e ISBN 978-629-99918-3-1

MINISTRY OF HEALTH MALAYSIA

NATIONAL ORAL HEALTH STRATEGIC PLAN 2022-2030

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ISBN 978-629-99918-2-3
eISBN 978-629-99918-3-1
MOH/K/GIG/4-2024(BK)

Published and distributed by:

Oral Health Programme, Ministry of Health
Level 5, Block E10, Complex E
Federal Government Administrative Centre
62590 Putrajaya, Federal Territory Putrajaya
Malaysia

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LIST OF ABBREVIATIONS

BBIS	Blood Bank Information System
CRM	Cancer Research Malaysia
DPHSU	Dental Public Health Specialist Unit
DSMAF	Dental Services Malaysia Armed Forces
EMR	Electronic Medical Records
GOHAP	Global Oral Health Action Plan
HIMS	Health Information Management System
iGG	Ikon Gigi
JAKOA	*Jabatan Kemajuan Orang Asli*
KMAM	*Unit Kawalan Mutu Air Minum*
KOTAK	*Kesihatan Oral Tanpa Amalan Rokok*
MDA	Malaysian Dental Association
MOE	Ministry of Education
MOF	Ministry of Finance
MOH	Ministry of Health
MOHE	Ministry of Higher Education
MSE	Mouth Self Examination
NGO	Non-Governmental Organization
NOHPOL	National Oral Health Policy
NOHP	National Oral Health Plan
NOHSA	National Oral Health Survey of Adults
NOHSP	National Oral Health Strategic Plan
NOHSS	National Oral Health Survey of Schoolchildren
NOHPS	National Oral Health Survey of Preschool
NSC	National Sports Center
OCRCC	Oral Cancer Research & Coordinating Centre
PhIS	Pharmacy and Medication Information System
SDG	Sustainable Development Goals
SPAN	*Suruhanjaya Perkhidmatan Air Negara* / National Water Service Commission
TPC-OHCIS	Teleprimary Care - Oral Health Clinical Information System
WHA	World Health Assembly
WHO	World Health Organization
WTP	Water Treatment Plan

PREFACE

BY MINISTER OF HEALTH

As Malaysia's Minister of Health, it is my privilege to present the National Oral Health Strategic Plan 2022-2030, a guiding document that sets the vision and priorities for oral healthcare in Malaysia over the next decade. Oral health is a fundamental component of overall health and well-being. Recognizing this, our Oral Health Programme is a critical component in the public health framework of Malaysia. It focuses on promoting lifelong oral health for all, addressing disparities, and advancing health equity across our diverse population.

The Malaysia Health White Paper lays out our vision for a reformed healthcare system that is resilient, equitable, and focused on achieving the best health outcomes for all Malaysians. Within this vision, oral health stands as a significant pillar, emphasizing preventive care, early intervention, and the integration of services across healthcare settings. By aligning with these principles, the National Oral Health Strategic Plan seeks to build upon and support the goals of the Malaysia Health White Paper, creating a cohesive approach that enhances the sustainability and effectiveness of oral healthcare delivery in Malaysia by expanding access in healthcare facilities and services.

Oral diseases are among the most common noncommunicable diseases globally, affecting approximately 3.5 billion people. In Malaysia 85.1%of adults and 71.5% of 5-year-old children experienced dental caries, as reported in the National Oral Health Surveys of 2020 and 2015, respectively, this highlights the urgent need to address oral health issues across all age groups. Maintaining good oral health is essential for daily functions and overall well-being, as untreated oral diseases can lead to pain, discomfort, social isolation and missed days at school or work. Many of these issues are preventable and can be effectively managed through simple non-invasive treatments at the primary healthcare level.

Malaysia's commitment to advancing oral health is also reinforced by global efforts, particularly the World Health Organization's recognition of oral health as a critical part of the health agenda. Member States during the World Health Assembly have demonstrated their commitment to improving oral health by adopting the landmark Resolution on Oral Health in 2021 and the Global Strategy on Oral Health in 2022 followed by the Global Oral Health Action Plan (GOHAP) 2023-2030 in 2023, underscoring the importance of integrating oral health into national health policies and systems worldwide. Malaysia's National Oral Health Strategic Plan aligns closely with GOHAP's vision, reflecting our shared goals of strengthening health systems, addressing inequalities, and promoting preventive and community-based care. As a member state, Malaysia is committed to supporting WHO's goals and working towards achieving the universal health coverage targets that include essential oral health services.

This document is not just a roadmap but a call to action for a unified approach to oral healthcare in Malaysia. As we look ahead, I am confident that the National Oral Health Strategic Plan 2022-2030 will help us build a future where oral health is not only a priority but an accessible right for every Malaysian. Let us work together to ensure that these goals are met, fostering a healthier nation for generations to come.

Datuk Seri Dr. Haji Dzulkefly Ahmad
Minister of Health

PREFACE

BY SECRETARY - GENERAL OF HEALTH

I am delighted to present the National Oral Health Strategic Plan 2022-2030. This comprehensive plan outlines our nation's commitment to improving the oral health of all Malaysians. It represents our commitment to advancing oral health as an integral part of the nation's health strategy, aligned with the aspirations outlined in the Malaysia Health White Paper.

Oral health, though sometimes overshadowed by other health priorities, is crucial for the well-being of our population. It encompasses not only the absence of disease but also the capacity to perform essential functions, such as eating, speaking, and socializing. Oral health evolves throughout life, from early childhood to old age, and is integral to general health, enabling individuals to engage in society and reach their full potential. This holistic perspective highlights oral health's crucial role in not just preventing and managing a range of systemic disease but also fostering self-confidence, social connections, and productivity.

We aim to elevate oral healthcare in Malaysia, by securing sufficient budgets to ensure accessible and high-quality services for all Malaysians, regardless of their socioeconomic status or geographic location. Additionally, we shall also consider directing public health expenditure towards oral health promotion, prevention, and care dedicated exclusively to oral health.

This strategic plan is not a standalone effort. It is aligned with the broader health agenda of the Ministry of Health and complements other essential programs. Thus, we have integrated oral health considerations into various key initiatives, such as maternal and child health, non-communicable disease, mental health, and elderly care.

Furthermore, we acknowledge the importance of collaboration with other government agencies and non-governmental organizations (NGOs) to achieve our goals. By working together, we can leverage our collective strengths and resources to create a more comprehensive and impactful approach to oral health promotion and disease prevention.

This National Oral Health Strategic Plan 2022-2030 is a blueprint for the future. It outlines clear objectives, strategies, and targets to improve the oral health of Malaysians. By implementing the strategies outlined in this plan, we aim to reduce the burden of oral diseases, promote oral health literacy, and ultimately enhance the overall quality of life for our people.

I urge all stakeholders, including healthcare professionals, policymakers, educators, and the public, to embrace this plan and work together to achieve our shared vision of a nation with optimal oral health.

Dato' Sri Suriani binti Dato' Ahmad
Secretary-General of Health

PREFACE

BY DIRECTOR - GENERAL OF HEALTH

The Malaysia National Oral Health Strategic Plan 2022-2030, is a significant milestone in our continuous efforts to improve the health and well-being of all Malaysians. Oral health is an integral component of overall health, influencing not only our ability to eat, speak, and interact socially, but also contributing to the prevention of a range of diseases, including non-communicable diseases, that arise from poor oral health. Ensuring good oral health is fundamental to achieving a healthier population.

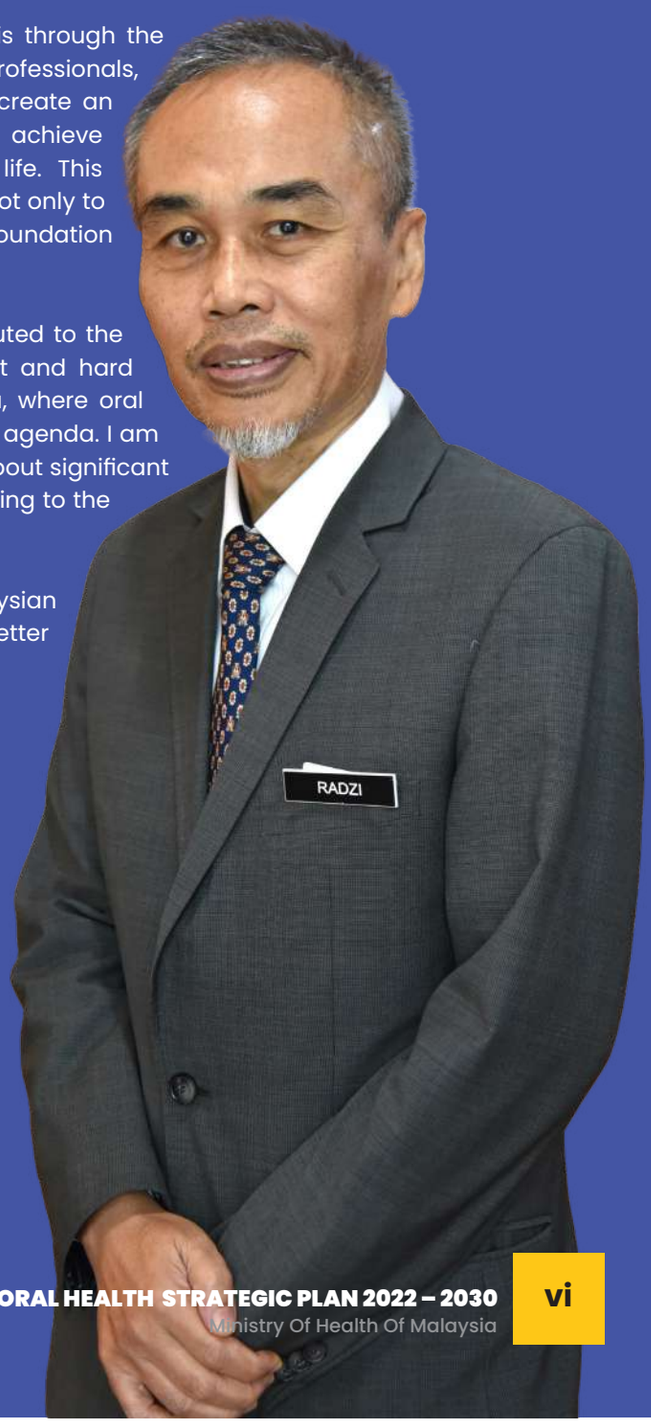
This strategic plan reflects Malaysia's recognition of oral health as a public health priority, reinforcing the principles of prevention, early detection, and timely intervention. It highlights the importance of enhancing service delivery, fostering community engagement, and leveraging innovative approaches to raise awareness and improve oral health literacy among the population. By focusing on these areas, we aim to create a more resilient healthcare system that can meet the needs of both urban and rural populations.

