MOH/K/GIG/6-2022 (AR)

Oral Health Programme
Ministry of Health Malaysia

ANNUAL REPORT 2021

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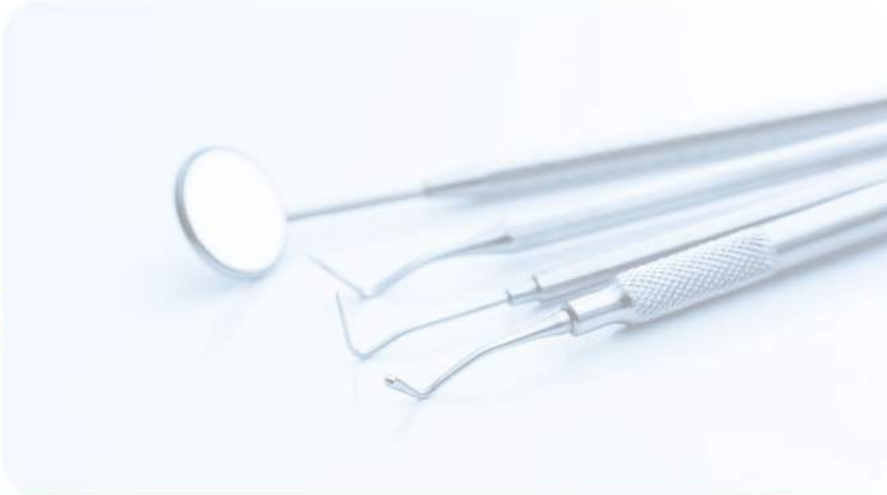


FOREWORD

Principal Director of Oral Health
Ministry of Health Malaysia

I would like to take this opportunity to thank all personnel of the Oral Health Programme for their contribution and commitment towards improving oral healthcare for the nation especially during the COVID-19 pandemic. 2021 has been a challenging year as the whole nation strove to adapt to new norms due to the pandemic. A lot has been learnt in handling and managing the delivery of oral healthcare during the pandemic and several adjustments have been made in preparation for the post-pandemic situation.

In line with the new norm, oral health promotion was conducted via new approaches. An oral health education materials workshop by social media content developers was conducted to improve skills in developing impactful oral health messages and education materials to the community. As a result, *Pendidikan Kesihatan Pergigian Dalam Talian* (PKPDT) modules were developed and distributed to schoolchildren instead of the usual face to face delivery method. In addition, all ceremonies were also held online in line with the movement restriction announcement by the government. The National Dental Icon Convention ceremony was held live through online platform with the theme "iGG Bersama Mencegah Kanser Mulut". The National-level Campaign on "Dental Check-ups at Least Once a Year" was also launched virtually in conjunction with the Oral Health Promotion Week on 8 July 2021. It was officiated by Kebawah Duli Yang Maha Mulia Seri Paduka Baginda Raja Permaisuri Agong, Tunku Hajah Azizah Aminah Maimunah Iskandariah with the theme "Ingat Hari Jadi, Ingat Doktor Gigi".

Aiming to increase awareness among all dental practitioners to prioritise patient safety and health, the first National Oral Health Patient Safety Seminar, Ministry of Health Malaysia was organised on 7 October 2021 thru a virtual platform via Facebook Live. The event was in conjunction with World Patient Safety Day 2021 with the theme "Patient Safety, Our Priority."

The airborne transmission of COVID-19 via aerosol has tremendously impacted the oral healthcare service delivery as most of dental procedures involved aerosol generating procedures (AGP). Compared to the pre-pandemic period, oral healthcare facilities are now better equipped with mitigation measures in place to reduce COVID-19 transmission. Patient attendance had slowly picked up, but the backlog of postponed appointment cases has resulted in the need for extended working hours and opening of clinics on weekends. Outreach programmes to schools, nurseries, Pusat Warga Emas, B40 and Orang Asli communities resumed during the last quarter of 2021. The tremendous effect of the COVID-19 pandemic has given impetus to re-orientate the oral healthcare service with the focus on instilling self-empowerment towards preventive and oral health promotion activities by the community. The rakyat needs to be aware of the responsibility for their own oral health and that the government efforts are there to support them.

Throughout the year, continuous effort was made to enhance the Tele-Primary Care – Oral Health Clinical Information System (TPC-OHCIS) system through the pilot initiative of Malaysian Health Data Warehouse (MyHDW) E-reporting V2.0 (Oral Health) System, Operating Theatre Management System project at Hospital Tuanku Jaafar Seremban and the pilot project of *Sistem Janji Temu Klinik Kementerian Kesihatan Malaysia* (SJTKKKM) at five (5) dental clinics in Selangor and Melaka. It is hoped that more be done to expedite the digitalisation of the oral healthcare service system for the benefit of the population. It is clearly seen that virtual communication, digital record keeping and online appointment are crucial in facilitating smooth service delivery during the pandemic as the new norm.

I would like to convey my heartfelt gratitude for the selfless dedication, tireless efforts and contribution of all personnel during these trying times in ensuring smooth delivery of oral healthcare for the rakyat; our "Keluarga Malaysia"

DR. NOORMI BINTI OTHMAN
PRINCIPAL DIRECTOR OF ORAL HEALTH
MINISTRY OF HEALTH MALAYSIA

Vision

of the Ministry of Health

A nation working together for better health

Mission

of the Ministry of Health

The mission of the Ministry of Health is to lead and work in partnership:

01

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

02

to ensure a high quality and healthcare system that is:
- equitable
- affordable
- efficient
- technologically appropriate
- environmentally adaptable
- customer centre
- innovative

