periodontal (gum) disease, tooth loss, and cancers of the lips and oral cavity. Untreated dental caries in permanent teeth is the most prevalent condition globally while severe periodontal disease is a major cause of total tooth loss. Cancers of the lip and oral cavity are among the top 20 commonest cancers worldwide. The first Kenya National Oral Health Survey 2015 found that more than 46% of children aged 5 years had dental caries and more than 90% of the total population had periodontal disease, while dental fluorosis affected more than 41% of the children. Despite being largely preventable, these oral diseases are among the most prevalent NCDs globally, with negative health, social and economic impacts on people over their life course.

The burden of oral diseases shows significant inequalities, disproportionally affecting marginalized populations and those of lower economic status. As in other NCDs, inequalities are found through the life course and across populations in both low- and middle-income (LMIC) countries as well as high-income countries. With limited resources for prevention and control, LMIC such as Kenya face the highest burden of oral diseases.

Oral diseases are caused by a range of modifiable risk factors, including high sugar consumption, tobacco usage, alcohol abuse, poor hygiene, and their underlying social and commercial determinants. These broader determinants together with common risk factors shared by NCDs provide the basis for integrated strategies for prevention and control. Despite efforts on oral healthcare delivery, many people have untreated oral diseases, resulting in pain, infection, reduced quality of life, loss of school hours and reduced productivity.

This Strategic plan outlines the following six action areas and key interventions to achieve the objectives of the National Oral Health Policy:

Action1: To strengthen leadership, governance, partnerships and resource mobilization to improve oral health service delivery at all levels.

Action 2: To strengthen integrated preventive community interventions that address oral diseases and conditions within programmes that influence health using common risk factors approach.

Action 3: To train and equitably distribute human resource for oral health.

Action 4: To strengthen health systems capacity to provide oral health services by improving infrastructure and providing equipment, commodities and technologies.

Action 5: To promote surveillance, evidence-based decision making, monitoring and evaluation, research and information sharing in oral health.

Action 6: To promote eco-friendly practice of dentistry.

I call upon all like-minded stakeholders to join hands with the Government to ensure that oral health is fully integrated into other health programmes and that all Kenyans including those in vulnerable situations have access to quality oral healthcare by executing this Strategy.

Dr. Patrick Amoth, EBS
AG. DIRECTOR GENERAL FOR HEALTH

REPUBLIC OF KENYA

MINISTRY OF HEALTH

ACKNOWLEDGEMENT

The development of the Kenya National Oral Health Strategic plan 2022 – 2026 was accomplished through the concerted efforts of various organizations, institutions, stakeholders and experts, who contributed in a variety of ways towards its preparation, editing and publication.

Foremost, I acknowledge the Oral health Unit, under the Directorate of Healthcare Services (Ministry of Health) and the technical working group led by the Chief Dental Officer, Dr. Miriam Muriithi, which spearheaded the whole exercise.

Secondly, I am particularly indebted to the following stakeholders: Various departments in the Ministry of Health and County Governments, especially the NCD, PHC, Community Health services, Quality Standards & Regulation and Policy & Planning; Professional associations – Oral Health Association of Kenya, Kenya Dental Technologists Association, Kenya Dental Association, Kenya Medical Practitioners and Dentists Council; Health Training and Research Institutions – Kenyatta National Hospital, Moi Teaching and Referral Hospital, Moi University, University of Nairobi and the Kenya Medical Research Institute.

Thirdly, I am appreciative of the members of the core writing team: Dr. George K. Kaguru, Ms. Esther W. Kiritu, Dr. Bernard N. Mua, Dr. Regina Mutave, Dr. Miriam W. Muriithi, Ms. Mary Nalyanya, Dr. Olivia A. Osiro and Dr. Jane G. Wamai.

I extend much gratitude to the following for their assistance and contribution: Dr. Lilian O. Apadet, Dr. Salome K. Ireri, Dr. Myrna Kalsi, Dr. George Mwai, Dr. Timothy Theuri and Dr. Linus N. Wachira.

Further, this document would not have been completed without the intense scrutiny and review by a team of technical experts led by Dr. Yuka Makino, Technical Officer Oral Health, WHO Regional Office for Africa.

Others were: Prof Habib Benzian, WHO Collaborating Centre and New York University College of Dentistry; Prof Sudeshni Naidoo, WHO Collaborating Centre and University of Western Cape; Dr. Joyce Nato, Programme Manager, Prevention & Control of NCDs, WHO office, Kenya; and, Prof Poul Erik Petersen, University of Copenhagen.

Finally, special acknowledgement goes to the World Health Organization (WHO) which provided technical and financial support for the planning, development, editing, publication and official launch of this National Oral Health Policy.

Dr Miriam W. Muriithi
HEAD, ORAL HEALTH SERVICES

ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency syndrome
COVID-19	Corona Virus Disease 2019
CCD	County Chief Dentist
CDO	Chief Dental Officer
COG	Council of Governors
CDH	County Director for Health
CS	Cabinet Secretary for Health
CEC	County Executive Committee Member
CHWs	Community Health Workers
DG	Director General for Health
DMFT	Decayed Missing Filled Teeth (Permanent teeth)
dmft	decayed missing filled teeth (Deciduous teeth)
EAC	East Africa Community
EML	Essential Medicines List
GBD	Global Burden of Disease
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
IOM	Infant Oral Mutilation
HMIS	Health Management Information Systems
KEBS	Kenya Bureau of Standards
KEPH	Kenya Essential Package for Health
KEMSA	Kenya Medical Supplies Agency
KMPDC	Kenya Medical Practitioners and Dentist Council
LMIC	Low-and Middle-income Countries
MOE	Ministry of Education
MOH	Ministry of Health
MOW	Ministry of Water
NCDs	Non-Communicable Diseases
NHIF	National Hospital Insurance Fund
PHC	Primary Health Care

PLWD	Persons Living With Disability
PPP	Public Private Partnership
PS	Permanent Secretary
SDGs	Sustainable Development Goals
UHC	Universal Health Coverage
UN	United Nations
USD	United States Dollars
WARMA	Water Resources Authority
WHO	World Health Organization

TABLE OF CONTENTS

CHAPTER ONE: INTRODUCTION

1.1 Background

Oral health refers to the health status of the mouth and related structures that enable an individual to eat, speak, and socialize in the absence of active disease, dysfunction, pain, discomfort, or embarrassment. The mouth, comprising the teeth, masticatory muscles, tongue, mucosal soft tissues, and salivary glands, is the body's main portal for nourishment. It may provide access for bacteria, viruses, fungi and other vectors of disease. It is the starting point of the body's defence system and immunity. Oral health is thus an integral component of general health, quality of life and wellbeing. Poor oral health has a negative impact on general health, work productivity and educational performance and adversely affects growth, development and quality of life. Oral diseases are among the most common chronic diseases worldwide and constitute a major public health problem due to the enormous disease and economic burden on individuals, families, societies, and healthcare systems. All oral diseases are related to socioeconomic status and disproportionately affect poor population groups, ethnic minorities and other disadvantaged or vulnerable groups[1].

Several high-income countries have achieved significant improvements in the oral health of adults and children. The African continent, generally comprising low- and middle-income countries (LMIC), has not realized the same. Oral health inequities within and between African countries are extensive, mirroring the unequal distribution of resources and exposure to common risk factors of non-communicable diseases (NCDs), inequitable access to health care, as well as widening disparities in socioeconomic status. The current emphasis on the role of determinants of health and recognition of common risk factors in the context of the growing burden of NCDs presents an opportunity for integrating oral diseases into NCDs prevention and control efforts. The delivery of equitable services for oral diseases and NCDs requires strengthening of health systems based on the principles of Primary Health Care (PHC)and Universal Health Coverage (UHC)[1].

The provision of oral healthcare is resource intensive and requires substantive investment in training of the human resource, establishment of infrastructural facilities and availability of consumables. In LMIC such as Kenya, Government funding for oral and general healthcare is inadequate and over time, the demand exceeds allocation from the exchequer. Therefore, emphasis on disease prevention and oral health promotion is not only timely but also a realistic approach to reduce the need for scarce and expensive curative dental services. Moreover, oral disease prevention is associated with better health outcomes than treatment[2].

The Constitution of Kenya designates a devolved system of Government comprised of two levels, the National and County Governments. Healthcare services, including oral health, is one of the functions devolved to the County Governments as stated in Schedule Four, Part Two of the Constitution. However, some components, namely health policy, training of human resource and national referral hospitals remain functions of the National Government.

The first National Oral Health Survey in 2015[3] revealed a high oral disease burden across all age groups in Kenya. Unmet treatment needs have a negative impact on the oral health-related quality of life. There is a need to address the new dynamics of provision of oral healthcare under the devolved system of Government, and in keeping with the aspirations of Kenya's Vision 2030 and the Sustainable Development Goals (SDGs).

This Kenya National Oral Health Strategic plan 2022 – 2026 provides a framework for both state and non-state actors at National and County levels to implement the Kenya National Oral Health Policy 2022 – 2030 which aims to promote equitable, affordable, accessible and quality healthcare towards the highest attainable standards of health including the right to healthcare services as envisioned in the Constitution of Kenya, 2010 [article 43(1)(a)].

1.1.1 Oral diseases and conditions

Oral diseases have a significant impact on public health. The key oral diseases, such as dental caries, periodontal disease, and oral cancers are major contributorsto the overall disease burden. In addition, oro-facial trauma, congenital malformations and oral manifestations of systemic infections (such as HIV/AIDS) are important problems for individuals and societies. The mouth is the gateway to the body and the fact that many systemic diseases (such as anaemia, leukaemia, diabetes mellitus, osteoporosis, fluorosis and HIV infection, among others) present with oral manifestations provides justification that the mouth is the mirror of the entire body. This demands imperative consideration of oral health beyond the care of the teeth.