Collaboration is at the heart of this strategic plan. It is through the concerted efforts of government agencies, healthcare professionals, educators, and the community at large that we can create an environment where every individual has a chance to achieve and maintain optimal oral health throughout their life. This comprehensive and inclusive approach will enable us not only to address the current challenges but also to lay a strong foundation for future generations.

I extend my sincere gratitude to all those who contributed to the development of this strategic plan. Your commitment and hard work are instrumental in shaping a healthier Malaysia, where oral health is prioritized as part of our broader public health agenda. I am certain that the implementation of this plan will bring about significant improvements in the oral health of our nation, contributing to the overall quality of life of every Malaysian.

Together, let us strive towards a future where every Malaysian can enjoy better oral health and, by extension, a better quality of life.

Datuk Dr. Muhammad Radzi bin Abu Hassan
Director-General of Health



PREFACE

BY DEPUTY DIRECTOR - GENERAL OF HEALTH (ORAL HEALTH)

It is with great honour that I write this preface for the Malaysia National Oral Health Strategic Plan 2022-2030, an essential extension of the first-ever Malaysia National Oral Health Policy. This strategic plan is a testament to our ongoing commitment to advancing oral health for all Malaysians through a focused and forward-thinking approach. Building upon the foundation established by the National Oral Health Policy, we ensure that our efforts to promote optimal oral health remain aligned with both national priorities and global aspirations.

In crafting the National Oral Health Strategic Plan 2022-2030, we have aligned our national efforts with the World Health Organization's Global Strategy and Action Plan for Oral Health 2023-2030. This global strategy sets forth clear goals to reduce the burden of oral diseases worldwide, advocating for stronger health systems, integration of oral health into universal health coverage, and prioritizing oral health in national and global health agendas. The alignment of our national plan with WHO's framework reflects Malaysia's commitment to contributing to the global oral health agenda while addressing local needs and challenges.

This strategic plan provides the roadmap to translate our policy into actionable steps, ensuring that the aims and objectives of the National Oral Health Policy are effectively realised. It addresses emerging oral health challenges, such as the rising burden of non-communicable diseases, the aging population, and the need to adopt new technologies for enhanced service delivery. Furthermore, the plan emphasizes the importance of fostering multi-sectoral partnerships and community engagement, and it promotes oral health literacy as a key driver for improved oral health outcomes.

I am convinced that with the successful implementation of this strategic plan, we will witness significant improvements in the oral health of our population, ultimately contributing to their overall health and quality of life. The success of this plan hinges on the collaboration of healthcare providers, policymakers, community leaders, and the public. Together, we can achieve a healthier future for all Malaysians.

I extend my deepest appreciation to all those involved in the formulation of this strategic plan. Your tireless efforts will undoubtedly shape the future of oral health in our country and contribute to the global mission of improving oral health for all.

Dr. Noormi binti Othman
Deputy Director-General of Health (Oral Health)

INTRODUCTION

The National Oral Health Strategic Plan (NOHSP) 2022 – 2030, is a decade-long initiative crafted by the Ministry of Health (MOH), Malaysia. The plan aims to enhance the oral health status and overall quality of life for Malaysians by fostering partnerships with stakeholders from both the public and private sectors.

This strategic roadmap delineates six (6) key priority areas and nine (9) strategic thrusts outlined under the National Oral Health Policy. These are summarized into four (4) major essential points:

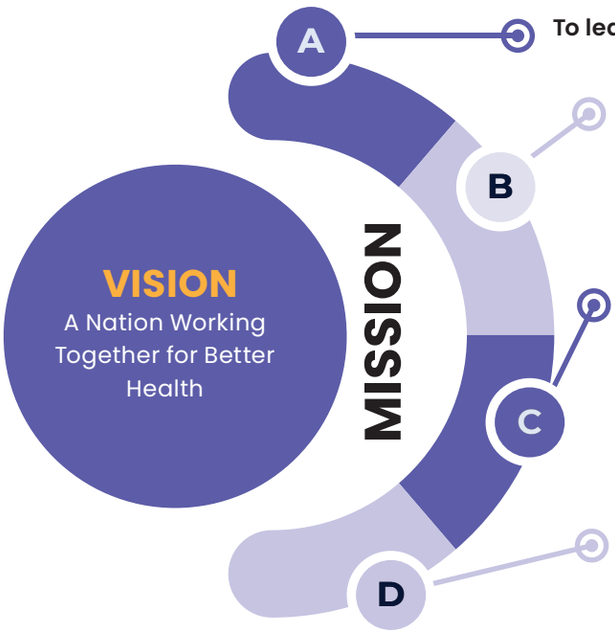
- Restructuring the oral healthcare system to prioritize marginalized communities and enhance the accessibility, affordability, and equity of services.
- Strengthening the prevention and management of non-communicable diseases through collaborative efforts between various agencies and public-private partnerships.
- Fostering awareness and empowering communities to cultivate positive oral health practices.
- Cultivating healthy and supportive environments that advocate for oral health promotion.

This document was developed by the insights and achievements of the National Oral Health Plan (NOHP) 2011-2020 and the National Oral Health Policy. Building upon these achievements and guiding principles, the national goals and strategies in the key areas of concern have been established with consideration of various relevant factors. The major strategies to attain these goals encompass water fluoridation, school dental programs, geriatric oral healthcare, and oral cancer screening.

In addition, NOHSP 2022-2030 also integrated elements from the World Oral Health Organisation's (WHO) commitment to improving oral health by adopting the landmark Resolution on Oral Health during the World Health Assembly (WHA)74.5 in 2021, the Global Strategy on Oral Health [WHA 75(11)] in 2022, and The Global Oral Health Action Plan (GOHAP) 2023-2030 [WHA 76 (9)] in 2023. GOHAP emphasizes the importance of integrating oral health into broader national policies and programs. The plan involves facilitating the inclusion of oral health into universal health coverage, non-communicable diseases, primary care, and health equity policies. The overarching global targets include reducing the combined prevalence of major oral diseases by 10% and achieving universal health coverage for oral health by the year 2030 - goals that require integrating oral health into universal health coverage and NCD policies. In essence, GOHAP provides a framework for countries to systematically integrate oral health into their broader health and development agendas, to improve population oral health outcomes as part of the global 2030 Agenda for Sustainable Development. In particularly Sustainable Development Goal (SDG) 3; to ensure healthy lives and promote well-being for all at all ages.

Hence, this document will highlight the need for better strategies and strengthening of existing programs to achieve the NOHSP 2022-2030 goals and improve the oral health of Malaysians. Continuous monitoring and assessment are essential for steering the execution of the plan.

MINISTRY OF HEALTH



To lead and work in partnership.

To facilitate and support the people to:

- Attain fully their potential in health
- Appreciate health as a valuable asset
- Take individual responsibility and positive action for their health

To ensure a high-quality system that is:

- Equitable
- Affordable
- Efficient
- Technologically appropriate
- Environmentally adaptable
- Customer centred
- Innovative

To ensure a high-quality system that is:

- Professionalism, caring and teamwork value
- Respect for human dignity
- Community participation

ORAL HEALTH PROGRAMME

OBJECTIVE

To improve the oral health status of the population through the provision of preventive, promotive, curative and rehabilitative dental services with special emphasis given to the identified priority groups in such a way that the oral health status of the nation will continually be in conformity with the socio-economic progress of the country.

ROLE

Development of oral health policy for the country, to lead oral health research and epidemiology initiatives at national or international level, profession and capital development of personnel, facility progress and development, information management as well as technological advancement in dentistry.

- Governance of oral health policy implementation, oral health service delivery and practices at state and institution level.
- Lead oral healthcare programme which includes planning, organising, monitoring and evaluation activities related to oral health promotion, community, primary and specialist oral healthcare to ensure continuous improvement of the people's oral health.
- Ensure safe practice and quality oral health service delivery pertaining to the practice of dentistry in the country, including professional and auxiliary practices.
- Implementation of the Dental Act 2018 compliance with other relevant Acts.
- Provide effective and efficient support through administrative and financial services according to the current regulations for the implementation of oral health services.
- Collaboration with Government and Non-Governmental agencies in relation to oral health aspects locally and globally.

NATIONAL ORAL HEALTH PLAN (NOHP) 2010-2020

The NOHP for the years 2011-2020 delineates national oral health objectives and strategies aimed at addressing critical areas of concern to achieve a unified outcome. These encompass prevalent conditions like dental caries, periodontal diseases, dentition status and oral cancer. Therefore, effective implementation of key strategies was vital for goal attainment. This includes fostering robust partnerships with stakeholders, enhancing oral health infrastructure and workforce, and refining oral health data management systems.

The NOHP 2011-2020 progress was monitored through progress reports and annual reviews. Notable advancements have been reported, with a slight yet significant enhancement observed in the caries-free status among 6, 12 and 16-year-olds as evidenced by the national surveys and data from the Health Information Management System (HIMS). On the other hand, certain indicators have fallen short of the set targets, notably the periodontal condition among 16-year-olds, which lags considerably behind the desired target.

Additionally, several new initiatives have been introduced and successfully implemented within the Ministry of Health facilities. This encompasses various programs such as the assessment of gingival health status among primary schoolchildren using the Gingival Index Score (GIS), smoking status screening and intervention among schoolchildren through the *Kesihatan Oral Tanpa Amalan Rokok* (KOTAK) program, and diverse oral health promotion activities involving multiple agencies. Public awareness on oral cancer and the significance of early detection by performing Mouth Self Examination (MSE) was also enhanced through engagement with pertinent entities.

Fundamentally, the NOHP for the period 2011-2020 aimed to enhance the oral health of Malaysians. This is accomplished by implementing a comprehensive array of objectives, strategies, and monitoring techniques, emphasising prevention, access to care and collaboration among stakeholders.