03

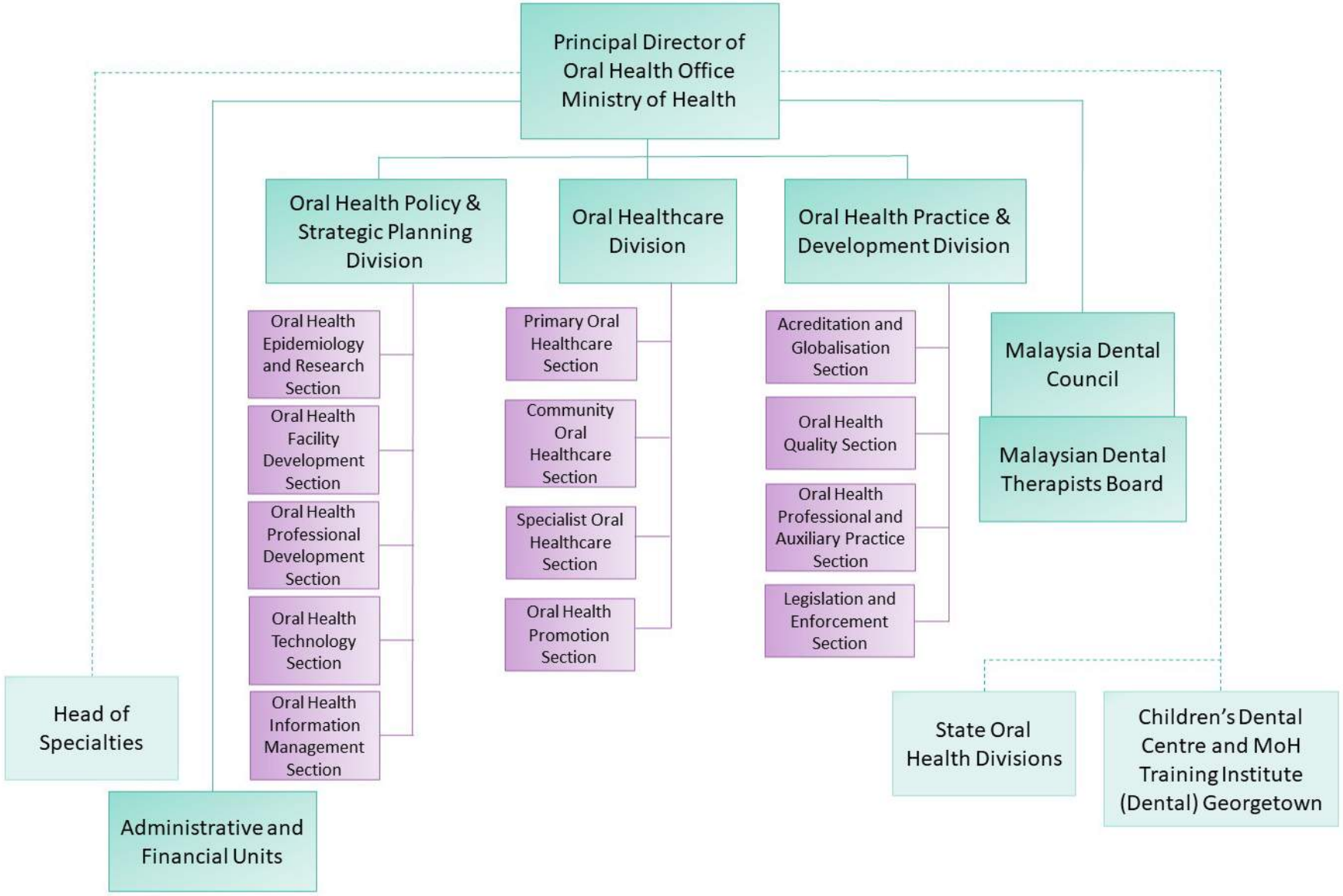
with emphasis on:
- professionalism, caring and teamwork value
- respect for human dignity
- community participation

OBJECTIVE
OF THE ORAL HEALTH PROGRAMME

To improve the oral health status of Malaysians through collaboration with stakeholders of public and private sectors in promoting oral healthcare, clinical prevention, treatment and rehabilitation with emphasis on identified priority groups, including marginalised and vulnerable populations in such a way that the oral health status of the people will continually be in conformity with the socio-economic progress of the country

ORGANISATION STRUCTURE

ORAL HEALTH PROGRAMME, MINISTRY OF HEALTH MALAYSIA



MANAGEMENT AND PROFESSIONAL STAFF (as of 1st Nov 2021)

PRINCIPAL DIRECTOR OF ORAL HEALTH'S OFFICE

Principal Director of Oral Health
Dr Noormi binti Othman

Policy Unit
Dr Mustaffa Jaapar

Director of Oral Health Policy and Strategic Planning Division
Dr Chia Jit Chie

Director of Oral Healthcare Division
Dr Fauziah binti Ahmad

Director of Oral Health Practice & Development Division
Dr Mazlina binti Mat Desa

Personal Assistant
Pn Hafizah binti Sadaka Dullah, Pn Faizah binti Omar,
Pn Noor Atika binti Yahya, Pn Nor Farahan binti Soyuti

ORAL HEALTH POLICY & STRATEGIC PLANNING DIVISION

ORAL HEALTH EPIDEMIOLOGY AND RESEARCH

Dr. Habibah Yacob @ Ya'akub, Dr. Nurulasmak Mohamed, Dr. Nur Syuhada Abu Bakar, Pn. Norpahzila Wati Minhad, En. Syahrilsyahrizal Mohamad

ORAL HEALTH INFORMATION MANAGEMENT

Dr. Natifah Che Salleh, Dr. Suhana Ismail , Dr. Siti Zainab Omar, Dr. Mohd Shukri Tolahah, Pn. Norjanah Mohd Nawi, Pn. Norliyana Mustaffa , En. Gauthama Dasa a/l Edwin

ORAL HEALTH PROFESSIONAL DEVELOPMENT

Dr. Azilina Abu Bakar, Dr. Siti Zuriana Mohd Zamzuri, Dr. Azliza Dato' Zabha, Dr. Noor Hasmin Mokthar, Dr. Yusmazatulina Yusoff, Dr. Nurul Salwa Che Abdul Rahim

ORAL HEALTH TECHNOLOGY

Dr. Maryana Musa, Dr. Aina Najwa Mohd Khairuddin

ORAL HEALTH FACILITY DEVELOPMENT

Dr. Norliza Ismail, Dr. Zubaidah Japri , Dr. Azzida Abd Aziz, Dr. Ahmad Syahir Ahmad Zu Safiuddin, En. Zainudin Abdul Majid

ORAL HEALTHCARE DIVISION

PRIMARY ORAL HEALTHCARE

Dr. Nurrul Ashikin Abdullah, Dr. Lily Laura Azmi, Dr. Siti Masnira Jamian, Pn. Jeyandra Ghandi a/p Chelliah

ORAL HEALTH PROMOTION

Dr. Salleh Zakaria, Dr. Doryalisa Zakaria, Dr. Muhammad Adib Jamil, Pn. Haziah Hassan, Pn. Norazizah Nordin , Pn. Siti Zainaliza Hashim

COMMUNITY ORAL HEALTHCARE

Datin Dr. Nazita Yaacob, Dr. Siti Nur Fatihah Abdul Halim, Dr. Siti Sarah Soraya Mohamad, Pn. Maimun Che Amin

SPECIALIST ORAL HEALTHCARE

Dr. Rapeah Mohd Yassin, Dr. Fasya Rima Mohd Nabori, Dr. Harathi a/p Dorairaja, Pn. Azirah Muhammad

ORAL HEALTH PRACTICE AND DEVELOPMENT DIVISION

ORAL HEALTH PROFESSIONAL AND AUXILIARY PRACTICE

Dr. Norashikin Mustapha Yahya, Dr. Mazura Mahat, Pn. Fatimah Rahman,
En. Roslan Murad, Pn. Norliza Jamalludin, Pn. Umi Khairul Abdul Kadir

ACCREDITATION AND GLOBALISATION

Datin Dr. Norinah Mustapha, Dr. Akmal Aida Othman,
Pn. Nurhuda Arnie Azizan

LEGISLATION AND ENFORCEMENT

Dr. Haznita Zainal Abidin, Dr. Khadijah Wahab,
Dr. Rosmaria Deraman, Dr. Akmarliza Abdullah, Pn. Nora Abdullah

ORAL HEALTH QUALITY

Dr Sheila Rani a/p Ramalingam, Dr. Nurul Aliya Norain,
Dr. Yap Chia Wei, Dr. Norhazimah Khairuddin, Pn. Siti Aisyah Jaafar

MANAGEMENT AND ADMINISTRATIVE

En. Norazlan Ithnin, Pn. Suzalina Mohd Rosly, Pn. Jamilah Sha'ari, Pn. Atika Wahit, Pn. Nurul 'Amilin Balawi, Pn. Salasiya Atli, Pn. Rasenah Jamari @ Haji Asmuni, Pn. Haslina Abdul Mutalip, En. Shahrun Naim Saad, En. Muhammad Ariff Mat Jusoh, Pn. Noramirah Abd Razak, Pn. Norzizah Salleh, Pn. Sarihasfara Hassannusi, Pn. Siti Norzarim Siah Zainon, Pn. Nazifah Zawani Mohd Nasir, Pn. Wan Ismawati Wan Yusoff, En. Mohd Razwin Safrudin, En. Ismail Majid, En. Fadilla Hashim, En. Mohd Hairi Hashim

HIGHLIGHTS OF 2021

HIGHLIGHTS OF 2021

International and Regional Collaboration in Oral Health

Japan-Malaysia Oral Health Seminar

On the 21 January 2021, The Malaysia-Japan Oral Healthcare Seminar 2021 with the theme of "Healthy Life Through Oral Health" was conducted virtually via Zoom-Online Platform. The Seminar was organized by the Oral Health Programme (OHP) Ministry of Health (MOH), the Ministry of Economy, Trade and Industry (METI), Japan, in cooperation with the Association for Overseas Technical Cooperation and Sustainable Partnerships (AOTS). This seminar was attended by 200 oral health personnels comprise of dental specialists, dental officers and dental therapists.