The 2019 Global Burden of Diseases (GBD), Injuries and Risk Factors Study estimated that oral conditions affected 3.5 billion people[4]. According to the International Agency for Research on Cancer, the estimated age-standardized incidence rate among both sexes of cancer of the lip and oral cavity was ranked 17th globally and within the top three of all cancers among males in some Asian-Pacific countries in 2020[5].

More than 480 million people in the African region were estimated to have suffered from oral conditions in 2019. Untreated dental caries of permanent teeth is one of the most prevalent diseases regionally, and approximately 25% of the population was estimated to be suffering from decay of their permanent teeth in 2019[4].

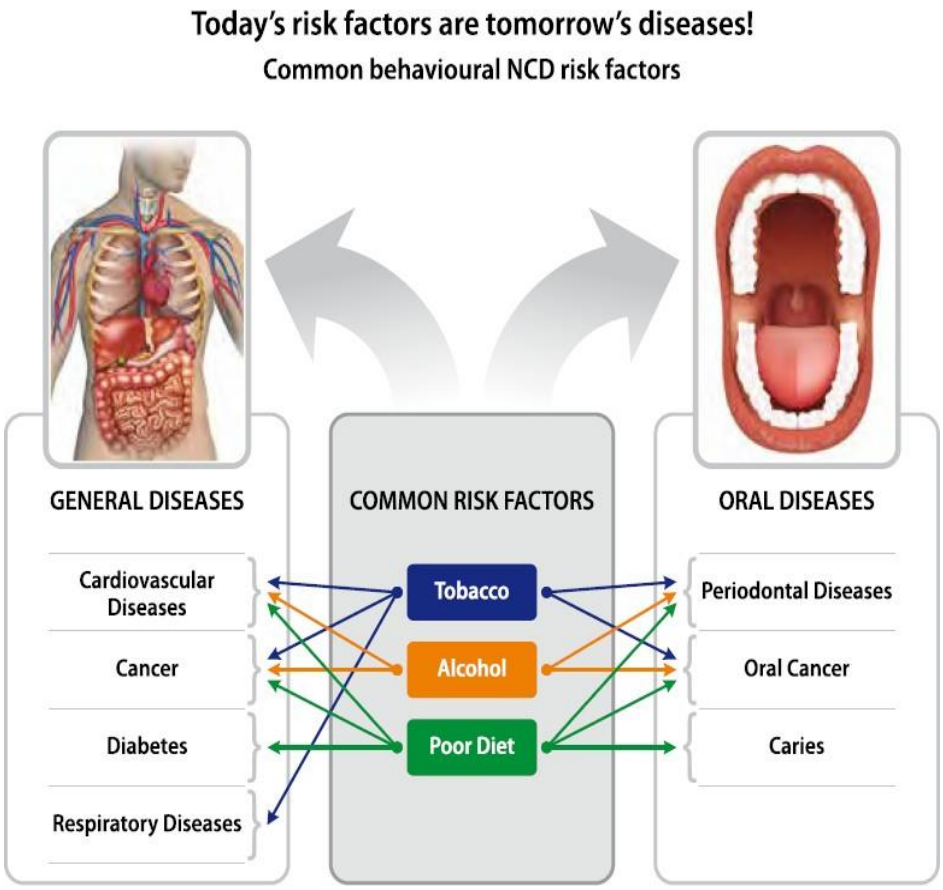
In the region, there are six conditions that contribute to the bulk of the oral disease burden. These are dental caries; periodontal diseases; oral cancers; oral manifestations of HIV infection; oro-dental/facial trauma; cleft lip and palate. Additionally, the spectrum of oral diseases includes noma, a necrotizing infection that affects children between the ages of 2 and 6 years, is rapidly progressive and often fatal. Almost all of these conditions are largely preventable, or can be treated in their early stages[5].

1.1.2 Risk factors and determinants of health

Most oral diseases are of multifactorial origin; yet they share a core common group of modifiable risk factors with many NCDs and injuries (Figure 1). These risk factors include tobacco usage, alcohol consumption and unhealthy diets high in free sugars, all of which are increasingly accessible at the global and regional level[6]. There is a proven relationship between oral and general health.It is reported, for example, that diabetes mellitus is linked with the development and progression of periodontitis.

Moreover, there is a causal link between high sugar consumption and diabetes, obesity and dental caries. Addressing these risk factors through an integrated approach is key to controlling and preventing the four major NCDs thereby improvingthe oral health status of populations.

Figure 1: Risk factors shared by major NCDs and oral diseases [1]



1.2 Situation Analysis

1.2.1 Country Profile

The Republic of Kenya is situated in East Africa between latitudes 34° East and 42° West, bordering the Federal Republic of Somalia to the East, Federal Democratic Republic of Ethiopia and Republic of South Sudan to the North, Republic of Uganda to the West and United Republic of Tanzania to the South. The total population enumerated during the 2019 census was 47.5 million, of which 23.5 million were male, 24.0 million were female and 1,524 were intersex. Inter-censual growth rate was established to be 2.2 in 2019, a decline from 2.9 in 2009[7]. The life expectancy for males was 64 years while for females was 69 years. GDP per capita in 2020 was USD 1,838.21[8].

1.2.2 Summary Findings of the Kenya National Oral Health Survey, 2015

The first National Oral Health Survey was conducted in 2015[3]. The diseases and conditions considered in the survey were: dental caries, periodontal disease, partial or complete loss of natural teeth, dental fluorosis, oral mucosal lesions and tooth wear. Information on the oral health seeking behaviour and oral health-related quality of life was also presented.

1.2.2.1 Oral diseases and conditions

Dental caries

The overall prevalence of dental caries in primary and permanent teeth among children (5-, 12-, and 15-year-olds) was 23.9%. The mean number of decayed, missing or filled teeth due to dental caries (dmft) for 5-year-old children was 1.87. The prevalence of dental caries among the 5-year-olds in this population was 46.3% (Table 1 and 2) while that in the adult population (18 years and above) was 34.3% (Table 3).

Periodontal disease

The overall prevalence of gingival bleeding among all the children was 75.7%. The children aged 5 years had the highest (99.6%) prevalence of gingival bleeding. There was no major difference in gingival bleeding between the males and females. The rural children had a lower prevalence of gingival bleeding (70.2%) compared to the peri-urban and urban children, thought to be due to the nature of foods they consume which contains more fibre.

Gingival inflammation was found in 98.1% of the adults examined. Among the 35 to 44-year-olds, 96.1% had gingival inflammation while it occurred in 99.3% of those aged above 60 years. The prevalence of gingival inflammation was high in both males (98.4%) and females (97.7%).

Table 1: Number of children and adolescents with decayed, missing and filled teeth and dental caries experience[3]

Primary dentition								
Variable		Prevalence of untreated dental caries n (%)	Prevalence of missing teeth due to dental caries n (%)	Prevalence of filled teeth due to dental caries n (%)	Mean decayed teeth	Mean Missing teeth	Mean Filled teeth	**Dmft**
Age	**5 years**	373 (46.3)	55 (6.8)	7 (0.9)	1.73	0.12	0.02	1.87
Mixed dentition								
Variable		Prevalence of untreated dental caries n (%)	Prevalence of missing teeth due to dental caries n (%)	Prevalence of filled teeth due to dental caries n (%)	Mean decayed teeth	Mean Missing teeth	Mean Filled teeth	**dmft/ DMFT**
Age	**12 years**	143 (17.7)	20 (2.5)	3 (0.4)	0.37	0.04	0.01	0.42
Permanent dentition								
Variable		Prevalence of untreated dental caries n (%)	Prevalence of missing teeth due to dental caries n (%)	Prevalence of filled teeth due to dental caries n (%)	Mean decayed teeth	Mean Missing teeth	Mean Filled teeth	**DMFT**
Age	**15 years**	7 (8.8)	10 (1.2)	3 (0.4)	0.14	0.02	0.01	0.17

Table 2: Number of children and adolescents with decayed, missing and filled teeth and dental caries experience by gender and location [3]

Variable		Prevalence of untreated dental caries n (%)	Prevalence of missing teeth due to dental caries n (%)	Prevalence of filled teeth due to dental caries n(%)	Mean Decayed teeth	Mean Missing teeth	Mean Filled teeth	**dmft/ DMFT**
Gender	**Male** **Female**	283 (24.2) 276 (24.4)	45 (3.9) 37 (3.3)	2 (0.5) 5 (1.3)	0.75 0.75	0.06 0.61	0.01 0.02	0.82 1.38
Location	**Urban** **Peri-urban** **Rural**	199 (22.9) 184 (29.2) 200 (22.4)	38 (4.4) 15 (2.4) 31 (3.5)	11 (1.3) 0 (0) 1 (0.1)	0.65 0.86 0.76	0.08 0.03 0.00	0.03 0.00 0.00	0.76 0.89 0.76
Overall dmft/ DMFT					0.73	0.01	0.06	0.80

Note: The survey examined 2,228 children and adolescents, of which 717 were aged 5 years, 752 were aged 12 years and 759 were aged 15 years.

Table 3: Number of adults with Decayed, Missing and Filled Teeth and dental caries experience by gender and location[3]

		Decayed n (%)	Missing due to caries n (%)	Filled n (%)	Mean Decayed Teeth	Mean Missing Teeth	Mean Filled Teeth	DMFT
Gender	Male	211 (33.1%)	3 (0.5%)	8 (1.3%)	0.72	0.00	0.02	0.74
	Female	280 (35.0%)	3 (0.4%)	14 (1.8%)	0.70	0.00	0.02	0.73
Age	34-44yrs	247 (31.0%)	4 (0.5%)	18 (2.3%)	0.53	0.01	0.02	0.56
	60+yrs	279 (37.9%)	2(0.3%)	4 (0.5%)	0.87	0.00	0.02	0.90
Location	Urban	184 (31.1%)	3 (0.5%)	11 (1.9%)	0.64	0.01	0.02	0.67
	Peri-urban	116 (38.1%)	0 (0%)	2 (0.7%)	0.89	0.00	0.00	0.89
	Rural	216 (33.6%)	3 (0.5%)	9 (1.5%)	0.68	0.00	0.01	0.69
Overall		1020(34.3%)	6 (0.4%)	22 (1.4%)	0.69	0.00	0.02	0.72

Note: A total of 1,462 adult respondents participated in the survey

Dental fluorosis

Dental fluorosis is a dental condition characterized by a chalky white appearance of teeth, transitioning to brown staining and mottling in severe cases. Dental fluorosis is caused by consumption of excess fluoride, commonly from ground water sources, during tooth development. Although proper mapping of the affected areas has not been done, it is known that the region along the Rift Valley has high fluoride content because of volcanic activities. The overall prevalence of enamel fluorosis among adults was 23.7% in all locations of the survey, 25.9% among the rural residents, 23.1% in the urban and 20.0% in the peri-urban areas. The prevalence of fluorosis among children was 41.4%.