Table 1: Achievement of National Oral Helath Plan (NOHP) 2010-2020

DENTAL CARIES					
Age Group	**Condition**	**Goal**	**Baseline**	**Achievement (survey data)**	**Achievement 2020 (HIMS)**
6	Caries free	50%	25.5% (NOHSS 2007) 23.8% (NOHPS 2005)	28.7% (NOHPS 2015)	35.1%
12	Caries free	70%	58.5% (NOHSS 2007)	66.7% (NOHSS 2017)	69.7%
16	Caries free	50%	40.4% (NOHSS 2007)	-	69.7%
6	dft ≤ 2		3.6 (NOHSS 2007) 5.5 (NOHPS 2005)	4.8 (NOHPS 2015)	2.3
12	DMFT ≤ 1		1.1 (NOHSS 2007)	0.8 (NOHSS 2017)	0.70
16	DMFT ≤ 2		2.1 (NOHSS 2007) 1.4 (HIMS 2010)	-	1.37
PERIODONTAL CONDITION					
16	Healthy periodontal	50%	10.6% (NOHSS 2007)	9.6% (NOHSA 2010) 5.1% (NOHSA 2020)	71.6%
DENTAL CONDITION					
35-44	Edentulous	0%	2.8% (NOHSA 2000)	1.1% (NOHSA 2010) 0.1% (NOHSA 2020)	-
60	(≥ 20) teeth	60%	21.5% (NOHSA 2000)	21.7% (NOHSA 2010) 34.3% (NOHSA 2020)	-
ORAL CANCER					
20 and above	detected at stage 1	30%	20.5% (OHP Annual Report 2009)	15.5% (NCR 2019)	-
DEVELOPMENTAL ENAMEL DEFECTS / FLUORIDE ENAMEL OPACITIES (FEO)					
16	FEO	<2%	1.1 (FEO 1999)	0.6 (FEO 2013)	-

NATIONAL ORAL HEALTH POLICY

The National Oral Health Policy is a strategic framework developed to address the oral health needs of the Malaysian population. The aim of this policy is to improve the oral health status and quality of life of Malaysians through collaborating with stakeholders of the public and private sectors to promote oral health. This encompasses clinical prevention, treatment and rehabilitation with emphasis on identified priority groups including marginalised and vulnerable population. It involves building and maintaining a high-quality system that is equitable, affordable, efficient, technologically appropriate, environmentally adaptable, customer-centred and innovative. There are three (3) guiding principles (**Figure 1**), six (6) priority areas and nine (9) strategic thrusts of the National Oral Health Policy as summarised in **Figure 2**.

Figure 1: The National Oral Health Policy Guiding Principles

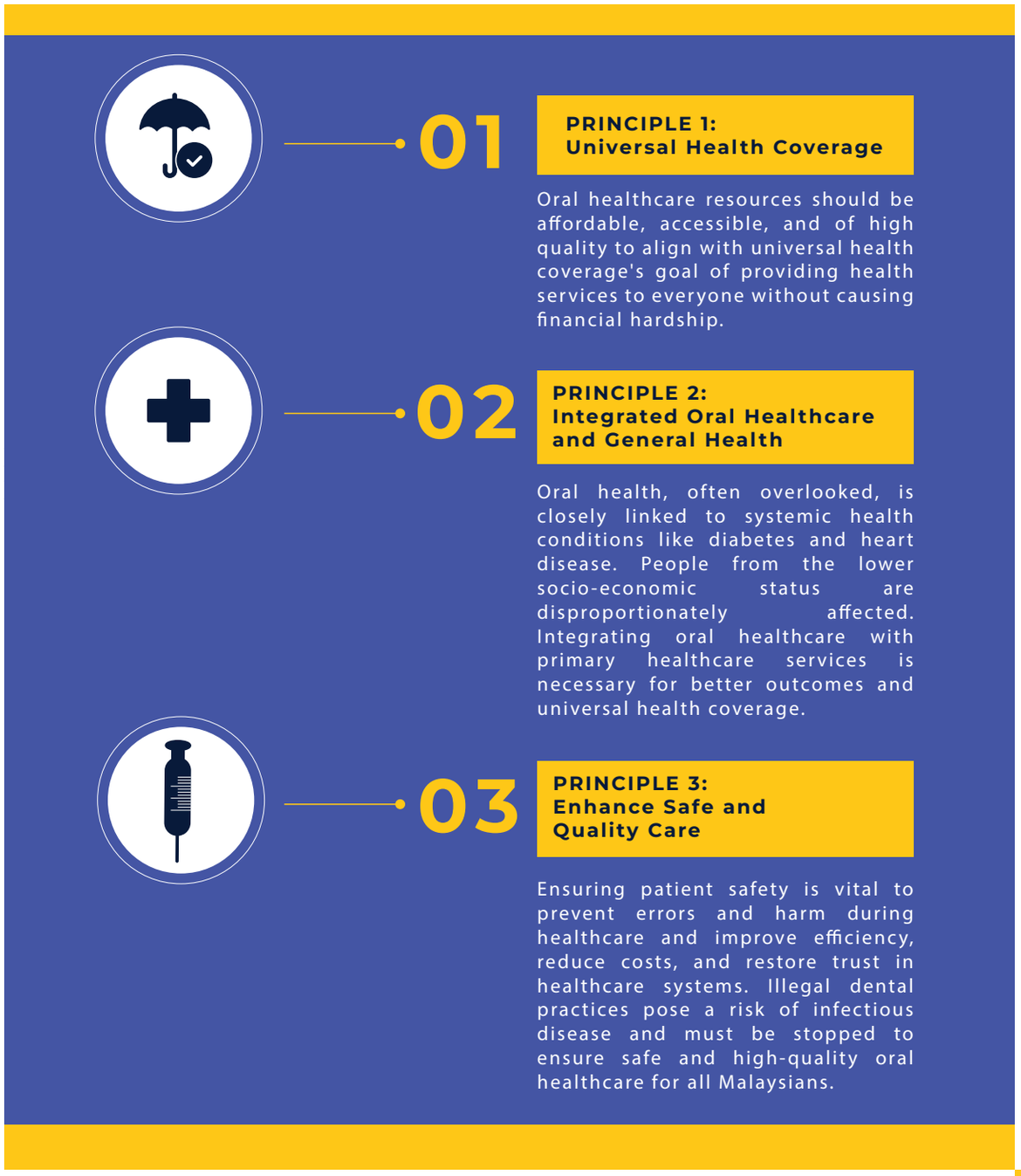
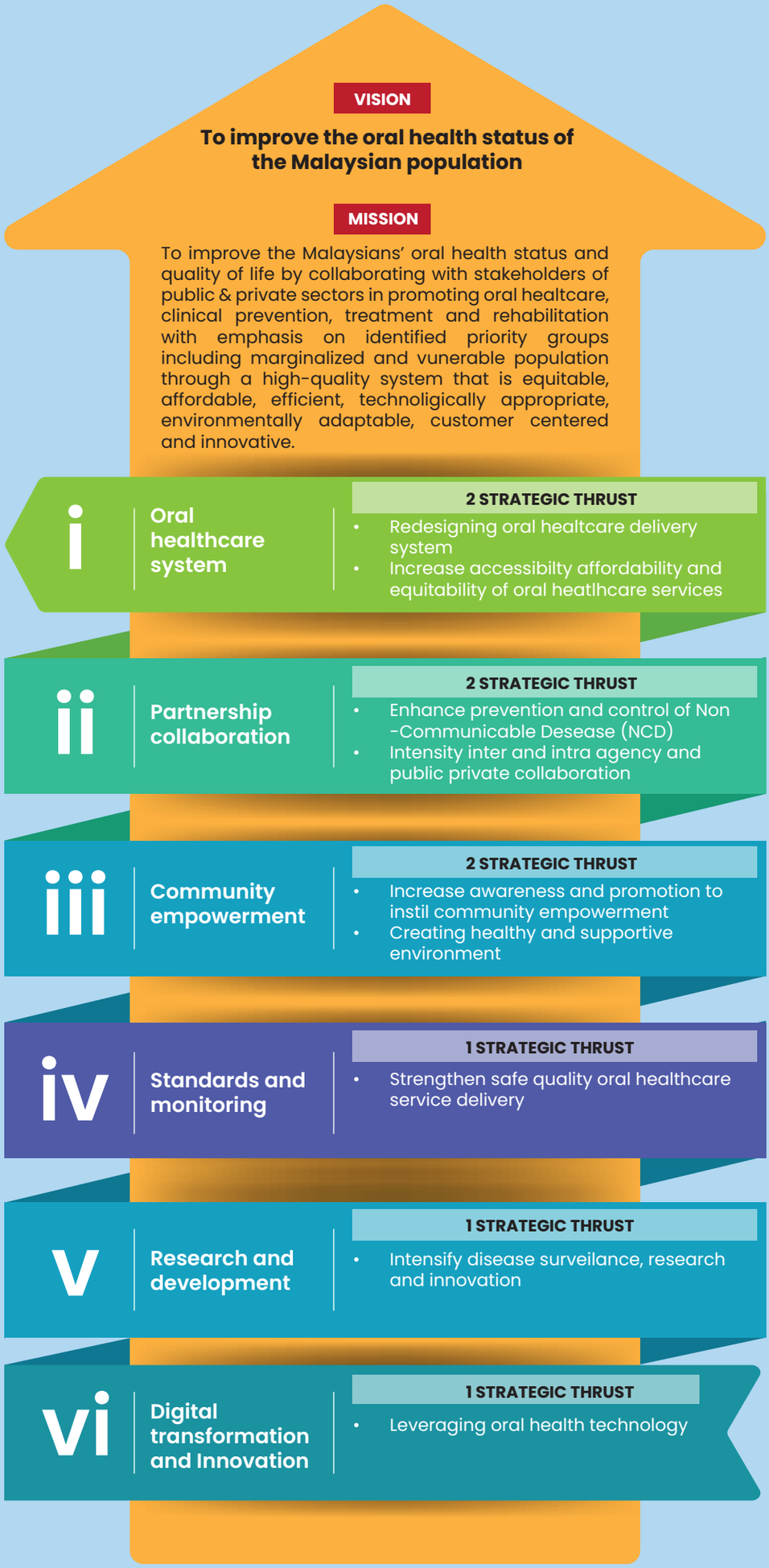


Figure 2: Framework for National Oral Health Strategic Plan 2022-2030

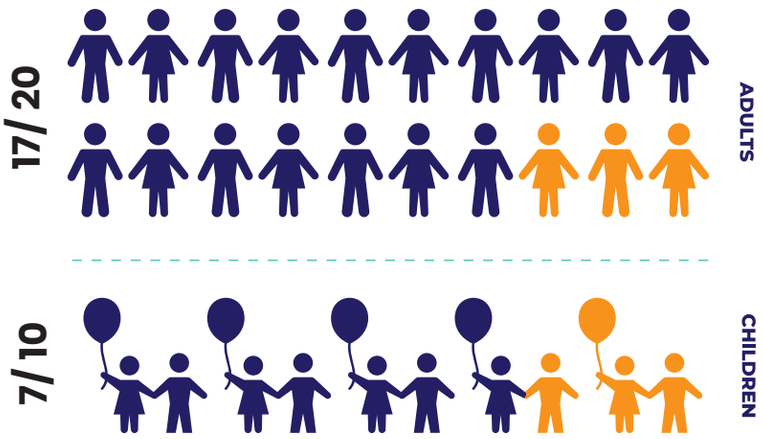


ISSUES AND CHALLENGES

Dental Caries

Dental caries continues to be the most prevalent oral health condition globally, posing a substantial public health burden. In Malaysia, oral diseases, including dental caries, remain highly prevalent among both adults and children. According to the National Oral Health Survey, 17 in 20 adults and 7 in 10 children have experienced tooth decay (**Figure 3**).

Figure 3: Dental Caries Prevalance (NOHSA 2020, NOHPS 2015)



While a decreasing trend in dental caries among schoolchildren has been observed over the past two decades, the overall oral health status in Malaysia necessitates sustained efforts for prevention and control.