At the seminar, experts from Malaysia and Japan in the field of dentistry made virtual presentations to participants on the importance of oral health care. The Japanese speakers shared experiences on oral health promotion, in particular the success of their 80:20 campaign; oral health care strategies, services and outcomes; and community empowerment programme for lifelong oral health promotion in Japan. Meanwhile OHP shared Malaysia's oral health care issues and challenges. Japanese Companies also participated in the seminar and provided information on Japanese products for oral care.

Development of National Oral Health Policy (NOHPoL) and National Oral Health Plan (NOHP) 2021-2030

Oral Health Programme has taken the initiative to develop the NOHPol and the NOHP 2021-2030 in line with the agendas of the 12th Malaysia Plan (12MP): Strategies to Streamline Health Care Services by Introducing Health Care Policy, the Strategic Plan of the Ministry of Health (MOH) Malaysia 2021 – 2025 and *Agenda Nasional Malaysia Sihat* (ANMS). The development of NOHPoL and NOHSP 2022-2025 are also seen as the Malaysia's effort to support the World Health Organization's (WHO) Resolution on Oral Health in addressing key risk factors for oral diseases as an integral part of the non-communicable disease agenda and the Universal Health Coverage programme (UHC). This initiative was developed with the aim of creating a national agenda that unites all relevant stakeholders not limited to oral health to work together towards improving the oral health status and quality of life of the *Keluarga Malaysia*.

The development of NOHPol and NOHP 2021-2030 began in 2019 with a series of engagement sessions with representatives from dental fraternities, public and private agencies and non-governmental organisations. The draft concept of NOHPol and NOHP were presented and approved by both the Special Meeting of the Director General of Health; and the Policy and Planning Committee Meeting (*Jawatankuasa Dasar dan Perancangan Kementerian Kesihatan*) in 2021. It was subsequently presented and approved by the *Mesyuarat Jawatankuasa Perancang dan Pembangunan Negara* on 13 December 2021. The Cabinet Memorandum paper for NOHPol and NOHP 2021 - 2030 is currently being finalised for Cabinet approval.

Incorporation of Oral Health Agenda in National and MOH Strategic Plans

Malaysia National Health Agenda (ANMS)
ANMS is a lifelong health package for the people through a culture of healthy lifestyle and environmental sustainability that supports healthy living. OHP has strived to integrate elements of oral health promotion with overall health through three (3) cores areas namely:

1. Promotion of healthy living culture - to cultivate a healthy living culture by improving health literacy eg. promoting visits to dental clinics at least once a year;
2. Health wellness services - to facilitate access to health wellness facilities and services through mobile dental teams, Wellness on Wheels Programme together with the Mobile Dental Clinic for health screening; and
3. Self-Health Control – for empowerment in self-health care for disease prevention. For example, self-examination; Effective Tooth Brushing Training, Oral Health Advocacy by Dental Icon (iGG) programme as well as involving other volunteers through "Whole of Government and Whole of Society Approach";

Oral health is an indicator of the overall health of the body, "Let's put the mouth back in the body".

MOH Strategic Plan 2021-2025
This strategic plan outlines the MOH's strategic plan for 2021-2025.

Integration of the Oral Health Programme
Among the major oral health agendas under the MOH Strategic Plan are as follows:

1. Developing the NOHPoL and the NOHP 2021-2030.
2. Developing Non-Hospital Based Dental Specialist Centres in each zone.
3. Intensifying cooperation and Integration of Services between the Public and Private Sectors for dental examinations and promotion to private kindergartens.
4. Strengthening Health Care Programme for elderly through oral health screening as part of the overall health screening towards maintaining at least 20 teeth for well-being and a better quality of life.
5. Expanding the Hospital-Based Cluster Specialist services in the States of Perak, Sabah, Johor and Melaka and Non-Hospital Based Cluster Specialist services in Kedah, Perak and Sabah.
6. Expanding screening for oral potentially malignant disorders and oral cancer to all patients aged 18 and older in primary dental clinics and regular community outreach projects.
7. Strengthening health promotion and healthy lifestyle practices through:
    - iGG to create community awareness in oral health;
    - Improving *Kesihatan Oral Tanpa Amalan Merokok* (KOTAK) programme coverage
8. Improving public water fluoridation programme in Sabah, Sarawak, Perak and FT Labuan.
9. Implement national Electronic Medical Record (EMR) initiatives towards the development of Lifetime Health Record (LHR) to achieve an Integrated Health Information System.

MOH Digitalization Strategic Plan 2021-2025

The MOH Digitalization Strategic Plan 2021-2025 (PSP MOH 2021-2025) provides direction towards an excellent digital health service in MOH. Essentially, OHP aims to achieve an excellent digital oral health service through relevant PSP MOH 2021-2025 Strategic Thrust, Strategies and Programme that includes the expansion of Teleprimary Care-Oral Health Clinical Information System (TPC-OHCIS) under the National EMR Project.

Introduction of Dental Act 2018

The Dental Regulations 2021 were approved by the Minister of Health on 3 December 2021 and gazetted as P.U. (A) 443/2021 on 7 December 2021. Thus, a media statement was made by the Minister of Health Malaysia to inform that the Dental Act 2018 [Act 804] will come into force on 1 January 2022 except for three (3) provisions which will come into force on 1 January 2025. This Act will replace the Dental Act 1971 [*Act 51*] which has successfully regulated the practice in the field of dentistry for 50 years.

Development of Policy and Direction-setting for Specialist Oral Healthcare Services

The development of a Dental Specialties Master Plan 2021-2030 commenced in September 2020 to chart the direction of MoH specialist oral healthcare services. This process continued into 2021 with the involvement of all MoH dental specialities and the State Deputy Directors of Health (Dental). Gap analysis was carried out to explore and develop creative options towards the transformation of specialist oral healthcare services. The proposed Master Plan was approved at the OHP level in December 2021 and is expected to be presented to MoH top management in 2022. The implementation of this comprehensively developed strategies and initiatives will help ensure more equitable specialist oral healthcare services for the people.

Public-Private Sector Initiative

Toddler Programme

A new initiative to increase toddler coverage through collaboration with external agencies was introduced in 2021. *Garis Panduan Perkhidmatan Kesihatan Pergigian Toddler: Kolaborasi Bersama Agensi Luar* was approved for implementation in all states on 1 April 2021. An online briefing was held on 9 March 2021 and attended by 42 representatives from various agencies including public and private universities, private dental practitioners, Malaysian Dental Association, Social Welfare Department, *Persatuan Pengasuh TASKA*, Malaysian Armed Forces and industry players. This briefing was held to provide information to external agencies regarding implementation procedures of this collaboration project as well as the expected outcomes of this project.