Oral mucosal lesions and oral cancer

The prevalence of oral mucosal lesions amongst the children was 3.2% while among the adults it was 20.8%. The mucosal lesions were in most cases a sign of a systemic disease or early signs of malignancy especially in older persons. Abscesses and ulceration were found in 6.1% and 8.2% of adult participants respectively. Oral precancerous lesions such as lichen planus (5.5%) and leucoplakia (6.7%) were also found among the adults. In addition, oral cancer lesions were detected in 0.3% of the participants.

In addition to the results of the National Oral Health Survey, it is estimated that lip and oral cavity cancers are ranked 16th by incidence among cancers in Kenya in 2020[5]. They are associated with harmful habits like smoking, tobacco and alcohol consumption that are also risk factors for common NCDs[9].

Tooth wear

The prevalence of tooth wear among the adult population was 14.6%. Of these, 9.3% had enamel erosion while 5.3% had dentine erosion. Further studies are required to establish possible causes.

Dental trauma

Enamel fractures were detected in 1.6%, combined dentine and enamel fractures in 3.4%, while trauma involving the pulp was present in 3.6% among all adult participants.

1.2.2.2 Oral health-related quality of life

The quality of life for both adults and children was not optimal. Over 99% of children said they had at least one dental problem. All adults indicated they had at least one current dental problem requiring attention.

1.2.2.3 Oral health seeking behaviour

Despite the high unmet treatment needs among the adults and children, only a small proportion had sought dental treatment, majority doing so only when there was pain or discomfort. The poor oral health seeking behaviour was attributed to lack of awareness, financial constraints, low access due to distance to the health facility while a small number regarded it as unimportant.

1.2.2.4 Oral hygiene habits

Over 77% of the adult population admitted to owning a toothbrush and brushing their teeth using tooth paste at least once a day. Out of these, 70% reported use of fluoridated toothpaste, 13% did not while 17% did not know whether the toothpaste they used was fluoridated or not. However, the oral health outcomes did not correspond to the good habits raising queries on either brushing technique or over reporting.

1.2.2.5 Risky behaviours

Consumption of snacks and sugar

Consumption of snacks by children in the study population was dependent on the type of snack, whereby 48.3% were reported to take biscuits, 42.5% ate sweet pies while 30.8% ate fresh fruits several times a week. Chewing sugary gums several times a day was low (2%) while taking sweets several times a day was 3.8%.

Smoking, chewing miraa/khat and tobacco, alcohol consumption

Abuse of drugs and other substances was relatively high, whereby up to 45.7% of adult respondents abused at least one type of drug, specifically 17.4% using tobacco, 19.8% alcohol, 8% chewing miraa and 0.5% smoking bhang.

Communities and individuals with habits including smoking, chewing miraa/khat, tobacco and alcohol consumption are at risks of developing oral cancers, periodontal diseases and dental caries. The chewing of miraa/khat is done together with a chewing gum and sugar sweetened beverages; moreover, because the partakers are often intoxicated, their oral hygiene is likely to be poor. These risk factors are common to NCDs and would benefit from shared intervention.

1.2.3 Other conditions

Other conditions not captured in the survey but equally important include oral and maxillofacial trauma, congenital malformations, oral manifestations of HIV as well as harmful traditional practices and habits.

Oro-facial trauma

Oro-facial trauma is among the most common injuries from accidents and violence and often requires specialized maxillofacial surgery interventions. The prevalence of trauma in Kenya has increased with increased used of motorcycles as a cheap means of public transport and poor regulation leading to many road accidents[10]. Additionally, an upsurge of domestic violence also contributes to the prevalence of trauma.

Congenital malformations

Congenital malformations such as cleft lip and palate are not uncommon in Kenya. Treatment and rehabilitation are possible with intensive surgery and other interventions, but such services are highly specialized and very often not available or affordable for the individuals affected.

Oral manifestations of HIV

Patients with oral manifestations of systemic diseases, such as HIV/AIDS infection, have special oral healthcare needs and require attention from skilled and appropriately trained health-care professionals. Even with great milestones registered in the control of spread of HIV, there is still a sizeable population with HIV/AIDS and the oral manifestation still need to be recognized and addressed.

1.2.3.1 Harmful traditional practices and habits

Traditional practices such as dental shaving, intentional removal of healthy teeth or tooth germs can result in complications.

Infant Oral Mutilation (IOM)

In some communities, traditional healers remove or damage unerupted teeth in infants. They incorrectly blame conditions like diarrhoea, fever and vomiting frequently associated with teething in infants on visible prominence of unerupted deciduous canine teeth. The removed tooth is not yet hardened by calcification thus is usually shown to the parent as a "worm". Associated dangers from this practice range from infection due to the use of non-sterile equipment, to defects of the teeth and jaw later in life.

Uvulectomy

Another harmful practice is traditional uvulectomy, which involves the partial or total removal of the soft part of the palate (uvula). This may cause a range of conditions such as anaemia, septicaemia, gangrene, HIV infection, bleeding, difficulty in swallowing, and even death. The communities that practice IOM are also likely to practice uvulectomy.

1.2.4 Oral healthcare system in Kenya

Human Resource for Oral Health

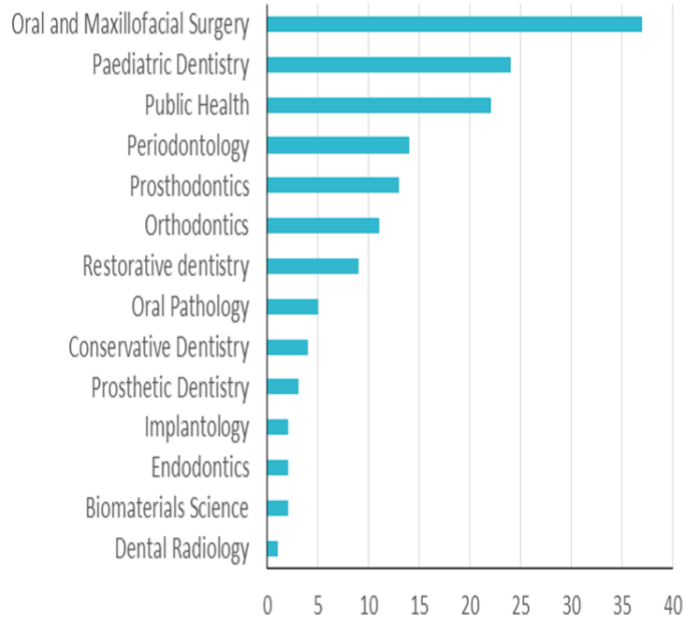
The current dentist to population ratio stands at 3:100,000 (Economic survey, 2020, ratio derived from registered dentists)[11]. However, the licenced (practicing) dentists as listed on the public online register of the regulating body, Kenya Medical Practitioners and Dentists Council (KMPDC), in August 2021 places the ratio at 1:100,000 (Table 5 and Figure 2).

Low prioritization to implement preventive and promotive oral health programmes has led to the current demand for curative services outstripping the facilities and human resource available.

Table 5: Registered Oral health personnel in 2017, 2018 and 2019[11]

Oral health personnel	2017	2018	2019
Dentists	1211	1257	1288
Community oral health officers	1264	1300	1300
Dental technologists	856	1100	1100

Figure 2: Specialists registered by the KMPDC as of August 2020



Specialty	No.
Oral and Maxillofacial Surgery	37
Paediatric Dentistry	24
Public Health	22
Periodontology	14
Prosthodontics	13
Orthodontics	11
Restorative dentistry	9
Oral Pathology	5
Conservative Dentistry	4
Prosthetic Dentistry	3
Implantology	2
Endodontics	2
Biomaterials Science	2
Dental Radiology	1
Total	149

Training of Human Resource for Oral Health

Training of oral health workers is done at diploma, undergraduate and postgraduate levels. Kenyan dental schools graduate approximately 50 dentists, 40 Community Oral Health Officers and 40 Dental Technologists annually (Table 6). Kenya provides training for three cadres offering oral health services: the dentist who is the team leader and may be a general practitioner or a specialist; the community oral health officer who provides preventive and minimal non-invasive curative oral health services in the community; and, the dental technologist who constructs or fabricates prostheses or indirect restorations as prescribed by the dentist. Although the number of graduates has increased over time, they are below the number required to adequately meet the oral health needs of the increasing Kenyan population.

There are two Universities in Kenya that offer training in Bachelor of Dental Surgery and associated specialist postgraduate courses listed in Figure 2. These are the School of Dental Sciences, University of Nairobi and School of Dentistry, Moi University. The postgraduate training is costly hence most applicants are forced to compete for limited Government scholarships.

Mount Kenya University offers Bachelor of Science degrees and diplomas in Oral Health and Dental Technology while Kenya Medical Training College offers diplomas in both Community Oral Health and Dental Technology. There are few foreign trained Dental hygienists. The training curricula are more focussed on surgically invasive treatment than disease prevention. This poses a challenge in expecting these graduates to actively engage in oral disease prevention and health promotion.