Situational analysis:

The Malaysia scenario had shown that the caries prevalence and experience for the 6-year-old has reduced from 80.9% in 1997 to 74.5% in 2007. Similarly, the mean number of decayed or filled teeth has decreased from 3.3 to 3.6 during the same period. The National Oral Health Survey for Preschool Children 2015 showed the caries prevalence for 5-year-old was 71.3% while the mean decayed and filled tooth (dft) was 4.83. Furthermore, the survey also showed high unmet caries treatment need with 63.6% need restoration. Nevertheless, the caries experience remains high among young children with high unmet treatment. The caries severity status shown a very minimal decline which was less than 1 mean tooth over 10 years; 5.5 (2005) to 4.8 (2015) and the prevalence of dental abscess was substantial (9.8%).

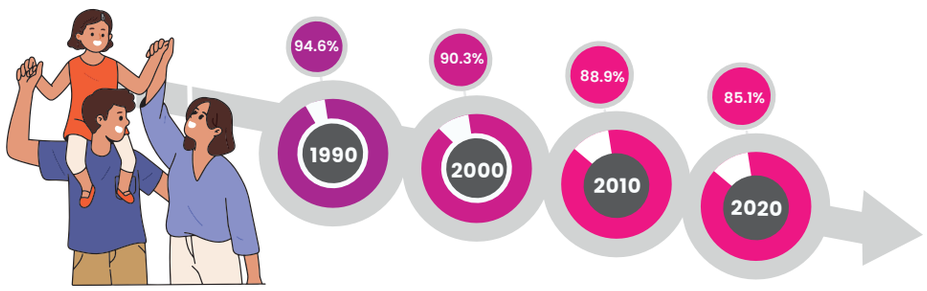
Conversely, there has been a positive trend in dental caries reduction among schoolchildren over recent decades. The National Oral Health Survey of Schoolchildren (NOHSS) 2017 reported a significant decline in caries experience among 12-year-olds, decreasing from 60.9% in 1997 to 41.5% in 2007, and further to 33.3% in 2017. A similar trend was observed in the mean DMFT, which reduced from 1.9 in 1997 to 1.12 in 2007, and 0.78 in 2017. Although the prevalence rate dropped more slowly from 2007 to 2017 (19.8%) compared to the previous decade (31.9%), the overall decline remains remarkable and significant. A similar pattern was observed among 16-year-olds, with caries prevalence decreasing from 75.5% in 1997 to 59.6% in 2007, and the mean DMFT reducing from 3.3 to 2.1 (**Figure 4**).

Dental Caries

Figure 4: National Oral Health Survey of Schoolchildren for Caries Prevalence (1971 – 2017)

However, the decrease in caries prevalence among adults has been slower. It decreased from 94.6% in 1990 to 90.3% in 2000, 88.9% in 2010, and then to 85.1% in 2020 (**Figure 5**). This minimal decline indicates a persistent and significant oral health burden among adults, necessitating urgent attention.

Figure 5: Caries Prevalance in Adults (NOHSA 1990 - 2020)



These survey results highlight a significant oral health burden among both young children and adults in Malaysia. While progress has been made in improving the oral health of schoolchildren through targeted interventions like the Incremental School Dental Services programme, there remains a critical need to prioritize early childhood oral health. The upcoming 10-year plan should focus on children aged 6 and below to effectively address the issue of dental caries.

Periodontal Disease

Periodontal disease is a prevalent oral health condition affecting populations globally. Beyond its oral manifestations, this disease has systemic implications, being associated with cardiovascular disease, diabetes mellitus, and chronic obstructive pulmonary disease, thereby contributing to the global burden of illness. Moreover, periodontal disease is a primary etiological factor in tooth loss, leading to functional impairment and reduced quality of life.

Situational analysis:

The NOHSA 2010 survey revealed a high prevalence of periodontal disease among Malaysian adults, with 94.0% of the population affected. This figure rose slightly to 94.5% in 2020. The recent survey reported calculus was the most prevalent condition, impacting 51.5% of the population, followed by shallow periodontal pockets (23.7%), deep periodontal pockets (14.5%), and gingival bleeding on probing (4.7%). It was also reported that amongst those who have deep periodontal pockets, 27.5% have diabetes and 24.0% have cardiovascular disease.

Notably, the prevalence of periodontal health (CPI 0) in 15-19-year-olds decreased from 25.8% in 2000 to 9.6% in 2010 and slightly increased to 10.7% in 2020. In the age group of 35-44 years, the proportion of individuals with deep periodontal pockets (CPI 4) increased from 7.2% in 2000 to 25.3% in 2010, however decreased to 15.9% in 2020 (**Table 2**).

Table 2: Periodontal Status in Adults 2000–2010

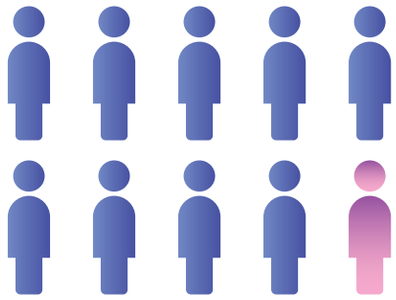
Periodontal Conditions/ Age	15 - 19			35 - 44			55 - 64		
Year	2000	2010	2020	2000	2010	2020	2000	2010	2020
CPI 0 (healthy)	25.8%	9.6%	10.7%	5.0%	1.8%	3.7%	3.9%	1.5%	3.2%
CPI 1 (bleeding on probing)	11.2%	14.1%	11.3%	2.8%	1.7%	3.1%	1.3%	1.4%	2.8%
CPI 2 (presence of calculus)	60.0%	56.5%	72.4%	54.9%	36.1%	49.5%	44.6%	31.1%	35.7%
CPI 3 (shallow periodontal pockets)	2.9%	16.8%	5.0%	28.5%	34.2%	27.6%	31.6%	31.8%	31.5%
CPI 4 (deep periodontal pockets)	0.1%	3.0%	-	7.2%	25.3%	15.9%	9.5%	26.4%	25.9%

Oral Cancer

Oral cancer is a serious condition that profoundly affects patients' overall health and quality of life. Unfortunately, many individuals seek medical attention only in its later stages, resulting in a poor prognosis and low survival rates. In 2020, Cancer Research Malaysia (CRM) reported that 377,713 people worldwide were diagnosed with oral cancer, with 177,757 fatalities, 74% of which occurred in Asians.

Classified as ICD-10-CM C06.9, oral cancer ranks as the 16th most common malignancy globally. While less prevalent in Malaysia compared to cancers such as breast and lung, it poses a significant threat to certain populations. The Indian ethnic community is particularly vulnerable, with oral cancer ranking as the eighth most common cancer among Indian males and the fourth among Indian females. Similarly, indigenous communities in Sabah and Sarawak also show higher incidence rates.

According to recent NOHSA 2020 findings, one (1) in ten (10) adults presents with oral lesions



and among those requiring referral, 10% are suspected to have premalignant or malignant lesion.

The Malaysia National Cancer Registry Report (2012–2016) highlights that most newly diagnosed oral cancer cases were detected at advanced stages, with 43.2% identified at stage IV and only 15.5% at stage I. Meanwhile, according to GLOBOCAN 2018, Malaysia is expected to see a significant increase in oral cancer cases, with projections rising from 667 in 2018 to 1,017 by 2030. Similarly, oral cancer-related deaths are anticipated to grow from 327 to 518 during the same period.

In 2020, the International Agency for Research on Cancer (IARC) reported

724

cases of lip and oral cavity cancer in Malaysia.

Oral Cancer

Situational analysis:

Major established attributable risks for oral cancer are lifestyle behaviours such as tobacco use, alcohol consumption and betel quid chewing, which are mainly preventable. Among Malaysians, there is a distinct ethnic difference in the practice of these habits. Betel quid chewing is the habit most prevalent among Indians and Indigenous people, Malays have the highest affinity for smoking whereas concurrent smoking and drinking are risk habits most observed among Chinese.

Delays in the diagnosis of oral cancer can be attributed to both patient and professional factors. While professional delays have been found to be unrelated to the stage of the disease at initial presentation, patient delays are significant. Patients typically wait between 3.5 and 5.4 months after becoming aware of potential oral cancer symptoms before seeking professional advice. This delay in seeking care, particularly among Malaysians, is often attributed to poor awareness and delayed health-seeking behaviour.

In Malaysia, a program for the primary prevention and early detection of oral pre-cancer and cancer has been established since 1997, aiming to reduce the prevalence and incidence of oral potentially malignant disorders and oral cancers in the community. The program includes opportunistic screenings for adults aged 18 and above, alongside targeted screenings for high-risk populations conducted at least once every five years. Suspected cases of oral potentially malignant disorders or oral cancer are referred to dental specialists for further evaluation and investigation. High-risk communities are identified based on areas with a high prevalence of risky behaviours such as tobacco use, alcohol consumption, and betel quid chewing (with or without tobacco) or previously reported cancer cases. However, pinpointing these communities has become increasingly challenging, as oral cancer cases are no longer confined to certain identified communities such as Orang Asli or estate workers. To address this, the program emphasizes the importance of mouth self-examinations, empowering individuals to recognize abnormalities in their oral cavity at an early stage.

Water Fluoridation

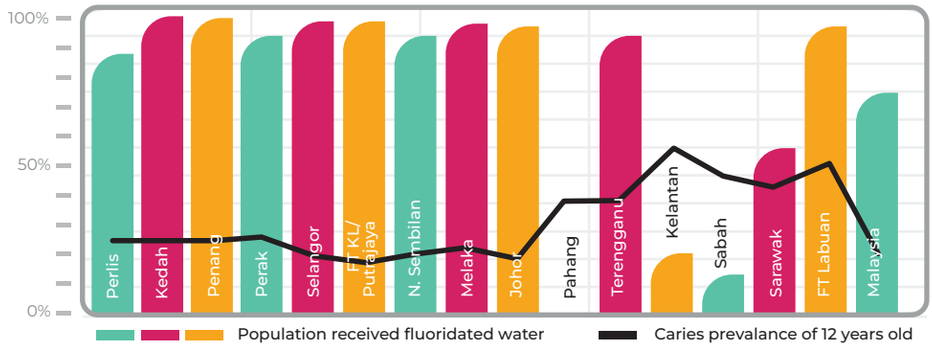
There is strong evidence to support the effectiveness of water fluoridation in caries prevention. Many studies have shown communities with fluoridated water supplies have lower caries experience than non-fluoridated communities. Similar situation observed in Malaysia whereby population in the states with less access to fluoridated water were more likely to have higher caries prevalence.