Launching of National-Level Mouth Cancer Awareness Week

Mouth Cancer Awareness Week 2021 (MCAW 2021) was held from 7 - 13 November 2021 with the theme **#JomCheckMulut**. This event was organised by Oral Cancer Research & Coordinating Centre (OCRCC), Faculty of Dentistry and University of Malaya in collaboration with Oral Health Programme along with 20 other agencies.

At the national level, MCAW 2021 was launched virtually by the Principal Director of Oral Health, YBrs. Dr. Noormi binti Othman on 7 November 2021. MCAW 2021 *Virtual Run/Walk*, TikTok/*InstaReels* video competition and colouring competition were among the highlights in conjunction with the launch.

At the state level, launching ceremony, oral cancer screening and various promotional activities were successfully conducted. Promotional activities using Facebook Live platform were shared nationally throughout the week. A total of 1,368 awareness exhibitions, attended by 37,270 participants and 2,697 talks to 31,832 individuals were successfully conducted.

Launching of National-Level Awareness Campaign on Dental Check-Ups

In 2021, the virtual launching of National-Level Awareness Campaign on Dental Check-ups was held on 8 July 2021 using Facebook Live platform. The grand virtual launching event with the theme "Ingat Hari Jadi, Ingat Doktor Gigi" was officiated by Kebawah Duli Yang Maha Mulia Seri Paduka Baginda Raja Permaisuri Agong Tunku Hajah Azizah Aminah Maimunah Iskandariah Binti Almarhum Al-Mutawakkil Alallah Sultan Iskandar Al-Haj. The campaign aims to increase the utilisation of oral health services especially by young adults, adults and senior citizens. Pahang Oral Health Division as the co-organiser for this year's event provided the much-needed technical support for the launching as well as organised a virtual run competition. At the national level, pre- launch activities such as IGTV and infographic competitions received tremendous response and participation from all over the country. Meanwhile, various promotion and education activities continued after the launching in all the States.

Tele-dentistry Initiative

MOH and MAMPU successfully developed the *Sistem Janji Temu Klinik Kementerian Kesihatan Malaysia* (SJTKKM) which enabled MOH clients to book appointments via on-line for oral health care and piloted at five (5) health/dental clinics in Selangor and Melaka. Following that, the system was officially implemented and made available for MOH clients to initiate appointment booking on 11 March 2021.

MOH and MAMPU also collaborated in the Proof of Concept (PoC) of Virtual Dental Clinic in four (4) pilot dental clinics in FT KL & Putrajaya, which is expected to Go-Live via the Google Work Space platform in 2022. Towards this end, an assessment of the infra ICT readiness of the respective clinics was made during site visits in October and November 2021.

Patient Safety and Health Seminar

In conjunction with World Patient Safety Day 2021 (WPSD 2021), OHP successfully organised and conducted an inaugural patient safety seminar on 7 October 2021 on a virtual platform via Facebook Live. In line with WPSD 2021 theme "Safe maternal and newborn care", OHP conducted this event with the theme; "Patient Safety, Our Priority" aimed at increasing awareness amongst all dental practitioners about prioritising patient safety especially when caring for mothers and their vulnerable newborns.

Achievements in Innovation and Other Awards

MOH Innovation Award (AIKKM) 2021 was successfully conducted entirely online from 21-26 October 2021. There were four (4) categories of innovation in this event, namely; product, service, process and technology.

The organising committee comprised of Oral Health Programme as main secretariat in collaboration with the Management Services Division, Family Health Development Division, Policy & International Relations Division and Information Management Division.
Winners from OHP in the "Product Category" include:

i. Project "KOJAU" by *Pejabat Kesihatan Pergigian Daerah* Tampin, Negeri Sembilan (Second Place)
ii. Project "Foot Operated Eco Friendly Suction" by *Klinik Pergigian Durian Tunggal,* Alor Gajah, Melaka (3rd Place)

In addition, OHP is proud to acknowledge the other seven (7) dental innovation projects below which were shortlisted and chosen out of 44 innovation projects to compete in the final stage of AIKKM 2020:

Product Innovation Category

- iBOX – *Klinik Pergigian Taman Medan,* Petaling Jaya, Selangor
- Trimming Box – *Klinik Pergigian Lanang, Pejabat Pergigian Bahagian* Sibu, Sarawak
- Postex Care – *Klinik Pergigian* Mentakab*,* Pahang
- Trimoshield – *Klinik Pergigian* Kota Samarahan, Sarawak
- Dentolit – *Pejabat Kesihatan Pergigian Daerah* Batang Padang, Perak
- D'Hygiene Box – *Pejabat Kesihatan Pergigian Daerah* Baling*,* Kedah

Process Innovation Category

- Portable Waterline Systems (PWLS) – *Pejabat Kesihatan Pergigian Daerah* Yan, Kedah.

RESOURCE MANAGEMENT

FINANCIAL RESOURCE MANAGEMENT

Budget Management

In 2021, OHP received a total operational allocation of RM978,188,800 which was 1.20% less as compared to allocation received in 2020 **(Table 1).**

Table 1:
Adjusted Operational Allocation, Oral Health Programme, 2010-2021

Year	Emolument (RM)	Services (RM)	Asset (RM)	Total (RM)
2010	365,771,400.00	72,337,947.00	1,649,159.00	439,758,506.00
2011	425,297,450.00	92,502,300.00	3,350,000.00	521,149,750.00
2012	433,309,400.00	92,914,975.00	5,952,027.00	532,176,402.00
2013	517,050,700.00	94,499,420.00	5,678,281.00	617,228,401.00
2014	591,410,587.00	99,517,656.00	40,868,344.00	731,796,587.00
2015	664,549,726.00	105,619,709.00	36,521,728.00	806,691,163.00
2016	764,288,702.00	101,138,772.00	-	865,427,474.00
2017	815,182,671.00	98,947,857.00	-	914,130,528.00
2018	808,421,900.00	101,636,285.00	-	910,058,185.00
2019	843,683,100.00	104,483,376.00	-	948,166,476.00
2020	883,980,900.00	105,993,700.00	-	989,974,600.00
2021	906,813,800.00	71,735,000.00	-	978,188,800.00

Source: Account Division, MOH

Overall, in 2021 OHP had over spent i.e. 109.44 percent of the allocated budget **(Table 2)**. Expenditures under the Existing Policy (*Dasar Sedia Ada)*, included;

- 040100 Pengurusan Kesihatan Pergigian (Administration Oral Healthcare)
- 040200 Kesihatan Pergigian Primer (Primary Oral Healthcare)
- 040300 Kesihatan Pergigian Masyarakat (Community Oral Healthcare)
- 040400 Kesihatan Pergigian Kepakaran (Specialist Care Oral Healthcare)

Table 2:
Adjusted Budget Allocation & Expenditures, Oral Health Programme MOH, 2021

Activity	Programme Code	Adjusted Allocation (RM)	Final Expenditures (RM)	% Final Expenditures
Administration Oral Healthcare	040100	100,687,338.38	109,871,820.10	109.12%
Primary Oral Healthcare	040200	646,674,049.56	708,740,504.22	109.60%
Community Oral Healthcare	040300	49,466,934.79	57,297,680.02	115.83%
Specialist Care Oral Healthcare	040400	156,641,799.80	167,562,833.37	106.97%

Activity	Programme Code	Adjusted Allocation (RM)	Final Expenditures (RM)	% Final Expenditures
TOTAL	**040000**	**953,470,122.53**	**1,043,472,837.71**	**109.44%**

Source: Financial Unit, Oral Health Programme, MOH 2021

Financial Management, Oral Health Programme

In 2021, OHP received adjusted allocation expenditure of RM2,085,485.45:

- Operational Expenditure – RM1,426,590.00
- Development Expenditure – RM658,895.45

Operational Expenditure was RM1,376,578.10 (96.49 percent) **(Table 3a)** and Development Expenditure was RM658,833.47 **(Table 3b)**.