Table 6: Number of Oral health personnel graduating between 2017 and 2019[11]

Oral health personnel in training	2017	2018	2019
Dentists	33	36	69
Community oral health officers	45	40	42
Dental technologists	33	45	66

Oral Healthcare Financing

Over the years there has been a decline in funding of health by the exchequer. Total expenditure on health as a percentage of the total national budget is 5.7%. The total expenditure on health per capita is USD 169[12]. The Oral Health Unit within the National Government is grossly underfunded, with approximately USD 3,500 allocated last in 2014/2015. Since then, the unit has not received any funding.

Following devolution of health services, oral healthcare services is currently a function of the County Governments. However, it remains unclear the percentage of the County Government expenditure specifically allocated to oral health. Further, there is diminished absorption of oral health workers in public service pushing them to private practice.

The poor funding of public oral health services reduces the scope of available services thus forcing consumers to seek more expensive services from the private sector. Consequently, the existing public oral health workforce skills are under-utilized.

Oral diseases are some of the most expensive disease entities to treat and often require high out-of-pocket payments. Even with social health insurance schemes, essential oral healthcare is often not or is inadequately included. The focus of interventions is generally on curative services requiring costly equipment and highly skilled manpower. Preventive interventions which are proven to be more cost effective largely remain unexploited.

The Oral Health Policy and this related Oral Health Strategic plan will provide a means of advocacy aimed at improving Government allocation of funds for promotion of oral health, provision of equipment and infrastructure as well as employment of oral health workers in public service.

Leadership and governance

The oral health service at the National Government is headed by the Chief Dental Officer who is responsible for: advising and supporting the Cabinet Secretary for Health on matters relating to dental services and oral health; developing and overseeing the implementation of policy and strategic plan to improve oral health; and, coordination of oral health services in the country.

Oral health policy and training is still a National Government function. Whereas oral health services like other health services is devolved to the County Governments, the structure of oral health governance at the county level is unclear.

Dental Products and Technologies

Kenya Medical Supplies Agency (KEMSA) is the main supplier for dental products. The ministry has a comprehensive essential medicines and supply list for oral health; however, the supply is usually erratic and incomprehensive. The country is continually adopting new technologies and is a signatory to international conventions like Minamata Convention on Mercury

Oral Health Service Delivery

Oral health services are offered by oral health personnel who include dental specialists, dentists, community oral health officers and dental technologists. The dental clinic is usually located in the hospital as part of the outpatient department. Most of these are in facilities at Kenya Essential Package for Health (KEPH) tier 3 and above. This level of care when well equipped, offers the whole range of oral health services, preventive, urgent treatment, restorative, rehabilitative and minor oral surgery. There is rarely any provision of oral health services in primary care settings.

Patient safety when receiving oral healthcare services is an important objective for health systems strengthening. This includes suitable training and qualification of oral health professionals and other providers, as well as a functioning comprehensive legal and regulatory framework to guide their practice. This aims at ensuring the provision of safe, evidence-based, high-quality oral healthcare at every level. TheKMPDC and other regulatory bodies must be guided by a well-defined scope of practice for all cadres to ensure patient safety.

Information and Research on Oral Health

Oral health data management system is poor. The service data collected at service delivery point is inadequately captured within the existing health management system. Oral health information sharing is minimal. Research in oral health in the country is also often not needs driven.

Continuity of oral health service in emergency settings

Situations of pandemics, natural disasters, conflict and humanitarian crises have severe global impact. The emergence of the COVID-19 pandemic has affected various facets. Oral health and the practice of dentistry have not been spared, requiring evaluation of current dental services delivery[13]. This has necessitated a complete paradigm shift in the practice of dentistry moving forward and policy considerations to ensure system preparedness for continuity of quality healthcare.

During emergency situations, the routine arrangements, infrastructure, human resource and supplies are inadequate to provide the necessary oral healthcare to affected populations and communities. Therefore, it becomes crucial to employ policy driven decisions to guide provision of dental care by integrating with other health programmes for the affected populations.

CHAPTER TWO: STRATEGIC PLAN RATIONALE

2.1 Key National Context and Situation of Integration of Oral Health

The low prioritization of oral healthcare has led to poor outcomes. Low access, inadequate and uneven distribution of human resource for oral health, inadequate infrastructure and commodities and high cost of oral health services are some of the barriers to quality care. These gaps constitute a denial of the fundamental right to health and wellbeing as envisaged in the Kenyan Constitution. Therefore, it is critical to integrate oral health into the existing associated strategies to enhance multi-sectoral collaboration and financing so that potential synergies are leveraged.

As detailed in the situation analysis, good oral health is a right of every individual and impacts the quality of life. The right to access adequate quality products, technology, infrastructure, and adequate human resource in the numbers and distribution cannot be over emphasised. In addition, this strategic plan will inform oral healthcare in emergency situations. The strategic plan will also address harmful traditional practices and come up with directions on phasing down the use of dental amalgam in line with the Minamata Convention on Mercury.

The following section will highlight global, regional and local goals, conventions, United Nations political declarations, global action plans, WHO resolutions, oral health policies and strategies, national guidelines and protocols that informed this strategy.

2.2 International Context

2.2.1 Sustainable Development Goals (2015)

Sustainable Development Goals (SDGs) is a plan comprising 17 goals created by leaders of 193 countries in 2015, to rid the world of poverty and hunger, and secure it from the worst effects of climate change by 2030. The United Nations Development Programme is one of the leading organizations tasked with fulfilling the goals among the member nations, Kenya included.

The goals that relate to health, and indeed oral health, include:

i. Goal 3 - Ensure healthy lives and promote well-being for all at all ages, specifically,

- SDG 3.4 – Reduce by one third, premature mortality from non-communicable diseases through prevention and treatment by 2030.
- SDG 3.6 – Reduce by half the number of global deaths and injuries from road traffic accidents.
- SDG 3.8 – Achieve universal health coverage, including financial risk protection, access to quality essential healthcare services and access to safe, effective, quality and affordable essential medicines and vaccines for all.
- SDG 3.a – Strengthen the implementation of the WHO framework convention on tobacco control in all countries as appropriate.

- SDG 3.c – Substantially increase health financing and the recruitment, development, retaining and retention of the healthcare workforce in developing countries especially in least developed countries.
- SGD 3.d – Strengthen the capacity of all countries in particular developing countries, for early warning, risk reduction and management of national and global health risks.

ii. Goal 6 – Ensure access to water and sanitation for all.

iii. Goal 17 – Revitalize the global partnership for sustainable development.

2.2.2 United Nations Political Declaration on NCDs (2011)

In September 2011, the UN Summit on the Prevention and Control of NCDs was held in New York, USA. It yielded a Political Declaration, which, for the first time, specifically referenced oral diseases within the context of NCDs.

2.2.3 Global Action Plan for the Prevention and Control of NCDs (2013)

The WHO Global NCD Action Plan 2013 – 2030 follows on from commitments made by Heads of State and Government in the United Nations Political Declaration on the Prevention and Control of NCDs (resolution A/RES/66/2), recognizing the primary role and responsibility of Governments in responding to the challenge of NCDs and the important role of international cooperation to support national efforts.

2.2.4 Minamata Convention on Mercury (2017)

The Minamata Convention on Mercury, which entered into force during the first Conference of Parties in Geneva, Switzerland in September 2017, obliges Parties to take selected measures to phase down the use of dental amalgam, a common mercury-containing dental filling material. Measures include the setting of national objectives aimed at dental caries prevention and oral health promotion so as to minimize the need for restorations; setting national objectives aimed at minimizing use of dental amalgam; promoting the use of cost-effective and clinically effective mercury-free alternatives for dental restoration; promoting research and development of quality mercury-free materials for dental restoration; and, encouraging insurance policies and programmes that favour the use of high-quality alternatives to dental amalgam for dental restoration, among others.

2.2.5 Declaration of Astana (2018)

The Declaration of Astana was made by participating Heads of States and Governments at the Global Conference on Primary Health Care in October 2018. Commitment II is a conviction that strengthening PHC is the most inclusive, effective and efficient approach to enhance people's physical and mental health, as well as social well-being, and that PHC is a cornerstone of a sustainable health system for UHC and health-related SDGs.

2.2.6 UN High Level Meeting on UHC (2019)

Heads and Representatives of States and Governments, assembled at the United Nations in September 2019, with a dedicated focus for the first time on UHC, reaffirmed that health is a precondition for and an outcome and indicator of the social, economic and environmental dimensions of sustainable development and the implementation of the 2030 Agenda for Sustainable Development. They strongly committed to achieve UHC by 2030, with a view to scaling up the global effort to build a healthier world for all.

2.2.7 Resolution on Oral Health (2021)

The 74th World Health Assembly in May 2021 adopted the Resolution on Oral Health that had been proposed during the WHO Executive Board meeting in January of the same year.

The resolution calls upon nations of the world to recognise oral health as a major contributor to general health and wellbeing and hence give it the importance deserved. It marks the return of oral health to global health and integration of oral health into all programmes with the aim of achieving UHC.

2.3 Regional Context

2.3.1 Brazzaville Declaration on NCDs (2011)

The Brazzaville Declaration on NCDs in the WHO African Region was a milestone political commitment prior to the UN High-Level Meeting on the Prevention and Control of NCDs held in 2011 in New York. Oral health is increasingly being recognized as a major public health problem in Africa considering the rising NCD burden.

2.3.2 Regional Oral Health Strategy 2016 – 2025 (2016)

The aim of this strategy is to contribute to the reduction of the NCD burden and related risk factors by providing effective prevention and control of oral diseases for all people in the African Region within the context of UHC.

2.3.3 Framework for Health Systems Development towards Universal Health Coverage in the context of the Sustainable Development Goals in the African Region (2017)

During the 67th Session of the WHO Regional Committee for Africa in September 2017, the Framework for Health Systems Development towards Universal Health Coverage in the context of the Sustainable Development Goals in the African Region was examined and proposed actions adopted. The goal of the framework is to guide Member States' efforts towards re-aligning their health systems in a manner that facilitates movement towards UHC, and attainment of their aspirations for health in sustainable development.