In 2005, the Malaysian Ministry of Health had lowered the fluoride concentration in public water supplies from 0.7 ppm to a target of 0.5 ppm (±0.1 ppm). This decision was driven by concerns about potential overexposure to fluoride, given increasing exposure from other sources such as fluoridated toothpaste. A local study was conducted to assess the impact of this reduction. The study reported that the change in fluoride level from 0.7 to 0.5 ppm led to a decrease in fluorosis while maintaining a caries-preventive effect. However, the study's limitations, including its reliance on a single point-survey and the use of non-fluoridated communities as a control group, limit definitive conclusions. The optimal fluoride concentration, whether 0.7 ppm or 0.5 ppm, remains uncertain and requires further investigation.

Situational analysis:

In 1972, the Malaysia Cabinet approved the addition of fluoride to public water supplies, demonstrating the government's long-standing commitment to water fluoridation. This decision led to a multi-sectoral collaboration involving the Ministry of Health, public service departments, and various water authorities. By 2020, states with a higher percentage of the population receiving fluoridated water supply exhibited lower caries prevalence among 12-year-old Malaysians compared to those with lower fluoridated water coverage (**Figure 6**).

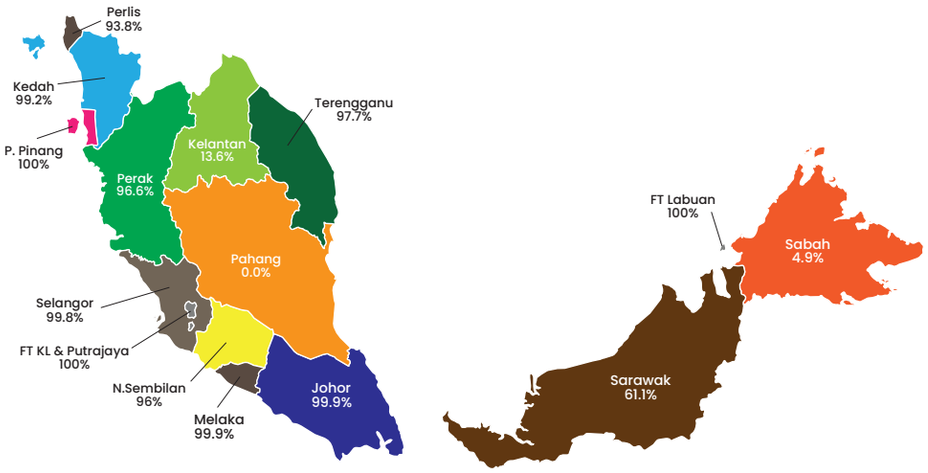
Figure 6: Water Fluoridation Coverage in Malaysia and 12-years-old Caries Prevalence



Ever since the implementation of water fluoridation in Malaysia in 1957, the estimated population coverage shows a decreasing trend from 79.5% in 2018 to 76.8% in 2022. While 11 states (Perlis, Penang, Federal Territory of KL & Putrajaya, Melaka, Federal Territory of Labuan, Selangor, Johor, Kedah, Perak, Negeri Sembilan, and Terengganu) have over 90% coverage, Sarawak (61.1%), Kelantan (13.6%), Sabah (4.9%), and Pahang (0%) lag significantly (**Figure 7**).

Water Fluoridation

Figure 7: Water Fluoridation Population Coverage by State (2022)



The low population coverage of fluoridated public water supply in Kelantan and Pahang can be attributed to the discontinuation of water fluoridation in 1995 and 2012, respectively. In contrast, the low coverage in Sabah and Sarawak is primarily due to their extensive land areas (73,722 km² and 124,450 km², respectively) and a limited number of water treatment plants equipped with active fluoride feeders.

On the other hand, the Fluoride Varnish Programme for toddlers was introduced and piloted in Kelantan, Terengganu and Sabah in the year 2011. A total number of 39,627 (83.6%) high-risk toddlers were rendered fluoride varnish in the three states. However, the compliance rates in completing 2 and 3 times applications were very low, and none of the toddlers completed the recommended 4 times fluoride varnish application in 2 years. Thus, a comprehensive and systematic fluoride varnish programme for toddlers was introduced in 2019 as an initiative to control and prevent dental caries among toddlers. Those identified toddlers were followed up to receive 4 times fluoride varnish application within two 2 years. The percentage of toddlers received 4 times fluoride varnish in cohort 2019, 2020 and 2021 were 6.3%, 12.3% and 17.4% respectively. Another fluoride programme that was introduced by the Oral Health Programme MOH is the School-Based Fluoride Mouth Rinsing Programme, whereby 20,708 primary school children from 74 primary schools in non-fluoridated areas in Kelantan, Sabah and Sarawak benefited from the programme in 2017.

Marginalised Group

Marginalised group can be defined as a group of people that have the risk of inequalities in terms of access to rights and use of services and goods in a variety of domains, such as access to education, employment, health, social and housing assistance, protection against domestic or institutional violence and justice. Marginalised group are often associated with or similarly called 'vulnerable groups', 'seldom heard groups', 'hard-to-reach groups' or 'social exclusion'.

Addressing oral health disparities among marginalised populations, a very diverse group, presents significant challenges. Given resource constraints, this initiative will initially focus on five (5) specific marginalised segments: institutionalized elderly, institutionalized individuals with disabilities, Orang Asli (indigenous communities in Peninsular Malaysia), Penans (indigenous communities in Sarawak), and the B40 (bottom 40% household income).

Situational analysis:

Over the past decades, oral health status has improved significantly in many countries. This improvement, however, has not been experienced equally across all segments of population. Study had found that there was an inverse relationship between oral health status and socio-economic status (SES). Overall treatment needs were higher among individuals from the lower class compared to those from the upper class. There is a significant relationship between poor oral health and vulnerabilities related to mental health, trauma and housing instability.

The elderly population is defined as people aged 65 and above, the accepted cut-off age for the elderly in most developed countries. Elderly or ageing is associated with gradual decrease in physical and mental capacity, a growing risk of disease, and ultimately, death. Ageing is also associated with other life transitions such as retirement, relocation to more appropriate housing, and the death of friends and partners. Malaysia projected to be an ageing country by the year 2030 when the elderly population (those aged 60 years and above) will be at 15% of the whole population.

Dental problems in older people are a common cause of speech impairment, eating difficulties, pain when eating, and/or signs of mouth discomfort. There is an association between oral health and nutritional status. Tooth loss, poorly fitting dentures and oral infections can result in poor nutrition and persistent mouth pain. High prevalence of dental caries and periodontal disease were also noted among this group leading to increased prevalence of edentulous elderly. Study showed that masticatory ability is generally sufficient as long as 20 or more teeth are retained and remained functional. Having at least 20 teeth allows for effective chewing, which supports a balanced diet by enabling the intake of various nutritious foods. This helps prevent malnutrition, a common risk in older populations, and supports overall physical health. The national surveys have indicated that, tooth retention among older Malaysians aged 60 and above have been low. Despite that, NOHSA 2020 had shown 34.3% population aged 60 years and above retaining a minimum of 20 teeth from a previous of 21.7% in 2010 and 21.5% in 2000 (**Figure 8**).

Marginalised Group

Figure 8: Population Aged 60 Years and Above Retaining A Minimum 20 Teeth

2000 21.7% > **2010** 21.5% > **2020** 34.3%

Person with disability (PWD) in Malaysia or in health context are recognized as those who require additional or special health care needs can be categorized into various groups such as physical, intellectual and developmental disabilities, people with psychiatric and psychological issues as well as people with complex medical problems. Significant overlapping of their conditions may result in more complex oral health problems.

Meanwhile, Orang Asli refers to the indigenous people of Peninsular Malaysia, representing less than 1.0% of the total Malaysian population. Based on the Jabatan Kemajuan Orang Asli (JAKOA), in 2023 there are 209,575 residing mostly in Pahang (37.5%), followed by Perak (29,2%), Selangor, Kelantan, Johor, Negeri Sembilan, Melaka, Terengganu and Kedah. They remain as the poorest and most marginalised group in the country. The national data on Orang Asli health status is scarce. However, an isolated study done in 2019 in Cameron Highland finding shown that prevalence of caries and gingivitis among 11 to 12-years-old was high with 61.6% and 96.0% respectively. It was also found that majority chewed betel nuts regularly.

The Penans are nomadic indigenous people living in Sarawak. The number of Penans is approximately around 14,000 in Sarawak state with most of them based in Baram District, Miri Division of Sarawak. Their oral health status is generally poor with high treatment need particularly dental extractions.

The B40 group referred to the bottom 40% household income group with a mean income of RM3,401 consisting of approximately 2.9 million households. The group compromising the most economically vulnerable segment of society, faces considerable challenges in accessing healthcare due to financial constraints.

Digital
Transformation

The reliance on paper-based records in many healthcare facilities poses significant challenges in terms of storage, retrieval, and analysis of patient information. To modernize healthcare delivery and improve patient outcomes, the Ministry of Health Malaysia's ICT Strategic Plan is focused on implementing a standardized digital health agenda. This initiative aims to provide integrated and comprehensive healthcare services, leveraging digital technologies to streamline processes, enhance data analysis, and improve patient care.

Malaysia initiated a proactive approach to integrate technology into public healthcare, including digital health records, in 1997. This initiative play a key role in the Ministry of Health's (MOH) goal to enhance healthcare services through hospital system improvements. However, as of 2023, Malaysia has yet to implement a nationwide digital health records system. As digital advancements reshape society, it is essential that health systems evolve accordingly particularly as Malaysia approaches the challenges of an aging population.

Thus, an establishment of electronic medical record (EMR) for building a digital health ecosystem will allow all clinics and hospitals in Malaysia to achieve a seamless level of patient information services and systems and enhance the effectiveness of health services in terms of holistic patient care and management. Currently, more than 75% of hospitals and 90% of clinics in MOH are still using manual recording system (paper-based) without IT system. Among the major application that currently exists in MOH are HIS@KKM, TPC-OHCIS, PhIS, BBIS and OHCIS.

Situational analysis:

Electronic medical records improve quality of care, patient outcomes, and safety through improved management, reduction in medication errors, reduction in unnecessary investigations, and improved communication and interactions among primary care providers, patients, and other providers involved in care.

In Malaysia, it was observed patients' data or record management at hospital and clinics encountered issues and challenges as follows:

- Huge number of patient medical records requires large amounts of storage space.
- Reporting problem as the health data was collected manually.
- Non-consolidated personal health information for continuity of care and referral.
- The appointment is recorded in the appointment book.
- A high risk of loss of manual records and data.
- Need to fill out laboratory, x-ray prescription form and laboratory test results in forms.
- No integration of electronic health record systems can cause fragmented and incomplete medical records.

Interoperability of various EMR systems that were used by healthcare facilities deserve an equal attention as the MOH's way forward is to develop an integrated healthcare ecosystem involving both the public and private sectors. Adding to that, the goal behind the EMR implementation is to encourage the physicians to widely use it as analytic tools in addressing the insights of the healthcare delivery.