Table 3a:
Adjusted Budget Allocations and Expenditures for Operational, Oral Health Division, MOH, 2021

Activity	Activity Code	Adjusted Allocation (RM)	Final Expenditures (RM)	% Final Expenditures to Initial Allocations
Management of Oral Health	040100	1,238,740.00	1,194,545.20	96.43%
Primary Oral Healthcare	040200	18,065.00	18,060.00	99.97%
Community Oral Healthcare	040300	114,065.00	114,053.75	99.99%
Specialist Care Oral Healthcare	040400	25,900.00	25,899.15	99.99%
MOH Innovation Award	010100	29,820.00	24,020.00	80.55%
Sub Total		**1.426,590.00**	**1,376,578.10**	**96.49%**

Source: Financial Unit, Oral Health Programme, MOH 2021

Table 3b:
Adjusted Budget Allocations and Expenditures for Development, Oral Health Division, MOH, 2021

Activity	Activity Code	Adjusted Allocation (RM)	Final Expenditures (RM)	% Final Expenditures to Initial Allocations
In-service Training	00105	224,929.45	224,869.17	99.97%
Research & Development (NOHSA)	00500	59,766.00	59,764.30	99.99%
Upgraded Medical Equipment & Non-Medical Equipment	01100	374,200.00	374,200.00	100.00%
Sub Total		**658,895.45**	**658,833.47**	**99.98%**
Total		**2,085,485.45**	**2,035,411.57**	**97.60%**

Source: Financial Unit, Oral Health Programme, MOH 2021

Monitoring State Finances

OHP also monitored states' allocations and expenditures. In 2021, under *Dasar Sedia Ada,* Selangor state received the highest allocation, followed by Sarawak and Sabah. A total of 11 states or institutions spent more than their initial allocation due to the increase in emoluments **(Table 4)**.

Table 4:
Adjusted Budget Allocations and Expenditures under Existing Policies by State and Institution, 2021

State	Adjusted Allocation (RM)	Final Expenditure (RM)	% Final Expenditure to Initial Allocation
Perlis	19,216,472.96	20,761,752.30	108.04%
Kedah	65,648,338.13	70,626,949.67	107.58%
Pulau Pinang	54,980,599.11	57,942,676.31	105.39%
Perak	85,420,674.00	91,415,585.68	107.02%
Selangor	95,062,905.57	101,526,734.49	106.80%
Negeri Sembilan	54,605,387.86	59,350,506.15	108.69%
Melaka	39,077,169.52	43,695,411.35	111.82%
Johor	76,543,236.43	85,295,184.19	111.43%
Pahang	71,087,282.99	80,365,914.27	113.05%
Terengganu	65,961,514.66	71,322,465.10	108.13%
Kelantan	70,939,297.86	77,101,469.94	108.69%
Sabah	78,743,885.21	92,194,412.14	117.08%
Sarawak	99,652,893.75	109,200,371.51	109.58%
FT Kuala Lumpur & Putrajaya	53,176,592.35	56,986,999.36	107.17%
FT Labuan	3,978,259.62	4,593,949.74	115.48%
OHP, MOH	12,460,285.46	13,978,161.75	112.18%
Pusat Pergigian Kanak-Kanak dan Institut Latihan Kementerian Kesihatan Malaysia (Pergigian) (PPKK & KLPM)	70,297.74	70,297.74	100.00%
Hospital Kuala Lumpur (HKL)	6,751,768.30	6,950,735.01	102.95%
Institute Medical Research (IMR)	44,323.00	44,323.00	100.00%
Institut Kanser Negara (IKN)	48,938.01	48,938.01	100.00%
TOTAL	**953,470,122.53**	**1,043,472,837.71**	**109.44%**

Source: Financial Unit, Oral Health Programme, MOH 2021

HUMAN RESOURCE MANAGEMENT

A successful health system depends on the provision of effective, efficient, accessible, sustainable and high quality services by a workforce that is sufficient in number, appropriately trained and equitably distributed.

Dental Officer

There was an increase in the number of permanent posts and dental officers serving in MOH as compared with 2020. The percentage of filled posts was higher in Peninsular Malaysia compared with East Malaysia whilst Sabah has the highest number of vacant posts for officers **(Table 5 and 6)**.

Table 5:
Status of Dental Officer Posts, 2016 to 2020

Year	P	F	% F
2017	3,839	3,418	89.0
2018	3,839	3,095	80.6
2019	3,847	3,051	79.3
2020	3,866	3,499	90.5
2021	3,863	3,511	90.9

P = Posts F= Filled
Source: Oral Health Programme, MOH

Table 6:
Status of Dental Officer Posts at State/ Hospital/Institution, 2021

State/ Hospital/ Institutions	P	F	% F
Perlis	80	69	86.3
Kedah	265	247	93.2
Pulau Pinang	193	180	93.3
Perak	323	302	93.5
Selangor	395	369	93.4
FT Kuala Lumpur & Putrajaya	207	203	98.1
Negeri Sembilan	221	214	96.8
Melaka	187	162	86.6
Johor	392	349	89.0
Pahang	356	315	88.5
Terengganu	287	261	90.9
Kelantan	264	252	95.5
Total Peninsular Malaysia	**3,170**	**2,923**	**92.2**
Sabah	278	230	82.7
Sarawak	332	279	84.0
FT Labuan	13	11	84.6
Total East Malaysia	**623**	**520**	**83.5**
Hospital Kuala Lumpur (HKL)	23	23	100.0
Institut Kanser Negara (IKN)	2	2	100.0

State/ Hospital/ Institutions	P	F	% F
Hospital Tuanku Azizah (HTA)	11	10	90.9
Oral Health Programme (OHP)	34	33	97.1
Total Hospital /Institution	**70**	**68**	**97.1**
MALAYSIA	**3,863**	**3,511**	**90.9**

P = Posts F=Filled
Source: Oral Health Programme, MOH 2021

Starting from 2017, all new dental officers in MOH were appointed on contract basis for a period of three (3) years. The number of dental officers appointed in 2021 was higher than the previous year **(Table 7)**. The distribution of contract dental officers as shown in **Table 8.**

Table 7:
New Dental Officers Appointed on Contract Basis in MOH

Cohort	Year				
	2017	2018	2019	2020	2021
First cohort	526	708	566	503	516
Second cohort	441	286	390	260	539
Third cohort	362	130	217	101	48
TOTAL	**1,329**	**1,124**	**1,173**	**864**	**1,103**

Source: Oral Health Programme, MOH

Table 8:
Distribution of Contract Dental Officers, 2017 to 2021

State/Institution	Year					Total
	2017	2018	2019	2020	2021	
Perlis	33	36	26	9	26	130
Kedah	99	71	81	55	79	385
Pulau Pinang	93	82	46	51	68	340
PPKK & ILKKM	0	0	0	0	0	0
Perak	112	69	112	74	76	443
Selangor	168	132	129	138	101	668
FT Kuala Lumpur & Putrajaya	82	65	72	44	42	305
Negeri Sembilan	63	77	80	63	103	386
Melaka	83	62	60	44	69	318
Johor	185	127	124	90	131	657
Pahang	74	92	97	69	74	406
Terengganu	92	107	88	75	93	455
Kelantan	83	87	107	49	98	424
Total Peninsular	**1,167**	**1,007**	**1,022**	**761**	**960**	**4,917**
Sabah	60	56	93	50	68	327
Sarawak	92	54	44	52	68	310
FT Labuan	10	7	14	1	7	39
Total East Malaysia	**162**	**117**	**151**	**103**	**143**	**676**

State/Institution	Year					Total
	2017	2018	2019	2020	2021	
MALAYSIA	**1,329**	**1,124**	**1,173**	**864**	**1,103**	**5,593**

Source: Oral Health Programme, MOH

As of December 2021, a total of 891 best talents from the first six (6) cohorts accepted permanent basis appointment into the service after their two (2) year contract period ended **(Table 9)**.