2.4 National Context

2.4.1 Constitution of Kenya 2010

The Constitution of Kenya in its Bill of Rights advocates for the "highest attainable standard of health, which includes the right to health care services for all Kenyans". The underlying determinants of the right to health are guaranteed in article 43(1) (a) and include the right clean safe water 43(1) (d). The Constitution also promotes the right to health care for specific groups such as children (Article 53) and for persons with disabilities (Article 54). Moreover, a person shall not be denied emergency medical treatment [Article (43) (2)].

Medical Practitioners and Dentists Act (Cap253) provides for the establishment of a Council whose function involves registration and licensing of eligible medical and dental practitioners, and health institutions. The Council determines and sets a framework for professional practice and takes disciplinary measures for any form of professional misconduct. The Council facilitates reciprocal recognition and registration of doctors who are nationals of the East African Community under the EAC Protocol.

2.4.2 Kenya Vision 2030

Vision 2030 is the long-term development blueprint for the country, aiming to transform Kenya into a globally competitive and prosperous and industrialized middle-income country providing a high quality of life to all its citizens in a clean and secure environment by the year 2030.

Health is one of the components of delivering the social pillar. The goal aims to develop a population that is healthy, productive and able to fully participate in and contribute to the development of the country.

2.4.3 Kenya Health Policy 2014 – 2030

The second policy objective of the Kenya Health Policy aims to halt and reverse the rising burden of noncommunicable diseases, including oral diseases, while the third objective seeks to reduce the burden of violence and injuries, including oral and maxillofacial trauma.

2.4.4 UHC Strategy

The goal of UHC is to ensure that every citizen has access to quality healthcare services, including oral health services, that they need without getting into financial difficulties or, worse, being pushed into poverty. The call for UHC in Kenya has seen the need for oral health professional recruitment at all levels of healthcare provision including dentists, community oral health officers and dental technologists while also leveraging other health professionals such as primary health care workers as part of the health workforce in Kenya.

However, the counties have not yet prioritized the establishment of oral health infrastructure and supplies to address the needs at this level. Further, the health benefit packageof UHC only provides for limited oral health services. The National Hospital Insurance Fund (NHIF) covers limited oral health services while private insurances allocate minimal funds towards oral health and their premiums are expensive.

2.4.5 Kenya National Strategy for the Prevention and Control of Non-Communicable Diseases

The goal of this strategy is to reduce the preventable burden, avoidable morbidity, mortality, risk factors and costs due to NCDs and promote the well-being of the Kenyan population by providing evidence-based NCD prevention and control interventions to ensure optimal health throughout the life course for sustainable socioeconomic development. Oral diseases are recognized as NCDs and will benefit from interventions for prevention and control of NCDs through shared risk factors approach. Oral health has been included in some NCD programmes in Kenya; however, the implementation of the interventional measures remains suboptimal.

2.4.6 Kenya School Health Policy

The Ministry of Education (MOE) in collaboration with the Ministry of Health (MOH) pledged to support promotion of healthy lifestyles and implementation of interventions to reduce the modifiable risk factors for NCDs and their management within the school community. The policy aims atsupporting optimal oral health among learners and members of the school community with an emphasis on promotion and preventive aspects of oral health.

In Kenya, school oral health programmes have not been implemented in all schools and even where they exist, they have not been integrated into other health programmes. This has adversely affected oral health education and promotion in schools. The availability of foods and drinks that contains high sugar is rampant within and around school premises and the labelling on these foods do not contain warning on the harmful effects.

2.4.7 Kenya Essential Medicines List 2019

The National Essential Medicines List (EML) defines the priority focus for investment in medicines by the public health sector, towards ensuring the provision of equitable healthcare to the population in line with defined sector policies, strategies, norms and standards. This list includes medicines in oral health.

2.4.8 Kenya Standards and Guidelines for mHealth Systems 2017

Mobile health (mHealth) refers to the use of portable devices such as cell phones to provide healthcare services and information. As mobile technology and point-of-care devices become part of everyday life, people become better equipped to respond to primary care and emergencies through mobile applications such as remote patient monitoring and tele-dentistry.

2.4.9 National Cancer Treatment Protocols 2019

These protocols combine evidence-based and best practice recommendations, with the aim of ensuring availability of equitable, high-quality services for cancer patients. They cover aspects of clinical evaluation, diagnosis, imaging, surgery, radiotherapy, chemotherapy, hormone therapy, psychosocial support, palliative care, rehabilitation, and survivorship at the different healthcare levels.

2.4.10 National Cancer Screening Guidelines 2018

In Kenya, cancer is the 3rd leading cause of death after infectious and cardiovascular diseases. The most effective approach to ensure early diagnosis of oral cancers in Kenya is to offer opportunistic screening, targeting all individuals at risk of developing oral cancer.

2.4.11 Kenya Dental Association Declaration on Oral Health

The national professional association calls for dentists to expand their role and responsibilities to improve the general health and wellbeing of the communities they serve, and for national leaders to recognize oral health as an essential component of general health.

2.4.12 The Minamata Convention on Mercury and Dental Amalgam Phase Down

Kenya is a signatory to the Minamata Convention on Mercury and supports the gradual phase down of the use of dental amalgam. The East African Dental Amalgam Phase Down Project commenced in 2012. The multi-centre project located in Kenya, Tanzania and Uganda highlighted the need for strategies to phasing down the use of dental amalgam in LMIC in Africa[2].

Although yet to receive ratification as a Party, currently, Kenya is working towards realizing the following strategies of phasing down the use of dental amalgam, adapted from Annex A, Part II of the Minamata Convention on Mercury document:

i. Setting national objectives aiming at dental caries prevention and health promotion, thereby minimizing the need for dental restoration, including dental amalgam.
ii. Setting national objectives aiming at minimizing its use.
iii. Promoting the use of cost–effective and clinically effective mercury-free alternatives for dental restoration.
iv. Promoting research and development of quality mercury-free materials for dental restoration.
v. Encouraging representative professional organizations and dental schools to educate and train dental professionals and students on the use of mercury-free dental restoration alternatives and on promoting best management practices.

2.5 Oral Health Strategic Plan Rationale

Kenya, like the rest of the world, is faced with an increase in NCDs including oral diseases. This is due to modifiable common risk factors such as sedentary lifestyle, consumption of tobacco, alcohol and processed foods especially sugars.

Oral diseases and conditions, mainly dental caries, periodontal disease, oral cancers, trauma and congenital malformations affect close to half the world's population. In Kenya, the disease burden is high with childhood caries, adult periodontal disease, an increase in oral cancer and oro-facial trauma, and endemic dental fluorosis.

Low integration of oral health into the PHC, NCD and UHC agendas has further worsened the situation. When integrated, oral health will benefit from joint health promotion and disease prevention as intended by these agendas. Furthermore, community involvement and intersectoral collaborations are expected to enhance awareness for oral diseases and consequently their prevention.

Inadequate financing for oral health and the scarce human resource in both numbers, skill mix and distribution has further contributed to the neglect of oral health. Oral health is a contributor to general health and well-being and attention to this sector will greatly influence positively the lowering of NCDs, reducing the economic burden and contribute to achieving universal health coverage.

2.6 Strategic plan Development Process

This Oral Health Strategic plan was developed through an evidence-informed and extensive consultative process under the stewardship of the Ministry of Health. Stakeholders comprised government ministries/agencies, development and implementing partners, faith-based organizations, private sector, civil societies and registered professional associations.

A comprehensive, critical analysis of global, regional and national status and trends formed the background of the strategy. This strategic plan is the implementing tool for the Kenya National OralHealth Policy.

Analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT)

Strengths 1. An established oral healthcare system at National and County levels. 2. Trained personnel in place. 3. Availability of training and research institutions.	**Weaknesses** 1. Inadequate financing for oral healthcare. 2. Inadequate oral health data and oral disease surveillance systems for planning. 3. Inadequate infrastructure, including automation, in hospitals and training institutions. 4. Diminished employment of oral health workers within the public sector. 5. Lack of standards for dental biomaterials and other oral health commodities. 6. Inefficient processes e.g. procurement. 7. Inadequate numbers and skewed distribution of human resource for oral health. 8. Disparities and exclusions in insurance for oral healthcare. 9. Curriculum that is more oriented to surgical restorative rather than promotive and preventive. 10. Weak health governance systems. 11. Low funding for research for oral health. 12. Low awareness of the public on oral health issues. 13. Low absorption of professional oral health workers in healthcare service. 14. Low community involvement.
Opportunities 1. Political goodwill for integration oral health into UHC, PHC and NCDs. 2. Emerging oral health technologies. 3. Availability of equipment and commodities for oral health in the market. 4. Increased local opportunities for training and practice for specialists. 5. Public-Private Partnerships. 6. Willing Development partners. 7. Community based organisations.	**Threats** 1. Low prioritization of oral health. 2. High cost of dental equipment and commodities. 3. High cost of dental training. 4. Pandemic such as COVID-19. 5. Lack of a guideline on the scope of practice for oral healthcare cadres. 6. Untrained, unregulated and illegal oral practices (quacks). 7. Harmful traditional oral health practices.

CHAPTER THREE: VISION, MISSION, CORE VALUES, OBJECTIVES, GUIDING PRINCIPLES AND STRATEGIES

3.1 Vision

The highest attainable standard of oral health for the people of Kenya.

3.2 Mission

To provide quality oral healthcare – promotive, preventive, curative and rehabilitative – through an integrated multi-sectoral evidence-based approach for universally accessible and equitable health services.

3.3 Core Values

The custodian of the policy and accompanying strategic plan documents is the MOH whose core values are:

- Professionalism
- Ethics
- Integrity
- Accountability
- Partnership and collaboration

3.4 Overall Objective

To develop comprehensive oral healthcare systems in Kenya, integrated into general health and based on PHC principles, towards achieving UHC.