NATIONAL ORAL HEALTH STRATEGIC PLAN (NOHSP) 2022-2030

The National Oral Health Strategic Plan Malaysia 2022 – 2030 (NOHSP 2022-2030) aims to enhance Malaysians' oral health status and quality of life by collaborating with stakeholders from public and private sectors. This 10-year plan focuses on redesigning the oral healthcare system, increasing accessibility in under-served areas, enhancing prevention of non-communicable disease (NCD), and promoting community empowerment for better oral health behavior. The plan emphasizes partnership collaboration, community empowerment, and ensuring integration of EMR systems by 2030. It outlines priority areas, strategic thrusts, strategies, and implementation methods to achieve its goals, with a structured monitoring system through an Executive Committee and Secretariat.

Specific initiatives outlined in Malaysia's National Oral Health Strategic Plan include:

- Redesigning the oral healthcare system with a focus on marginalized groups.
- Increasing accessibility, affordability, and equitability of oral healthcare services, especially in under-served and rural areas.
- Enhancing prevention and control of NCD through active involvement of various agencies.
- Intensifying collaboration between inter and intra-agency and public-private sectors to improve service delivery accessibility.
- Increasing awareness and promotion to empower communities and promote good oral health behaviour.
- Creating healthy and supportive environments to encourage better oral health practices.
- Ensuring that 100% of private/public dental higher learning institutions/ Armed Forces dental facilities deploy EMR by 2030.
- Encouraging participation from private dental practices, dental schools, Malaysia Armed Forces, and other healthcare providers to contribute oral health data to existing data warehouses.

NOHSP 2022-2030 IMPACT INDICATORS

The following major impact indicators will enable continuous monitoring of progress to achieve the overall goals of the NOHSP 2022 – 2030 (**Table 3**).

Table 3: Impact Indicators for NOHSP 2022-2030

NO.	IMPACT INDICATORS/ GOALS BY 2030	BASELINE
CARIES		
1	≥ 50% of 5-year-olds population with caries free dentition	28.7% (NOHPS 2015)
2	dft 5-years-olds population ≤ 2	4.8 (NOHPS 2015)
3	≥ 80% of 12-year-olds population with caries free dentition	66.7% (NOHSS 2017)
4	DMFT 12-years-olds population ≤ 0.6	0.8 (NOHSS 2017)
5	70% of 16-year-olds population with caries free dentition	48.3% (NOHSA 2020)
6	DMFT 16-years-olds population ≤ 1.5	2.12 (NOHSS 2007) 1.4 (HIMS 2020)
PERIODONTAL DISEASE		
7	≥ 15% 16-year-olds with healthy periodontium (CPI-M=0)	10.6% CPI = 0 (NOHSS 2007)
8	≥ 5% of adults in the 35-44 age group with healthy periodontium (CPI-=0)	3.7% aged 35-44 with healthy periodontium CPI-Index teeth) (NOHSA 2020)
9	> 80% of adults in the 35-44 age group not having advanced periodontal disease	84.1 % adults aged 35-44 with CPI < 4 (NOHSA 2020)
10	≥ 50% of 60-year-olds and above retaining ≥ 20 teeth	34.3% of 60-year-olds and above retaining ≥ 20 teeth (NOHSA 2020)
ORAL CANCER		
11	30% of oral cancer detected at Stage I	15.5% (NCR 2019)

NOHSP 2022–2030 STRATEGIES AND INITIATIVES

Priority Area 1: Oral Healthcare System

Strategic Thrust 1
Redesigning Oral Healthcare Delivery System

Strategy 1 : Strengthen existing oral health strategies

1. To strengthen clinical prevention programme by adopting FV application to toddler

Fluoride varnish (FV) is a safe and effective way to deliver topical fluoride directly to the tooth surfaces of young children, strengthening enamel and preventing new cavities. By implementing this FV program in toddler, it can significantly reduce the prevalence and severity of early childhood caries.

2. To prevent initiation of smoking habits by screening of smoking consumption status of primary and secondary school children

Children exposed to tobacco smoke face health risks and are more likely to start smoking. Early exposure to smoking increases the likelihood of continued smoking into adulthood. Protecting children from tobacco smoke is essential for their well-being and a healthier community. Hence, school's environment is important for promoting health literacy and preventing smoking habits. Since 2016, Malaysia's KOTAK program has incorporated anti-smoking initiatives into its school dental services. This program identifies and intervene school children with active smoking status.

3. To measure periodontal status on patients aged 16 years old and above

Regular periodontal screening for individuals aged 15 and older is crucial for assessing periodontal health and detecting early signs of systemic diseases. To enhance overall patient's health, oral healthcare providers should be strongly encouraged to prioritise periodontal screening as a crucial tool for detecting systemic diseases. Early identification and management of periodontal disease are vital for preserving natural teeth and maintaining oral function throughout life, contributing to a good quality of life.

4. To improve patient detection and compliance to treatment

A comprehensive approach to improving patient compliance with treatment for potentially malignant disorders or risk factors for oral cancer involves a combination of strategies. These strategies include patient education, provider support, the utilization of digital solutions, regular follow-up calls, and tailored interventions designed to address the specific needs and challenges of each patient.

Priority Area 1: Oral Healthcare System

Strategic Thrust 1

Redesigning Oral Healthcare Delivery System

Strategy 2: Enhancing the role of school dental clinic

1. **To expand the service delivery of the School Dental Clinic to school personnels' and their family members (Phase 1)**

Expanding the services of School Dental Clinics to include school personnel, their families, and the surrounding community can significantly enhance access to dental care, promote equity, broaden the scope of care, foster community engagement, increase utilization of dental services, and improve oral health literacy. By addressing these key areas, School Dental Clinics can contribute to better oral health outcomes for the entire school community.

Strategy 3: Improve capacity building

1. **To empower oral healthcare providers including dental auxiliaries and dental undergraduate students in oral health literacy module**

By honing these specific skills and competencies, dental undergraduate and auxiliary students able to enhance the ability to effectively communicate, educate, and empower patients and communities to improve oral health literacy and promote better oral health outcome.

2. **To empower oral healthcare providers in management of emergency care (Basic Life Support)**

Empowering oral healthcare providers in emergency management requires comprehensive training, proper equipment, strong coordination with emergency responders, and a commitment to personal and organizational preparedness. Implementing these measures can significantly improve the ability of dental professionals to effectively manage medical emergencies and support disaster response efforts in the hospital setting.

Strategic Thrust 2

Increase Accessibility, Affordability and Equitability

Strategy 1: Improve oral healthcare accessibility

1. **To expand service delivery to the marginalised/underserved community**

A multidimensional approach to service delivery requires collaboration among local government, healthcare providers, social services, and community organizations to address the diverse needs of the marginalised communities.

2. **To expand oral healthcare service delivery to the athletes in various sports centres and sport schools**

Oral health assessments and preventive care should be integrated into the routine medical care of athletes. This could involve regular dental examinations, saliva analysis, and provision of custom-fitted mouthguards. Implementing oral health promotion and disease prevention strategies within the sports environment is crucial. This may require collaboration between sports medicine professionals, dentists, and sports organizations to develop and test effective interventions.

3. **To expand the scope of the existing tax incentives for oral health screening and treatment**

By expanding the current tax relief of medical examination to dental examination and treatment expenses, individuals can benefit from financial relief when seeking dental care, promoting better oral health practices and encouraging regular dental check-ups and treatments.

4. **To advocate dental screening and essential treatment to be included in any government financing oral healthcare delivery initiatives**

In the progress towards achieving universal health coverage, one of MOH healthcare financing initiative is to increase the low-income group's access to acute primary care services at private sector. Efforts are made to expand the benefit package to include dental screening and essential dental treatments.

STRATEGIES	INITIATIVES	INDICATORS	TARGET / TIME FRAME	AGENCIES
Priority Area 1: Oral healthcare system				
Strategic Thrust 1: Redesigning oral healthcare delivery system				
Strategy 1: Strengthen existing oral health strategies	To strengthen clinical prevention programme by adopting FV application to toddler	Percentage of toddlers receive 4 complete applications of FV within 2 years	≥ 25% of toddler receive 4 times fluoride varnish application within 2 years by 2030	MOH, MOHE, MDA/ PRIVATE ASSOCIATIONS, NGO
	To increase coverage of screening for smoking/ vaping habits in primary and secondary school children	Percentage of primary and secondary school children screened for smoking/ vaping habits	≥ 95% of primary and secondary schoolchildren screened for smoking/ vaping habits by 2030	MOH, MOHE, MOE
	To improve periodontium status on patient aged 16 years old and above	Percentage of patients with healthy periodontium by 2030: i. 16 years old ii. adults aged 35-44	i. ≥ 15% of 16 years old with healthy periodontium by 2030 ii. ≥ 7% of adults aged 35-44 with healthy periodontium by 2030	MOH, MOHE, MOD, MDA/ Private Association, MOE
	To improve patients' detection and compliance to treatment	i. Percentage of patient detected with Stage 1 oral cancer ii. Percentage of referred patients with oral lesions attending appointment at the Specialist Dental Clinic	i. ≥ 30% of patient detected with Stage 1 oral cancer by 2030 ii. ≥ 85% of referred patients with oral lesions attending appointment at the Specialist Dental Clinic when referred by 2030	MOH, MOD, MOHE, MDA/ PRIVATE ASSOCIATIONS, CRM, OCRCC

STRATEGIES	INITIATIVES	INDICATORS	TARGET / TIME FRAME	AGENCIES
Strategic Thrust 1: Redesigning oral healthcare delivery system				
Strategy 2: Enhancing the role of School Dental Clinic *(Pemasyarakatan Klinik Pergigian Sekolah)*	To expand the service delivery of the School Dental Clinic to *school personnels' and their family members (Phase 1) *beneficiaries	i. No. of School Dental Clinic with PPKPS initiative ii. No. of beneficiaries of this initiative iii. Percentage of case completion among beneficiaries	i. An increment of 10 School Dental Clinic per year with the initiative from 2026 to 2030 ii. No. of beneficiaries of this initiative yearly iii. ≥ 30% percentage of case completion among beneficiaries yearly by 2030	MOH, MOE
Strategy 3: Improve capacity building	To empower oral healthcare providers including dental auxiliaries and dental undergraduate students in oral health literacy module	i. Percentage of oral healthcare personnel trained ii. Percentage of dental faculties / training centres utilise training module iii. No. of dental faculty integrate oral health literacy module in curriculum	i. ≥ 80% oral healthcare personnel are trained by 2030 ii. ≥ 80% of dental faculties / training centres utilise training module by 2030 iii. All dental faculties integrate oral health literacy module in curriculum by 2030	MOH, MOHE, MOD, MDA / PRIVATE ASSOCIATIONS
	To empower oral healthcare providers in emergency care (Basic Life Support)	Percentage of oral healthcare providers in hospital trained	≥ 80% of oral healthcare providers in hospital trained by 2030	MOH, MOD, MOHE, MDA / PRIVATE ASSOCIATIONS