Table 9:
Contract Dental Officers Appointed on Permanent Basis in MOH

Cohort	Number Eligible for appointment	Permanent Appointment			
		First Exercise	Second Exercise	Total	Percentage
First cohort (9 January 2017)	301	161	20	181	60
Second cohort (22 May 2017)	241	142	17	159	66
Third cohort (13 November 2017)	235	128	13	141	60
First cohort (26 February 2018)	521	243	13	256	49
Secod cohort (16 July 2018)	216	108	-	108	50
Third cohort (15 October 2018)	116	46	-	46	40
TOTAL	**1,630**	**828**	**63**	**891**	**55**

Source: Oral Health Programme, MOH

Attrition of Dental Officers

In 2021, a total of 1,274 dental officers joined MOH on permanent and contract basis while 551 left the service due to various reasons, hence a total net gain of 723 officers **(Table 10)**.

Table 10:
Nett Gain/Loss of Dental Officers in MOH, 2017 to 2021

Reasons	Year				
	2017	2018	2019	2020	2021
New Intake	1,329	1,124	1,334	1,414	1,274
• Retired (Compulsory)	16	13	18	24	5
• Retired (Optional)	14	12	5	5	2
• Resigned	237	414	487	347	475
• Released with Permission	0	0	0	0	0
• Other Reasons	0	4	2	2	69
Total	**267**	**443**	**512**	**378**	**551**
Net Gain/Loss	**1,062**	**681**	**822**	**1,036**	**723**

Source: Oral Health Programme, MOH

Dental Specialist

The number of clinical dental specialists increased from 399 (2020) to 427 (2021). However, the number of Dental Public Health Specialists remains the same due to lack of new dental public health graduates entering the service **(Table 11)**.

Table 11:
Number of Dental Specialists in MOH, 2017 to 2021

Year	Hospital-Based					Non-Hospital-Based				Total
	Oral & Maxillo-facial Surgery	Paediatric Dentistry	Oral Pathology & Oral Medicine	Special Needs Dentistry	Forensic Odontology	Orthodontic	Periodontics	Restorative Dentistry	Dental Public Health	
2017	75	38	15	4	1	64	36	28	90	**351**
2018	77	45	14	5	1	69	42	31	85	**369**
2019	81	46	15	6	2	70	44	37	80	**381**
2020	84	49	15	7	3	80	50	40	71	**399**
2021	90	54	17	7	3	81	58	46	71	**427**

(Exclude dental specialists undergoing gazzetement)
Source: Oral Health Programme, MOH

The number of clinical specialist posts is currently inadequate to accommodate the increasing number of clinical specialists in the service. While the number of vacant posts for Dental Public Health (DPH) has further increased due to the high attrition **(Table 12)**. The distribution of posts and specialists is shown in **Table 13**.

Table 12:
Status of Dental Specialist Posts, 2016 to 2020

Year	Clinical Dental Specialist			DPH Specialist		
	P	F	% F	P	F	% F
2017	244	261	106.9	94	90	95.7
2018	244	284	116.4	94	85	90.4
2019	244	301	123.4	94	80	85.1
2020	361	328	90.9	97	71	73.2
2021	329	404	122.8	96	77	80.2

P = Posts F=Filled
Source: Oral Health Programme, MOH

Table 13:
Dental Specialist Posts at State/ Hospital/ Institution, 2021

State/ Hospital/ Institution	Clinical Dental Specialist			DPH Specialist		
	P	F	% F	P	F	%F
4.0 Activity - Oral Health Programme						
Perlis	6	7	116.7	2	1	50.0
Kedah	20	25	125.0	4	3	75.0
Pulau Pinang	22	25	113.6	4	3	75.0

State/ Hospital/ Institution	Clinical Dental Specialist			DPH Specialist		
	P	F	% F	P	F	%F
Perak	27	35	129.6	6	5	83.3
Selangor	51	52	102.0	10	7	70.0
FT Kuala Lumpur & Putrajaya	27	30	111.1	5	3	60.0
Negeri Sembilan	21	22	104.8	4	3	75.0
Melaka	16	18	112.5	4	3	75.0
Johor	30	39	130.0	7	5	71.4
Pahang	22	28	127.3	4	4	100.0
Terengganu	14	21	150.0	4	5	125.0
Kelantan	21	26	123.8	6	4	66.7
Total Peninsular	**277**	**328**	**118.4**	**60**	**46**	**76.7**
Sabah	19	29	152.6	5	4	80.0
Sarawak	18	31	172.2	3	3	100.0
FT Labuan	0	0	0.0	0	0	0.0
Total East Malaysia	**37**	**60**	**162.2**	**8**	**7**	**87.5**
HKL	8	9	112.5	0	0	0.0
IKN	2	1	50.0	0	0	0.0
HTA	5	6	120.0	0	0	0.0
Oral Health Programme	0	0	0.0	28	24	85.7
Total Hospital & Institution	**15**	**16**	**106.7**	**28**	**24**	**85.7**
MALAYSIA	**329**	**404**	**122.8**	**96**	**77**	**80.2**
Other Programme Activity (1.0 Pengurusan and 6.0 NIH)						
PPKK & ILKKM	1	1		3	1	
NIH/IMR	3	4		0	0	
NIH/CRC	1	1		0	0	

P = Posts F = Filled
Source: Oral Health Programme, MOH

Attrition of Dental Specialist

A total of 37 dental officers were gazetted as specialist in 2021 whilst 11 officers left the service due to various reasons; hence a net gain of 26 specialists. Net gain and losses of dental specialist from 2017 to 2021 is shown in **Table 14**.

Table 14:
Gazettement and Attrition of Dental Specialist, 2017 to 2021

Gazetted / Attrition	2017	2018	2019	2020	2021
Gazetted as Specialist	51	43	30	32	37
Attrition					
Retired (Compulsory)	12	10	15	19	6
Retired (Optional)	6	4	1	2	1
Resigned/ Released with Permission	1	10	11	1	3
Other Reasons	0	2	1	2	1
Total	**19**	**26**	**28**	**24**	**11**
Net Gain/Loss	**32**	**17**	**2**	**8**	**26**

Source: Oral Health Programme, MOH

Dental Auxilliaries and Support Staff

In 2021, more than 90 percent of permanent posts for dental auxiliaries and support staff has been filled **(Table 15).** Almost all posts in Sabah, Sarawak and FT Labuan have been filled as compared to Peninsular Malaysia**.** Distribution of posts and auxilliaries is shown in **Table 16**.