3.5 Policy Objectives

i. To strengthen leadership, governance, partnerships and resource mobilization to improve oral health service delivery at all levels.

ii. To strengthen integrated preventive interventions that address oral diseases and conditions within programmes that influence health using common risk factors approach.

iii. To train and equitably distribute human resource for oral health.

iv. To strengthen health systems capacity to provide oral health services by improving infrastructure and providing equipment, commodities and technologies.

v. To promote surveillance, evidence-based decision making, monitoring and evaluation, research and information sharing in oral health.

vi. To promote eco-friendly practice of dentistry.

3.6 Overall Policy Target

The overall policy target is to reduce oral disease burden. Specifically, the policy seeks to:

i. Upscale oral health promotive and preventive programmes

ii. Increase and access to dental services across all levels of care.

iii. Reduce the prevalence of dental caries across all age groups by 25%.

iv. Reduce periodontal disease by 50%.

v. Reduce dental fluorosis among children by 50%.

vi. Increase awareness on oral cancer.

3.7 Guiding Principles

To achieve the highest standards of oral health, the policy and this implementation strategic plan will be guided by the following principles:

i. **Right to health:** In line with the constitution of Kenya 2010, the policy assures a commitment to the highest attainable standard of oral health. The policy seeks to strengthen oral health systems to deliver quality care that is safe, evidence-based, accessible, equitable and cost effective at all levels.

ii. **Universal Health Coverage:** UHC will ensure that people have access to healthcare they need without suffering financial hardship. This will increase the access and utilisation of oral healthcare services.

iii. **Social and Commercial determinants**: Oral health inequalities exist in the population due to disparities in income, geographical location, education and other social determinants of health. There is increasing availability and visibility of refined sugars and sweetened beverages, tobacco and alcohol that are detrimental to health, in previously unreached populations. In the absence of adequate oral health prevention measures to address the social and commercial determinants of health, this leads to a marked increase in the burden of oral diseases.

iv. **Equity:** Disadvantaged populations suffer disproportionately from barriers of inadequate oral healthcare. Ensuring access to safe oral healthcare for all populations especially Persons Living With Disabilities (PLWD) is necessary.

v. **Integration:** Oral diseases have shared common risk factors with NCDs. Interventions in an integrated manner in UHC, PHC and other health related programmes will yield better outcomes to the Kenyan population. Resources will be better utilized to achieve common goals.

vi. **Community participation:** The policy embraces participation of communities in promoting oral health literacy, shared decision making and self-management. Populations are therefore empowered to take care of their oral health at individual,

family and community level.

vii. **Evidence based public health approach:** The policy identifies priority areas and advocates for intervention strategies that will have a higher impact in oral health outcomes at all levelsof care if resources are deployed appropriately. Monitoring and evaluation have been incorporated to ensure adequate evidence to support decisions.

viii. **Life course approach:** People are affected by oral diseases and conditions and their risk factors across their life course. There is need to integrate relevant oral health strategies within relevant health programmes targeting different age groups across the life course.

ix. **Partnership:** The policy takes cognisance that oral healthcare requires an integrated approach beyond the services provided by oral healthcare practitioners. The successful promotion and implementation of oral healthcare services will require the involvement of all stakeholders and the community in all stages from the planning stage, implementation to monitoring and evaluation stages.

x. **Technology and Innovation:** Current oral health systems are lacking robust information systems for generation of data to support decision making. The policy proposes to adopt innovative practices utilizing technology to improve availability of oral health data. Inclusion in the Health Management Information Systems (HMIS) is important for oral disease surveillance, monitoring and evaluation.

xi. **Environmental sustainability:** The policy provides recommendations on eco-friendly practice of dentistry to reduce the environmental harm in line with international best practices.

3.8 Priority Action Areas

Action i: To strengthen leadership, governance, partnerships and resource mobilization to improve oral health service delivery at all levels.

i. Review and strengthen leadership and governance structure in oral health across the two levels of government.

ii. Strengthen oral health services in close collaboration with other programmes in the Ministry of Health, other Ministries, and development partners.

iii. Integrate oral health into all relevant policies and public health programmes, including interventions related to NCDs.

iv. Establish a dedicated budget line for oral health.

<u>Action ii</u>: To strengthen integrated preventive community interventions that address oral diseases and conditions within programmes that influence health using common risk factors approach.

i. Engage the community in planning, implementation and monitoring of appropriate oral health programmes for oral health promotion, oral disease prevention and control.

ii. Promote a healthy diet throughout the life course through a decrease in the consumption of foods and drinks containing high amounts of free sugars.

iii. Promote access to water with appropriate fluoride levels.

iv. Control sale and advertisement of unhealthy products such as alcohol, tobacco and food high in sugar from key settings.

v. Develop and implement integrated school oral health interventions.

vi. Encourage legislation to increase accessibility of quality fluoride toothpaste.

<u>Action iii</u>: To train and equitably distribute human resource for oral health.

i. Identify and address existing gaps in current training, deployment, distribution and scope of practice of oral health personnel at both levels of government.

ii. Build capacity of oral and non-oral healthcare workers for integrated disease prevention and management.

iii. Build capacity of oral healthcare workers on health records and information systems.

iv. Develop instructional materials on oral health for integration into primary care level.

<u>Action iv</u>: To strengthen health systems capacity to provide oral health services by improving infrastructure and providing equipment, commodities and technologies.

i. Avail and distribute essential dental equipment and commodities for the management of oral diseases.

ii. Include oral healthcare interventions into the essential benefit packages as a means of achieving UHC.

iii. Improve access to oral health services for vulnerable groups and persons living with disability (PLWD) as a principle of equity and universal health coverage.

iv. Develop and implement maintenance plans of dental equipment at county and national levels.

v. Adopt and support technology to improve oral healthcare provision.

vi. Establish oral health emergency preparedness plan.

Action v: To promote evidence-based decision making, surveillance, monitoring and evaluation, research and information sharing in oral health.

i. Apply international tools for surveillance, monitoring and evaluation of oral health systems.

ii. Conduct operational research in collaboration with partners to inform interventions for the integrated prevention and management of oral diseases.

iii. Integrate systematic collection of oral health data into existing health management information systems.

Action vi: To promote eco-friendly practice of dentistry.

i. Develop a national plan on phasing down the use of dental amalgam and promotion of mercury-free alternatives.

ii. Promote infection prevention control and safe waste management practices in dentistry.

CHAPTER FOUR: IMPLEMENTATION MECHANISM AND PLAN

4.1 Sensitisation

The Oral Health Strategic plan implementation will require a multi-sectoral approach that will include various stakeholders under the leadership of the Ministry of Health. The following steps will be undertaken to build consensus on the strategic plan implementation:

4.1.1 Official launch of the Oral health policy and Oral health strategic plan.

4.1.2 County level sensitization will be a continuous process facilitated through the Council of Governors assisted by County Executive Committees and the County Health Management Teams. They will work together with the Oral Health Policy and Oral health Strategic plan Technical Working Group which will assume the responsibility for mobilizing the leadership in each county to support the oral health agenda.

4.2 Dissemination of the Oral Health Policy and Oral health Strategic plan

4.2.1 Development of dissemination materials such as annotated diagrams, PowerPoint presentations and infographics that enable simplified communication with stakeholders at different levels.

4.2.2 Dissemination will be done through pre-arranged forums and meetings to raise awareness about the strategic plan to all stakeholders.

4.2.3 Dissemination meetings will be held in each County and will bring together County health officials, sub-county health management teams and implementing partners.

4.2.4 There will be meetings for the sub-county health officials, Community Health Workers (CHWs), and implementing partners. CHWs will be expected to disseminate the strategic plan through the routine dialogue platforms.

4.2.5 An abridged version of the Oral Health Policy and Oral health Strategic plan will be availed.

4.3 Leadership to Oversee Implementation

To operationalise this strategic plan, an implementation committee led by a team from the MOH with members from the County Government, professional bodies, training and research institutions and other relevant partners will be established. The implementation committee shall meet regularly and perform the following functions:

i. Coordinate oral health strategic plan stakeholders nationally and in the Counties.

ii. Develop annual oral health strategic plan action plans and cascade to the Counties.

iii. Oversee the implementation of oral health strategic plan activities nationally and in the Counties.

iv. Provide oral health strategic plan technical support and capacity building to Counties.

v. Provide guidance on new and innovative approaches to oral health strategic plan interventions.

vi. Guide the monitoring and evaluation of the implementation process

4.4 Multisectoral Response

The Oral Health Implementation Committee will be a critical platform for mobilizing support for sector-wide oral health strategic plan priorities. It will provide mechanisms for mutual accountability among stakeholders.

The committee shall engage the following entities whose roles and responsibilities in oral healthcare are indicated:

Entity	Roles and responsibilities
National Government	• Develop policy, legislation, standards, regulation,capacity, coordination, monitoring and evaluation, and offer technical assistance to the Counties. • Strengthen political commitment at the highest levels to address oral health as one of the priority areas as part of NCDs and UHC agendas. • Coordinate with line ministries on oral health promotion and disease prevention. • Develop and implement a multi-sectoral national oral health action plan including a monitoring and evaluation framework for prevention and control of oral diseases. • Establish a dedicated budget line for oral health to support integrated national oral health action plans. • Develop sustainable mechanisms to enhance multi-sectoral collaboration and partnerships in the implementation of the priority intervention. • Coordinate the efforts and agenda of several stakeholders in line with country wide NCD, PHC and UHC priorities. • Promote training, recruitment and retention of required oral health workers of the right skills mix and distribution. • Mobilize, involve and empower communities to control and improve their oral and general health. • Conduct research and document lessons on the various aspects of the priority interventions.
County Governments	• Prioritize oral health in the County Integrated Development Plans, Strategic Plans and Annual implementation Plans. • Mobilize resources and provide monitoring and evaluation of county oral health programmes. • Support capacity building and provide technical assistance for effective implementation of the policy and other directions from the National government. • Mobilize, involve and empower communities to control and improve their oral and general health. • Conduct research and document outcomes on the various aspects of the priority interventions.
Health Regulatory Bodies	• Regulate oral health professionals within their area of jurisdiction. • Register and license oral health professionals according to their scope of practice. • Receive and resolve complaints from patients and other parties, and discipline professional misconduct. • Licence and regulate oral health facilities.
Education, Training and Research	• Develop and implement oral health training curricula that meet national and international standards. • Introduce elements of integration and primary healthcare approach in training.