STRATEGIES	INITIATIVES	INDICATORS	TARGET / TIME FRAME	AGENCIES
Strategic Thrust 2: Increase accessibility, affordability, and equitability of oral healthcare services				
Strategy 1: Improve oral healthcare accessibility (equity, availability, and affordability)	To expand service delivery to the marginalised/ underserved communities in: i. Elderly at institutions ii. PWD at institution iii. Orang Asli and Penan	Percentage of marginalised / underserved communities covered in: i. Elderly at institution ii. PWD at institutions iii. Orang Asli and Penan	i. ≥ 75% of coverage for elderly at institutions by 2030 ii. ≥ 50% of coverage for PWD at institution by 2030 iii. ≥ 38% of coverage for Orang Asli and Penan by 2030	MOH, MOHE, MOD, MDA/ PRIVATE ASSOCIATIONS, NGO, JAKOA
	To expand oral healthcare service delivery to athletes in various sports centres and sports schools	i. No. of athletes in National Sports centre screened yearly ii. Percentage of athletes in Malaysia Sport School (Sekolah Sukan Malaysia) with caries free status (BK)	i. ≥ 50% of athletes screened by 2030 ii. ≥ 60% of athletes with caries free status in Malaysia Sport School (BK) by 2030	MOH, MOHE, NSC, MOE
	To expand the scope of the existing tax incentives for oral health screening and treatment	Inclusion of oral health screening and treatment in the existing tax incentive for medical screening	Tax incentives for oral health screening and dental treatment in individual income tax by 2024	MOH, MOF
	To advocate dental screening and essential treatment to be included in any government financing oral healthcare delivery initiatives	No. of government financing oral healthcare delivery initiatives incorporated essential/ basic dental treatment	≥ 1 government financing oral healthcare delivery initiatives incorporated essential/ basic dental treatment by 2030	MOH, MOHE, MOD, MDA/ PRIVATE ASSOCIATIONS, MOF

NOHSP 2022-2030 STRATEGIES AND INITIATIVES

Priority Area 2: Partnership Collaboration

Strategic Thrust 1

Enhance Prevention and Control of Non - communicable Disease

Strategy 1: Commence early detection of oral disease

1. **To conduct periodontal screening in all dental facilities**

Emphasizing the importance of periodontal screening to detect systemic disease to relevant dental providers is needed to improve overall patient health. This may include collaboration with regulatory bodies to incorporate periodontal screening requirements into practice standards and encourage providers to position the dental visit as a chance to screen for and manage these conditions.

2. **To increase opportunistic oral cancer screening to all patients aged 18 and above attending dental facilities**

Opportunistic oral cancer screening offers the advantages of early detection, cost-effectiveness, feasibility in healthcare settings, improved patient outcomes, and highlights the essential role of dentists in the early identification of oral cancers and potentially malignant disorders.

3. **To expand oral cancer screening coverage in community activities by agencies**

Encouraging healthcare providers to educate their patients about the risks of tobacco use and alcohol abuse can help increase awareness and promote early intervention. By developing comprehensive e-learning modules on oral cancer detection, it can empower non-dental healthcare providers to play a more active role in identifying and referring patients with suspected oral cancer. This can lead to earlier diagnosis, improved treatment outcomes, and ultimately, saved lives.

4. **To expand early detection of oral disease among toddlers by oral healthcare providers**

Community involvement, including the active participation of mothers and toddlers in early dental screenings, can significantly contribute to the early detection of oral diseases. By engaging more involvement from other oral health providers, leveraging local resources, and utilizing trained health workers, these initiatives can help identify oral health issues at early stages, leading to better outcomes and improved oral health for individuals.

5. **To engage with healthcare providers in referring diabetic patients for periodontal screening**

The bidirectional link between diabetes and periodontitis underscores the importance of a collaborative approach between medical and dental providers to ensure holistic management of patients with diabetes, addressing both oral and systemic health issues. Early detection of periodontitis through screening can lead to timely dental treatment, which not only improves periodontal health but also contributes to better glycaemic control, potentially reducing the need for extensive treatment and associated costs.

Strategic Thrust 1

Enhance Prevention and Control of Non-communicable Disease

Strategy 2: Strengthen adult's smoking prevention and cessation programme

1. **To establish smoking cessation service in all oral healthcare facilities**

Dental professionals are well-positioned to promote smoking cessation, as they have access to a significant number of smokers who regularly seek care at oral healthcare facilities. Studies have shown that brief smoking cessation interventions delivered by dental professionals can significantly increase quit rates among their patients. Offering smoking cessation services in oral healthcare facilities is crucial for promoting oral health, preventing diseases, improving treatment outcomes, reducing complications, and enhancing the overall health and well-being of patients who smoke.

Strategy 3: Improve water fluoridation coverage in the population

1. **To ensure water treatment plant (with 250 megalitres per day capacity) equipped with fluoride feeder**

In Malaysia, guidelines for water fluoridation programs emphasize stating the name of the water supply company, indicating the presence of a fluoride feeder in the water treatment plant, and specifying the year of fluoridation implementation. By following these recommendations and guidelines, water treatment plants can ensure the proper installation and operation of fluoride feeders for effective water fluoridation.

Strategic Thrust 2

Intensify Inter and Intra Agency and Private Collaboration

Strategy 1: Extending oral healthcare coverage to identified target groups by intra agency and public-private partnership

1. **To provide dental check-up and treatment for young adults**

Educating young adults about the importance of regular dental check-ups and good oral hygiene practices is essential for maintaining optimal oral health. Implementing workshops, seminars, and social media campaigns in institutions such as Kolej Komuniti can effectively reach this target audience and raise awareness about the significance of oral health.

Strategy 2: Enhance the role of industry in promoting oral healthcare services for community/ target population

1. **To collaborate with industries in promoting oral healthcare/ services for community/ target population**

Collaboration among industries, public health sectors, and educational institutions is fundamental in promoting effective oral healthcare services within communities. By focusing on shared goals, leveraging resources, and addressing barriers to access, stakeholders can significantly improve oral health outcomes for diverse populations.

STRATEGIES	INITIATIVES	INDICATORS	TARGET / TIME FRAME	AGENCIES
Priority Area 2: Partnership Collaboration				
Strategic Thrust 1: Enhance prevention and control of Non-Communicable Disease (NCD)				
Strategy 1: Commence early detection of oral disease	To conduct periodontal screening in all dental facilities	To conduct periodontal screening on patients aged 15 years and above in all dental facilities	≥ 70% of patient aged > 15 years old screened for periodontal heath in all dental facilities by 2030	MOH, MOHE, MOD, MDA/ PRIVATE ASSOCIATIONS
	To increase oral cancer screening to all patients aged 18 and above attending dental facilities	i. Percentage of patients aged 18 and above undergone oral cancer screening in MOH facilities ii. Percentage of private and non-MOH dental facilities adopted oral cancer screening for patients aged 18 and above	i. ≥ 98% patient aged 18 and above undergone oral cancer screening in MOH facilities by 2030 ii. ≥ 10% increment (from baseline data) private and non-MOH dental facilities perform oral cancer screening for patient aged 18 and above by 2030	MOH, MOHE, MOD, MDA/ PRIVATE ASSOCIATIONS
	To expand oral cancer screening coverage in community activities by agencies	No. of agencies conducted oral cancer screening during community activities	≥ 5 of agencies conducted community oral cancer screening by 2030	MOH, MOD, MOHE, MDA/ PRIVATE ASSOCIATIONS, NGO
	To expand early detection of oral disease among toddlers by oral healthcare providers	Number of external agency facilities performing oral health examinations among toddlers	≥ 150 of oral healthcare providers involved in the initiative by 2030	MOD, MOHE, MDA/ PRIVATE ASSOCIATIONS
	To engage MOH healthcare providers in referring diabetic patients for periodontal screening	i. Percentage of increment of diabetic patients referred to dental facilities for periodontal screening ii. Percentage of MOH healthcare facilities refer diabetic patients for periodontal screening	i. ≥ 2% increment each year for referral of diabetic patients to dental facilities for periodontal screening ii. ≥ 12% primary healthcare facilities in MOH refer for periodontal screening by 2030	MOH

STRATEGIES	INITIATIVES	INDICATORS	TARGET / TIME FRAME	AGENCIES
Strategic Thrust 1: Enhance prevention and control of Non-Communicable Disease (NCD)				
Strategy 2: Strengthen adults' smoking prevention and cessation programme	To establish smoking cessation service in all dental facilities	To establish smoking cessation service in all dental facilities	i. 100% MOH primary oral healthcare clinic and DPHSU offer smoking cessation service by 2030 ii. 100% dental faculties offer smoking cessation service by 2030 iii. 50% DSMAF hospital offer smoking cessation service by 2030 iv. 10% Private Dental Clinic offer smoking cessation service by 2030	MOH, MOD, MOHE, MDA/ PRIVATE ASSOCIATIONS
Strategy 3: Improve water fluoridation coverage in the population	To ensure water treatment plant (with 250 megalitres per day capacity) equipped with functional fluoride feeder	Percentage of new/ existing WTP with functional fluoride feeder	≥ 50% of WTP with functional fluoride feeders by 2030	MOH, KMAM, State Water Authority, SPAN
	To ensure conformance of optimum fluoride level at the reticulation point	Percentage of readings at identified reticulation points with 0.4-0.6 ppm fluoride level	≥ 90% of reticulation points with 0.4-0.6 ppm fluoride level by 2030	MOH

STRATEGIES	INITIATIVES	INDICATORS	TARGET / TIME FRAME	AGENCIES
Strategic Thrust 2: Intensify inter and intra agency and private collaboration				
Strategy 1: Extending oral healthcare coverage to identified target groups by intra agency and public-private partnership	To provide dental check-up and treatment for young adults. (exclude schools and schoolchildren under Incremental School Dental Services programme)	i. No of young adult institution covered yearly ii. Percentage of case completion among young adult undergo oral screening	i. 5% increment of institution from previous year ii. ≥ 30% case completion by 2030	MOH, MOD, MOHE, MDA/ PRIVATE ASSOCIATIONS, NGO
Strategy 2: Enhance the role of industry in promoting oral healthcare/ services for community/ target population	To collaborate with industries in promoting oral healthcare/ services for community/ target population	No. of industries involved	≥ 2 industries involved per year	MOH, MOD, MOHE, MDA/ PRIVATE ASSOCIATIONS, INDUSTRIES

NOHSP 2022-2030 STRATEGIES AND INITIATIVES

Priority Area 3: Community Empowerment

Strategic Thrust 1

Increase Promotion and Awareness to Instil Community Empowerment

Strategy 1: Strengthen existing oral health promotion strategies

1. **To promote and encourage the use of mouth guard among contact sports athletes by relevant agencies (National Sport Centre, Sport Schools)**

Collaboration between dental health provider and sports medicine professionals is a major step to promote prevention, research, and education in sports dentistry. This includes provide guidance and resources on selecting appropriate mouthguards, such as custom-made mouthguards that provide better protection and comfort.