Table 15:
Status of Dental Auxilliaries Posts, 2021

Category	P	F	
		No.	Percentage
Dental Therapist	2,983	2,830	94.9
Dental Technologist	1,042	981	94.1
Dental Surgery Assistant	4,353	4,092	94.0
TOTAL	**8,378**	**7,903**	**94.3**
Support Staff	2,632	2,385	90.6
TOTAL	**11,010**	**10,288**	**93.4**

P = Posts F=Filled
Source: Oral Health Programme, MOH 2021

Table 16:
Status of Dental Auxilliaries Posts at State / Hospital /Institution, 2021

State/ Hospital/ Institution	Dental Therapist			Dental Technologist			DSA		
	P	F	% F	P	F	% F	P	F	% F
4.0 Activity - Oral Health Programme									
Perlis	62	61	98.4	23	21	91.3	97	86	88.7
Kedah	184	173	94.0	72	67	93.1	256	253	98.8
Pulau Pinang	182	177	97.3	43	43	100.0	266	248	93.2
Perak	250	240	96.0	86	83	96.5	369	354	95.9
Selangor	261	236	90.4	105	96	91.4	449	405	90.2
FT Kuala Lumpur & Putrajaya	146	135	92.5	51	49	96.1	265	251	94.7
Negeri Sembilan	141	134	95.0	59	57	96.6	233	219	94.0
Melaka	118	106	89.8	41	40	97.6	213	202	94.8
Johor	203	180	88.7	81	65	80.2	383	334	87.2
Pahang	212	202	95.3	68	63	92.6	354	322	91.0
Terengganu	160	158	98.8	79	76	96.2	305	298	97.7
Kelantan	205	199	97.1	90	81	90.0	285	257	90.2
Total Peninsular	**2,124**	**2,001**	**94.2**	**798**	**741**	**92.9**	**3,475**	**3,229**	**92.9**
Sabah	382	376	98.4	104	101	97.1	364	358	98.4
Sarawak	435	415	95.4	124	124	100.0	438	435	99.3
FT Labuan	15	14	93.3	3	3	100.0	16	16	100.0
Total East Malaysia	**832**	**805**	**96.8**	**231**	**228**	**98.7**	**818**	**809**	**98.9**
HKL	5	5	100.0	7	7	100.0	39	36	92.3
IKN	0	0	0.0	0	0	0.0	2	2	100.0

State/ Hospital/ Institution	Dental Therapist			Dental Technologist			DSA		
	P	F	% F	P	F	% F	P	F	% F
HTA	6	4	66.7	3	3	100.0	19	16	84.2
Oral Health Programme	16	15	93.8	3	2	66.7	0	0	0.0
Total Hospital, Programme & Institution	**27**	**24**	**88.9**	**13**	**12**	**92.3**	**60**	**54**	**90.0**
MALAYSIA	**2,983**	**2,830**	**94.9**	**1042**	**981**	**94.1**	**4,353**	**4,092**	**94.0**
Other Programme Activity (1.0 - Pengurusan and 6.0 - NIH)									
Bhg. Perancang & Pembangunan	1	1	100	0	0	0	0	0	0
PPKK & ILKKM	25	19	76.0	8	8	100	23	18	78.2
NIH/IMR	0	0	0	0	0	0	2	2	100

P = Posts F = Filled DSA = Dental Surgery Assistant
Source: Oral Health Programme, MOH 2021

Starting March 2019, all dental auxilliary trainees graduated from *Institut Latihan (Pergigian)* KKM, Penang were recruited on contract basis for a period of [(two (2) + two(2)] years. A total of 195 Dental Surgery Assistants (DSAs) in two (2) cohorts has been appointed respectively in 2021. However, none of Dental Technologist has been appointed on contract basis since none graduated from ILKKM in 2021 **(Table 17)**. Distribution of contract Dental Surgery Assistants and Dental Technologists is shown in **Table 18** and **19**.

Table 17:
Contract Dental Auxilliaries in MOH, 2019 to 2020

Cohort	Dental Technologist			Dental Surgery Assistant		
	2019	2020	2021	2019	2020	2021
First cohort	29	42	No appointment	124	138	103
Second cohort	-	15		123	133	92
TOTAL	**29**	**57**		**247**	**271**	**195**

Source: Oral Health Programme, MOH

Table 18:
Distribution of Contract Dental Surgery Assistants, 2019 to 2021

State / Institution	2019		2020		2021		Total
	Cohort 1 (18.03.2019)	Cohort 2 (07.01.2019)	Cohort 1 (13.01.2020)	Cohort 2 (15.07.2020)	Cohort 1 (15.03.2021)	Cohort 2 (15.07.2021)	
Perlis	2	2	0	1	1	0	6
Kedah	4	7	5	4	8	10	38
Pulau Pinang	4	0	4	1	4	3	16
PPKK & ILKKM	1	0	0	2	0	1	4
Perak	5	6	2	5	2	0	20
Selangor	19	23	19	22	26	18	127

State / Institution	2019		2020		2021		Total
	Cohort 1 (18.03.2019)	Cohort 2 (07.01.2019)	Cohort 1 (13.01.2020)	Cohort 2 (15.07.2020)	Cohort 1 (15.03.2021)	Cohort 2 (15.07.2021)	
FT Kuala Lumpur & Putrajaya	5	4	9	9	4	6	37
Negeri Sembilan	15	12	10	20	12	8	77
Melaka	9	11	13	7	2	3	45
Johor	20	26	32	23	22	18	141
Pahang	4	2	6	8	8	13	41
Terengganu	6	4	20	14	0	2	46
Kelantan	14	16	15	17	10	9	81
Total Peninsular	**108**	**113**	**135**	**133**	**99**	**91**	**679**
Sabah	4	2	0	0	0	0	6
Sarawak	8	5	0	0	1	0	14
FT Labuan	1	1	3	0	1	1	7
Total East Malaysia	**13**	**8**	**3**	**0**	**2**	**1**	**27**
HKL	3	2	0	0	1	0	6
IKN	0	0	0	0	1	0	1
HTA	0	0	0	0	0	0	0
Total Hospital & Institution	**3**	**2**	**0**	**0**	**2**	**0**	**7**
MALAYSIA	**124**	**123**	**138**	**133**	**103**	**92**	**713**

Source: Oral Health Programme, MOH

Table 19:
Distribution of Contract Dental Technologists, 2019 to 2021

State	2019	2020		2021	Total
	Cohort 1 (18.03.2019)	Cohort 1 (13.01.2020)	Cohort 2 (15.06.2020)		
Perlis	0	0	1	No intake	1
Kedah	2	3	1		6
Pulau Pinang	2	3	0		5
PPKK & ILKKM	0	0	0		0
Perak	4	6	1		11
Selangor	6	9	2		17
FT Kuala Lumpur & Putrajaya	2	4	1		7
Negeri Sembilan	2	5	1		8
Melaka	1	4	1		6
Johor	3	4	1		8
Pahang	2	3	1		6
Terengganu	3	1	1		5
Kelantan	0	-	1		1
Total Peninsular	**27**	**42**	**12**		**81**
Sabah	1	0	1		2
Sarawak	1	0	2		3

State	2019	2020		2021	Total
	Cohort 1 (18.03.2019)	Cohort 1 (13.01.2020)	Cohort 2 (15.06.2020)		
FT Labuan	-	0	-		0
Total East Malaysia	**2**	**0**	**3**		**5**
MALAYSIA	**29**	**42**	**15**		**86**

Source: Oral Health Programme, MOH

Subsequently, all contract Dental Technologists and Dental Surgery Assistants were successfully appointed on permanent basis after their two (2) years contract ended **(Table 20).**

Table 20:
Contract Dental Auxilliaries appointed on Permanent Basis in MOH, 2021

Cohort / Year	Dental Technologist		Dental Surgery Assistant	
	No.	Percentage	No.	Percentage
Cohort 1/2019	29	100	124	100
Cohort 2/2019	-	-	121	98.4
Cohort 1/2020	42	100	-	-
Cohort 2/2020	15	100	-	-
TOTAL	**86**	**100**	**245**	**99.2**

Source: Oral Health Programme, MOH

ORAL HEALTH FACILITY

Oral healthcare facilities are located in health clinics, standalone clinics, hospitals, schools as well as institutions. Besides these, outreach oral healthcare services are also available via mobile dental clinics and mobile dental teams.