Institutions	• Recommend evidence-based approaches and practices to manage oral diseases. • Conduct and disseminate research on oral health to inform policy implementation.
Professional Associations	• Offer technical advice and professional expertise on oral health matters. • Promote continuous professional development and promote the welfare of oral health professionals. • Maintain professional and ethical standards of oral health services.
Media	• Participate in advocacy and expansion of awareness on matters related to oral health. • Dissemination of communication materials relevant to oral health.
Development and Implementation partners	• Advocate for increased political commitment at the highest levels to address oral health as part of NCDs and other health programmes using common risk factors approach. • Provide guidance, tools and standards in efforts to develop and implement national oral health action plans for prevention and control of oral diseases as part of NCDs. • Support the inclusion of basic oral healthcare services into the basic package of services provided by the health and education systems. • Mobilize resources and promoting investment, as well as reinforce public/private partnerships to support integrated national oral health action plans as part of NCDs programmes. • Contribute towards the development, production, and distribution of affordable quality oralhygiene products as well as of quality dental filling materials that are affordable, safe, and eco-friendly. • Support operational research to generate evidence for corrective action and continued learning on the relationship between oral diseases and other NCDs and to demonstrate the public health impact, cost-effectiveness and feasibility of interventions. • Increase emphasis on integrated prevention and treatment of oral diseases with NCDs within the context of health professional training curricula at all levels.
Individuals, families and communities	• Promote oral health and disease prevention. • Promote utilization of treatment and rehabilitation facilities by persons suffering from oral diseases and conditions. • Participate in priority setting and service design at the local level. • Participate in community-based oral health programmes.

4.5 Strategic plan Implementation Matrix

ACTION AREA	PROPOSED ACTION	INDICATOR	RESPONSIBILITY	YR 1	YR 2	YR 3	YR 4	YR 5	COST (KSHS)
Strategic Action i: To strengthen leadership, governance, partnerships and resource mobilization to improve oral health service delivery at all levels									
Review and strengthen leadership and governance structure in oral health across the two levels of government	Establish a Department of Oral Health Services	A functional Department of Oral Health Services	Cabinet Secretary Health	√					10,000,000
	Establish leadership at county level led by County Dentist in every county in line with MOH structure	Office of County Dentist established in all 47 counties Inclusion of the County Dentist in the County Health Management Team (CHMT)	County Director for Health	√					NIL
Strengthen oral health services in collaboration with other programmes in the Ministry of Health and development partners	Advocate for establishment of a WHO oral health collaboration centre in Kenya	Regional Coordination Centrefor oral health	MOH/ WHO	√	√	√	√	√	20,000,000
	Integrate oral health services into other MOH programmes	Integrated oral health services into NCD, PHC, UHC, NCCP programmes	MOH	√	√	√	√	√	20,000,000
	Mapping partners and stakeholders in oral healthcare	Number of partners and stakeholders inoral healthcare services identified	MOH	√	√	√	√	√	NIL
	Establish public private partnerships to improve access to oral health services	Number of Public Private partnershipsin oral health services established		√	√	√	√	√	15,000,000
Integrate oral health into the Kenya National Health Policy	Inclusion of oral health into the National Health Policy	Facets of oral health within National Health Policy	MOH/ CDO						5,000,000
Establish a dedicated budget line for oral health	Increase funding for oral health	Increased resource allocation for oral health services	MOH/ County	√	√	√	√	√	100,000,000

<u>Strategic Action ii</u>: To strengthen integrated preventive community interventions that address oral diseases and conditions within programmes that influence health using common risk factors approach									
Engage the community and civil society in planning, implementation and monitoring of oral health programmes	Sensitize the community and civil society in planning, implementation and monitoring of oral health programmes in all counties	Number of sensitization meetings held per county	MOH County	√	√	√	√	√	20,000,000
Increase oral health awareness in the community	Oral health promotion in the community	Increased oral health awareness	County Dentists/ MOH	√	√	√	√	√	50,000,000
		Increased uptake of preventive dental procedures							
		Decreased number of persons with untreated dental disease and conditions							
Promote a healthy diet throughout the life course by decreasing consumption of foods and drinks containing high amounts of free sugars	Oral health promotion in the community	Number of sensitization meetings held through media, school programmesand community barazas	MOH	√					50,000,000
	Legislation on advertising, packaging and sale of products high in refined sugar	Legislation restricting advertising, packaging and sale of products high on refined sugar		√	√	√	√	√	NIL
Promote access to water with safe fluoride levels	Scale up programmes to ensure safe drinking water with known, optimum fluoride level	Availability of drinking water with optimum fluoride levels	MOH/ KEBS/ WARMA	√	√	√	√	√	100,000,000
	Create awareness among the citizens on the relationship between fluoride and oral heath	Increased awareness in the population on fluoride and oral health	MOH/ MOE/	√	√	√	√	√	15,000,000
Control sale and advertisement of unhealthy products such as alcohol, tobacco and food high in sugar from key settings	Regulate sale and advertisement of alcohol, tobacco and, foods high in saturated fat, sugar and salt from school premises and workplace facilities	Regulations developed and enforced	MOH/ MOE/ KEBS	√	√	√	√	√	100,000,000
	Participate in alcohol and tobacco control and, healthy diets programmes	Number of programmes including oral health participation	MOH/ PARTNERS						

Operationalize integrated school oral health intervention programmes	Promote oral health programmes inschools as part of *Health Promoting Schools* initiative	Increased number of schools delivering oral health interventions withinthe school health education strategy	MOH	√	√	√	√	√	200,000,000
Legislation to increase accessibility of quality fluoride toothpaste	Increase access to fluoridated toothpaste through tax waiver	Accessibility of fluoridated toothpaste	CDO/ MOH	√	√	√	√	√	50,000,000

<u>Strategic Action iii</u>: To train and equitably distribute human resource for oral health									
Identify and address existing gaps in current training, deployment, distribution and scope of practice of oral health personnel at both levels of government	Training, distribution and deployment of oral health workforce	Annual assessment report on training, distribution and deployment.	MOH	√	√	√	√	√	100,000,000
	Regulate practice of various oral health cadres	A scope of practice developed and implemented	COG/ MOH	√	√				10,000,000
Build capacity of oral and non-oralhealthcare workers for integrated disease prevention and management	Promote integrated disease prevention and management	Periodic report on existing human resource gaps for integrated disease prevention and management Number of programmes for capacity building of oral and non-oral healthcare workers developed and implemented	COG/ MOH	√	√	√	√	√	20,000,000
Build capacity of oral health care workers on health records and information systems	Training programs on HMIS for oral health care workers	Training programs for oral health workers on HMIS Number of oral health care workers trained and using HMIS	MOH/ CDO/ CCD/ CDH	√	√	√	√	√	100,000,000
Develop instructional materials on oral health for integration into primary health care	Oral health instructional materials for primary care level	Instructional materials on oral health at primary care level developed and operational	MOH/ CDO/ CCD/ CDH/ PARTNERS	√	√	√	√	√	50,000,000

Strategic Action iv: To strengthen health systems capacity to provide oral health services by improving infrastructure and providing equipment, commodities and technologies									
Avail essential dental equipment and commodities in line with the MOH Norms and Standard at all levels	Integrate essential oral health medicine products (fluoride toothpaste, silver diamine fluoride and glass ionomer cement) into the essential medicine list	Number of public dental facilities appropriately equipped, maintained and functional Number of public dental facilities with adequate commodities	County/ MOH/ Other partners	√	√	√	√	√	500,000,000
Include oral healthcare interventions into the essential benefit packages and other financing systems as a means of achieving UHC	Inclusion of oral healthcare interventions into the essential benefit package	Inclusion of oral healthcare interventions into the essential benefit package	CDO/ MOH/ COG	√	√	√	√	√	100,000,000
Enhance equity in oral health service delivery	Improve access to oral health services for vulnerable groups and persons living with disability (PLWD)	Number of facilities appropriately equipped to offer oral health services to vulnerable groups and PLWD Number of oral health programmes targeting vulnerable groups and PLWD	MOH	√	√	√	√	√	150,000,000
Develop and implement maintenance plans of dental equipment at county and national levels	Distribute and maintain appropriate equipment and adequate commodities	Maintenance plans of dental equipment at county and national levels developed and implemented	County/ MOH/ Other partners	√	√	√	√	√	20,000,000
Adopt technology to improve oral healthcare provision	Establish a comprehensive repository for oral health data at all levels	A centralized oral health management information system		√	√				50,000,000
	Promote utilization of technology in dentistry	Number of facilities utilising tele-dentistry for training and surveillance		√	√	√	√	√	50,000,000
Establish an Oral health emergency preparedness plan	Develop and operationalise an oral health emergency preparedness plan	Oral health emergency preparedness plan	CDO	√					50,000,000

<u>Strategic Action v</u>: To promote evidence-based decision making, surveillance, monitoring and evaluation, research andinformation sharing in oral health									
Enhance surveillance, monitoring and evaluation of oral health system	Integrate oral health data within HMIS	M&E tools develop and/or reviewed Information sharing platform in place	MOH	√	√	√			75,000,000
Conduct operational research in collaboration with partners to inform interventions	Identify funding for oral health research	Funds for oral health research mobilized and allocated	MOH	√	√	√	√	√	90,000,000

<u>Action vi</u>: To promote eco-friendly practice of dentistry									
Emphasize eco-friendly practice of dentistry	Promote relevant dental amalgam phase down measures	A national amalgam phase down plan developed and implemented Number of research activities conducted on eco-friendly dental materials	MOH/ CDO/ CCD/ CDH/ PARTNERS	√	√	√	√	√	150,000,000
	Promote infection prevention and control	National dental infection prevention and control guidelines developed and disseminated							
	Promote safe waste management practices in dentistry	Waste disposal guidelines							
TOTAL									**2,270,000,000**

CHAPTER FIVE: STRATEGIC PLAN MONITORING ANDEVALUATION

The oral health strategic plan will cover a period of five years (2022 – 2026). To monitor the progressof the prioritized strategies in the National Oral Health Policy, a clear monitoring and evaluation plan is imperative.