2. **To empower community to promote oral health**

Empowering communities to promote oral health involves a multifaceted approach that includes education, policy support, and community engagement. The active participation of community members is essential for the success of these initiatives, leading to healthier populations and more resilient communities.

Strategic Thrust 2

Creating Healthy and Supportive Environment

Strategy 1: Encourage supportive environment for nurseries and pre-school children

1. **To encourage daily effective tooth brushing drill (TBD) programme for nurseries/ pre-school**

The oral health program can be integrated with existing initiatives which aims to promote healthy oral habits among pre-school children. Collaboration between healthcare professionals, and child education providers may help in the development and implementation of effective oral health programs for pre-school children.

STRATEGIES	INITIATIVES / ACTIONS	INDICATORS	TARGET / TIME FRAME	AGENCIES
Priority Area 3: Community Empowerment				
Strategic Thrust 1: Increase promotion and awareness to instil community empowerment				
Strategy 1: Strengthen existing oral health promotion strategies	To promote and encourage the use of mouth guard among contact sports athletes by relevant agencies (National Sports Centre, Sports Schools Council)	No. of contact sports athletes using mouthguard	No. of contact sports athletes using mouthguard by 2030	MOH, MOD, MOHE, NSC, MOE
	To empower community to promote oral health	Number of active dental icon (iGG)/ volunteers promoting oral health	Number of active dental icon (iGG)/ volunteers promoting oral health by 2030	MOH, MOD, MOHE, MDA/ PRIVATE ASSOCIATIONS, NGO
Strategic Thrust 2: Creating healthy and supportive environment				
Strategy 1: Encourage supportive environment for nurseries and pre-school children	To encourage daily TBD programme for nurseries/ pre-school	Percentage of identified pre-school/ TASKA/ Tadika implement daily TBD	i. 100% identified government pre-school/ TASKA/ Tadika implement daily TBD by 2030 ii. 10% identified private pre-school/ TASKA/ Tadika implement daily TBD by 2030	MOH, MOHE, MDA/ PRIVATE ASSOCIATIONS, NGO, MOE, KEMAS, JPNIN

NOHSP 2022-2030 STRATEGIES AND INITIATIVES

Priority Area 4: Standard and Monitoring

Strategic Thrust

Strengthen Safe and Quality Oral Healthcare Service Delivery

Strategy 1: Increase awareness on the current medicolegal/ legislation among oral healthcare providers

1. **To monitor Continuous Professional Development (CPD) activities on medicolegal/ legislation**

Continuing professional development (CPD) is essential for dental professionals to stay abreast of the latest developments in legal and ethical standards. By incorporating elements such as patient rights, standards of care, and medicolegal issues into CPD sessions, dental professionals can enhance their understanding of their legal responsibilities and best practices in dentistry. This ensures ongoing professional development and compliance with regulatory standards.

Strategy 2: Ensure standard and quality patient's dental record

1. **To develop standard guidelines on dental record**

Dental practitioners have a legal and ethical obligation to protect patient confidentiality, maintain accurate and concise dental records, and ensure that these records are easily understandable by third parties. The guidelines on dental records emphasize the importance of accurate, complete, and contemporaneous record-keeping to support patient care, safety, and continuity of care.

Strategy 3: Ensure safe and quality oral healthcare service delivery in all oral healthcare facilities

1. **To perform periodic audits of dental facilities compliance**

Periodic audits of dental facilities are essential to ensure compliance with regulations and maintain high standards of patient care. By systematically evaluating various aspects of dental practice, including infection control, sterilization procedures, record-keeping, and emergency preparedness, audits can identify areas for improvement. This allows dental practices to adjust their processes and protocols to avoid mistakes, enhance efficiency, and prioritize patient safety.

Strategy 4: Ensure safe and phase down dental amalgam usage in oral healthcare facilities

1. **To monitor dental amalgam usage on patients in dental facilities**

In line with the Minamata Convention on Mercury, Malaysia has committed to phase down the use of dental amalgam in all dental facilities. To achieve this goal, it is necessary to explore alternative restorative materials, implement early detection strategies for dental caries, and investigate the feasibility of phasing down amalgam usage to meet the 2030 target.

STRATEGIES	INITIATIVES / ACTIONS	INDICATORS	TARGET / TIME FRAME	AGENCIES
Priority Area 4: Standard and Monitoring				
Strategic Thrust 1: Strengthen safe and quality oral healthcare service delivery				
Strategy 1: Increase awareness on the current medicolegal / legislation among oral healthcare providers	To monitor CPD activities on Medico-Legal	Percentage of registered practitioners attending Medico-Legal CPD activities	i. 70% of dental practitioners undergo Medico-Legal CPD/ activities by 2030 ii. No. of CPD activities with medicolegal topic by 2030	MOH, MOD, MOHE, MDA/ PRIVATE ASSOCIATIONS, NGO
Strategy 2: Ensure standard and quality patient's dental record	To develop standard guidelines on dental record	No. of facilities complied with the standard dental records guideline (start after 6 months of enforcement)	10% increment yearly of facilities complied with the standard dental records guideline until 2030	MOH, MOD, MOHE, MDA/ PRIVATE ASSOCIATIONS
Strategy 3: Ensure safe and quality oral healthcare service delivery in all oral healthcare facilities	To perform periodic audits of dental facilities compliance	No. of dental facilities complied to the quality standard	70% dental facilities comply to the standard quality by 2030	MOH, MOD, MOHE, MDA/ PRIVATE ASSOCIATIONS

STRATEGIES	INITIATIVES / ACTIONS	INDICATORS	TARGET / TIME FRAME	AGENCIES
Strategic Thrust 1: Strengthen safe and quality oral healthcare service delivery				
Strategy 4: Ensure safe and phase down dental amalgam usage in oral healthcare facilities	To monitor dental amalgam usage on patients in dental facilities	i. Percentage of amalgam usage on patients in MOH and MOD dental facilities ii. Percentage of amalgam usage on patients in audited private dental clinics iii. Percentage of amalgam usage on patients in dental faculties not using dental	i. Amalgam usage on patients in MOH and MOD dental facilities • 5% amalgam usage in MOH facilities by 2025 • 2% amalgam usage on patients in MOH and MOD facilities by 2030 ii. ≤ 20% amalgam usage on patients in audited private dental clinics by 2030 iii. 0% of amalgam usage on patients in dental faculties by 2030	MOH, MOHE, MOD, MDA/ PRIVATE ASSOCIATIONS

NOHSP 2022–2030 STRATEGIES AND INITIATIVES

Priority Area 5: Research and Development

Strategic Thrust
Intensify Disease Surveillance, Research, and Innovation

Strategy 1: Strengthen research initiatives

1. **To assess number of new/ amended initiatives undertaken based on research findings**

The translation of research into actionable policies is a critical process that bridges the gap between scientific findings and practical applications in public health and other sectors. This complex process necessitates a multifaceted approach that involves strong partnerships between researchers and policymakers, active community engagement, and a steadfast commitment to evidence-based practices.

Priority Area 6: Digital Transformation and Innovation

Strategic Thrust
Leveraging Health Technology

Strategy 1: Encourage oral healthcare providers to deploy the Electronic Medical Record (EMR) system

1. **To determine the use of EMR system at other oral healthcare providers**

The adoption of EMR systems offers a wide range of benefits, including streamlined workflows, enhanced patient safety, improved coordination of care, and increased efficiency in healthcare delivery.

In ensuring a successful implementation, it is essential to follow a structured approach that involves key stakeholders and focuses on training, workflow analysis, and data standardization.

Strategy 2: Ensure security, feasibility and legality on data sharing through EMR system be emphasized

1. **To provide data sharing option to patients and their consent**

The process of data sharing and obtaining consent from patients is crucial in healthcare settings to ensure privacy and ethical standards are maintained. Patients should be informed about how their data will be used and shared, and they have the right to object or opt-out of certain data sharing practices. Modernizing the consent process through digital platforms can enhance patient engagement, understanding, and provide traceability for hospitals regarding shared information.

STRATEGIES	INITIATIVES / ACTIONS	INDICATORS	TARGET / TIME FRAME	AGENCIES
Priority Area 5: Research and development				
Strategic Thrust 1: Intensify disease surveillance, research, and innovation				
Strategy 1: Strengthen research initiatives	To assess the number of new/ amended initiatives undertaken based on research findings	Number of new/amended initiatives undertaken based on research findings	≥ 1 new/amended initiative undertaken based on research findings per year until 2030	MOH, MOHE, MOD, MDA/ PRIVATE ASSOCIATIONS, NGO, Oral Cancer Research Institute
Priority Area 6: Digital transformation and innovation				
Strategic Thrust 1: Leveraging health technology				
Strategy 1: Encourage oral healthcare providers to deploy the EMR system	To determine the use of EMR system at other oral healthcare providers	Status progress	i. 100% of public dental facilities shall deploy the EMR system by 2030 ii. ≥ 80% of private dental facilities shall deploy the EMR system by 2030	MOH, MOD, MOHE, MDA/ PRIVATE ASSOCIATIONS
Strategy 2: Ensure security, feasibility, and legality on data sharing through EMR system be emphasized	To provide data sharing option to patients and their consent	No of population with 1 Patient: 1 Dental Record	1 patient 1 dental record by 2030	MOH, MOD, MOHE, MDA/ PRIVATE ASSOCIATIONS

IMPLEMENTATION AND MONITORING

The implementation of the National Oral Health Policy is through integration with other existing policies and agenda of the Ministry of Health or other relevant agencies and ministries. A structured implementation of strategies will be carried out through the National Oral Health Strategic Plan over a period of ten (10) years. The goals and impact indicators of the plan shall be reviewed and re-formulated and strategies re-aligned where relevant during the Mid-Term review in 2026.

The Executive Committee

An Executive Committee shall be established as the monitoring body to spearhead, facilitate, monitor, and evaluate the Plan. The Committee shall be of multisectoral representation to ensure effective collaboration for implementation of strategies and activities of the Plan.

It will be the prerogative of the Executive Committee to appoint task forces and work groups where necessary in development of the Plan. Such task forces may include members from specialties and other professional groups.

The Secretariat

The main secretariat shall be from the Oral Health Programme, MOH. The secretariat shall be responsible to co-ordinate meetings, produce minutes and generate progress reports. In view of coordinating progress report from other agencies collected twice a year, there shall be Secretariats appointed from these three main agencies of dental fraternity:

1. Oral Health Division, Ministry of Defence;
2. Dental Faculties, Ministry of Higher Education; and
3. Malaysian Dental Association (MDA).

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Publish and Distributed by:

Oral Health Programme,
Ministry of Health Level 5,
Block E10, Complex E,
Federal Government Administrative
Centre 62590 Putrajaya, Federal Territory
Putrajaya, Malaysia

Tel: 03-8883 4215

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