Annual work plans will be developed focusing on priority actions to be undertaken by various stakeholders involved in the implementation of this strategic plan. This will present opportunities to capture any emerging issues during the implementation period. A monitoring and evaluation framework will be developed to guide the implementation process and ensure all the strategic plan objectives are achieved.

i) Monitoring: The monitoring process will be continuous using indicators specifically developed for strategic plan objectives.

ii) Mid-term evaluation: The strategic plan will be evaluated at the mid-term to assess the effectiveness of the processes, as well as performance regarding set objectives

iii) End-term evaluation: At the planned end of the five-year period, an end-term evaluation will be conducted to determine the overall achievements on all objectives of this strategic plan.

5.1 Indicators

The strategic plan has set indicators (Table 7) to guide the achievementof the objectives. The implementing stakeholders will collect data to measure and determine the level of achievement of these objectives. The responsibility of data collection, collation and dissemination shall primarily be the responsibility of the County and National Governments.

Table 7: Key outputs and outcomes of the Oral Health Strategic plan

Outcome i: Strengthened leadership, governance, partnerships and resource mobilization to improve oral health service delivery at all levels		
Output	**Means of verification**	**Target**
Established Department of Oral Health services at the MOH with structures for coordination with other departments	Appointment of head of department of oral health services	100%
Established office of the County dentist in all counties	Appointment of the County dentist	100%
Developed collaboration guidelines to establish partnerships with line ministries and relevant partners	Audit on guideline documents establishing partnerships with line ministries and relevant partners	Annual audit
Oral health integrated into relevant NCD policies and programmes, PHC programmes and Community health programmes	Audit NCD policies and programmes, PHC programmes and community health programmes	Annual audit
Budgetary allocation for oral health at the National and County levels	Budget at National and County levels	Annual earmarked oral health budget

Outcome ii: Integrated preventive interventions that address oral diseases and conditions within programmes that influence health using common risk factors approach		
Output	**Means of verification**	**Target**
Reduced access to unhealthy products suchas alcohol, tobacco and foods high in refined sugar from key settings such as school premises	Survey of school settings	One survey by 2025
Encourage legislation and restriction of access by children	Laws restricting access to unhealthy products	One law by 2025
Primary schools incorporating group toothbrushing within the handwashing programme as part of Health Promoting School.	Audit of schools with group toothbrushing programmes	One audit
Map out fluoride levels in the country	Country fluoride levels report	One report
Develop National fluoride strategy	National fluoride strategy	Operational strategy by 2025
Households have water withoptimal fluoride levels	Sample water from households	2025
Population using fluoridated toothpaste	Survey results	2025
Oral health promotion and disease prevention programmes	Oral health promotion materials and disease prevention programmes schedules and reports	• One oral health promotion poster by 2022 • Annual mass screening for schools by 2025 • Annual program reports
Population with dental insurance cover	Survey results	One survey by 2025
Community participating in planning, implementation and monitoring of oral health programme	Community engagement Reports	Quarterly reports

Outcome iii: Strengthened Human resource for oral health		
Output	**Means of verification**	**Target**
Increased the capacity to train more oral health professional in training	Training data report	Annually
Train and deploy dental public health specialists	Training and deployment data report	Annually
Develop the scope of practice guidelines for all oral healthcare workers	Scope of practice guidelinesfor all oral healthcare workers	Once by 2023
Deployment of auxiliary staff (community oral health officers) to level 2 and 3 facilities	Staff returns	Monthly
Curricula for non-oral healthcare workers training in oral health	Tabletop review reports	Annually
Oral health module in community health training manual	Tabletop review of community health training manual	Annually
In-service non-oral healthcare providers with oral health training	Survey	Once by 2025
Adequately staffed level 5, 4 and 3 health facilities for oral health care provision	Staff returns	Monthly

Outcome iv: Strengthened health systems capacity to provide oral health services by improving infrastructure and providing equipment, commodities and technologies		
Output	**Means of verification**	**Target**
Defined and disseminated essential oral health package for all levels of care	Essential oralhealth package checklist	2022
Essential oral health package for all levels of care anchored in UHC	Checklist of UHC benefit package	2022
Essential oral health package for all levels of care offered within NHIF and private insurance	Situation analysis on oral health package	Annually
Awareness on essential package of oral healthcare among healthcare workers	Survey	One by 2025
Healthcare workers implementing essential package of oral healthcare	Survey	One by 2025
Trained county dental coordinators in continuous planning and monitoring oforal health services	Training manual, attendance list and report	One training manual by 2023 Yearly training reports
Sensitized county leadership on planning and monitoring of oral health services	Sensitization meeting report	Yearly reports 25% by 2022 50 % by 2023 100% by 2025
Centralized oral health management information system	Survey	Once by 2025
Number of facilities utilizing tele-dentistry for training and surveillance	Survey	Once by 2025
Established oral health emergency preparedness plan	Oral health emergency preparedness plan	Once by 2022

Outcome v: Promoted evidence-based decision making, surveillance, monitoring and evaluation, research and information sharing in oral health		
Output	**Means of verification**	**Target**
Integrated oral health data collection tool into existing Health management information systems	Integrated oral health data collection tool	One tool by 2022 100% integrated by 2025

Outcome vi: Eco-friendly practice of dentistry		
Output	**Means of verification**	**Target**
Developed national plan on phasing down dental amalgam	National dental amalgam phase down plan	100% by 2023
Increased use of mercury-free alternatives	Survey	Once by 2025
Research on eco-friendly dental materials	Desktop review of publications	Annually
Developed of dental infection prevention and control guidelines	Dental infection prevention and control guidelines	Once by 2023
Disseminated dental infection prevention and control guidelines	Dissemination reports	Annually
Developed dental waste disposal guidelines	Dental waste disposal guidelines	2022

5.2 Strategic plan Review

Feedback from the mid-term and end-term evaluation shall inform the review of this strategy. A change in the priority areas of National and County governments shall also influence change in this strategy.

Proposed monitoring and evaluation framework for the Oral Health Strategic plan

The proposed monitoring and evaluation template for the Oral Health Strategic plan is presented in Table 8.

Table 8: Monitoring template

Strategic objective	**Strategy**	**Activities**	**Timeline**		**Output**	
			Planned	**Actual Status**	**Expected**	**Actual Status**

REFERENCES

1 World Health Organization. (2016) Promoting Oral Health in Africa: Prevention and control of oral diseases and noma as part of essential noncommunicable disease interventions. Available: https://apps.who.int [Accessed 10/08/2020].

2 Osiro, O. A., Kariuki, D. K. & Gathece, L. W. (2019) The Minamata Convention on Mercuryand its implications for management of dental caries in low- and middle-income countries. *International Dental Journal* 69, 247-251, doi:10.1111/idj.12461.

3 Kenya National Oral Health Survey Report. (2015) Available: www.health.go.ke [Accessed 10/08/2020].

4 Institute for Health Metrics and Evaluation. GBD Results Tool. (2019) Available: http://ghdx.healthdata.org/gbd-results-tool [Accessed 12/08/2021].

5 WHO Regional Office for Africa. Health Topic Oral Health (2020) Available: https://www.afro.who.int/health-topics/oral-health [Accessed 12/08/2021].

6 Macigo, F. G., James, R. M., Ogunbodede, E. & Gathece, L. W. (2016) Sugar consumption and dental caries experience in Kenya. *International Dental Journal* 66, 158-162, doi:10.1111/idj.12208.

7 Analytical Report on population projections Volume XIV (2012). Available: www.knbs.ke [Accessed 10/08/2020].

8 World Bank Data. GDP per capita, PPP (current international $). *International Comparison Program* (2020). Available: data.worldbank.org [Accessed 04/05/2021].

9 Johnson, N. W. *et al.* Global oral health inequalities in incidence and outcomes for oral cancer: causes and solutions. (2011) *Advances in Dental Research* 23, 237-246, doi:10.1177/0022034511402082.

10 Nyameino, S., Butt, F., Guthua, S. W., Macigo, F. & Akama, M. (2018) Occurrence and pattern of maxillofacial injuries caused by motorcycle crashes presenting at two major referralhospitals in Nairobi, Kenya. *Craniomaxillofacial Trauma & Reconstruction Open* 2, s-0038-1660434, doi: 10.1055/s-0038-1660434.

11 Kenya National Bureau of Statistics Economic Survey Report (2020). Available: www.knbs.ke [Accessed 23/04/2021].

12 World Health Organization. (2019) World health statistics overview 2019: monitoring health for the SDGs, sustainable development goals. Available: https://apps.who.int/iris/handle/10665/311696 [Accessed 12/08/2021].

13 Ather, A., Patel, B., Ruparel, N. B., Diogenes, A. & Hargreaves, K. M. (2020) Coronavirus disease 19 (COVID-19): implications for clinical dental care. *Journal of Endodontics* 46, 584-595, doi: 10.1016/j.joen.2020.03.008.

KENYA NATIONAL ORAL HEALTH STRATEGIC PLAN

2022 - 2026

Published by:
Ministry of Health
Afya House, Cathedral Road
PO Box 30016, Nairobi 00100

www.health.go.ke

REPUBLIC OF KENYA

MINISTRY OF HEALTH

World Health Organization