In 2021, there were 1,731 dental facilities in the MOH **(Table 21)** and 608 mobile dental teams with an estimated 3,268 mobile dental units **(Table 22)**.

Table 21:
Oral Health Facilities in MOH, 2021

Facility Type	Facilities
Stand-alone Dental Clinic	63
Dental Clinics in Health Centres / KKIA	586
Dental Clinics in Hospitals	75
School Dental Clinics	920
Dental Clinics in Urban Transformation Centres (UTC)/ Rural Transformation Centres (RTC)	26
Others: IMR, Prisons, *Pusat Serenti*, Handicapped Children Centres, Children Spastic Centres, *Puspanita*, *Perbadanan*	21
Total (Static facilities)	**1,691**
Mobile Dental Clinics	36
Mobile Dental Laboratories	4
Total (Mobile facilities)	**40**
TOTAL	**1,731**

Source: Data Taburan Fasiliti Kesihatan Pergigian, 2021, Health Informatics Center, MOH as of 31.12.2021

Table 22:
Mobile Dental Teams in MOH, 2021

Facility Type	Facilities	Dental Chairs
Mobile Dental Team		
▪ School Mobile Dental Teams (Primary and Secondary Schools)	467	3,268 (portable)
▪ Pre-School Mobile Dental Teams	137	
▪ Elderly & Special Needs Mobile Dental Teams	4	
Total	**608**	**3,268**

Source: Data Taburan Fasiliti Kesihatan Pergigian, 2021

Oral Health Development Projects Under the Malaysia Plan (MP)

Development Projects Under the 10th and 11th Malaysia Plan

In 2021, 12 dedicated oral health development projects approved under the 10th and 11th Malaysia Plan were still under development as follows: -

1. Standalone Dental Clinics:
    - *Klinik Bukit Selambau, Kedah*
    - *Klinik Pergigian Tanjung Karang Dan Pejabat Kesihatan Pergigian Daerah, Kuala Selangor, Selangor*

- *Klinik Pergigian Kluang, Johor*
- *Klinik Pergigian Pasir Akar, Besut, Terengganu*
- *Klinik Pergigian Daro, Mukah, Sarawak*
- Upgrading of *Klinik Pergigian Tronoh, Kinta, Perak*

2. *Pusat Pakar Pergigian Seremban, Negeri Sembilan*
3. *Pusat Pakar Pergigian Sabah*
4. *Klinik Kesihatan (Jenis 3) Dan Klinik Pakar Pergigian Presint 6, Putrajaya*
5. Upgrading *Jabatan Pergigian Pediatrik, Hospital Melaka, Melaka*
6. *Kuarters Klinik Pergigian Chiku 3, Gua Musang, Kelantan* – Project completed
7. Upgrading six (6) *Klinik Kesihatan (Jenis 5)* with no dental component in Sarawak:
    - *Klinik Kesihatan Braang Bayur, Kuching* – Project completed
    - *Klinik Kesihatan Asajaya, Samarahan* – Project completed
    - *Klinik Kesihatan Kabong, Betong* – Project completed
    - *Klinik Kesihatan Pusa, Betong* – Project completed
    - *Klinik Kesihatan Jepak, Bintulu*
    - *Klinik Kesihatan Sungai Asap, Belaga, Kapit*

Development Projects under the 12th Malaysia Plan

Three (3) oral health projects were approved under the 1st Rolling Plan of the 12MP (2021), as follows:

1. *Pusat Pakar Pergigian Terengganu*
   The Economic Planning Unit (EPU), Prime Minister's Department decided that this project need to be postponed until the submission of Notice of Change (NOC) application of the actual budget required by MOH.
2. Mobile Dental Teams for nine (9) states, with a total of 19 teams. The procurement of assets for all 19 Mobile Dental Teams was completed by the end of 2021.
3. Mobile Dental Clinics for five (5) states with a total of eight (8) units. The details of the units included three (3) bus type with 2 dental chair and five (5) coaster type with one (1) dental unit. The procurement process of the Mobile Dental Clinics will continue in 2022.

Development Projects under Public-Private Initiatives (PPI)

There are four (4) projects under Public-Private Initiatives as follows:

1. Redevelopment of *Klinik Pergigian Cahaya Suria (Pusat Pakar Pergigian Kuala Lumpur)*
2. Redevelopment of *Klinik Pergigian at Klinik Kesihatan Dato' Keramat*
3. Hospital Cyberjaya
4. Land Swap project of *Klinik Kesihatan Bangsar (KK* Type 2*)*

Mesyuarat Majlis Tindakan Pembangunan Kementerian on the 31 May 2021 has decided that the redevelopment of *Klinik Kesihatan Bangsar* (KK Type 2) will be relocated to a new location in Bukit Sentosa Rawang, taking into account the needs of the population in the underserved areas.

Norms and Guidelines for New Facilities

To fulfill the needs of the new norms, Medical Brief of Requirements (MBoR), Standard List of Equipment as well as Specifications of Dental Equipment for new dental facilities were reviewed and updated:

Medical Brief of Requirement (MBoR);

1. *Institut Kanser Negara*
2. Pediatric Dentistry (WCH)
3. Special Care Dentistry
4. Forensic Dentistry
5. Dental clinic with one surgery

Standard List of Equipment for;

1. All types of Dental Clinics (inclusive of Dental Lab)
2. Non-hospital Based Dental Specialist Clinic (inclusive of Dental Lab)
3. Hospital Based Dental Specialist Clinic (inclusive of Dental Lab)
4. Mobile Dental Team
5. Mobile Dental Clinic

Specifications of Dental Equipment for;

1. Specifications of Heavy and Dental Laboratory Equipments *(Dental Chair Cum Unit (DCCU) for Specialist and Dental Officer, Washer Instrument Machine, Autoclave Type B, Floor Standing Autoclave, Intra Oral X-Ray, OPG X-Ray, Motorised Dental Chair, Portable Dental Unit, Dental Technologist Workstation, Portable Dental Unit (Light weight) and Dental Fume Cupboard)*
2. Specification of Dental Specialist Equipment *(OPG, CBCT, Intraoral X-Ray with RVG, Endodontic Microscope, Nitrous Oxide, Mobile Cutting Unit Intra-Oral Scanner, Craniofacial surgical and Surgical Micro motor)*
3. Specification and assets for Mobile Dental Clinic

Privatisation of Clinic Support Services / *Perkhidmatan Sokongan Klinik* (PSK)

Monitoring activities for the implementation of the Medical Equipment Enhancement Tenure (MEET) programme by Quantum Medical Solutions (QMS) at Health Clinics and Dental Clinics were conducted through MEET Technical Audit.

Contracts for PSK (Phase 2) in seven (7) states namely Kedah, Penang, Perak, Melaka, Johor, Kelantan and Selangor have ended in December 2021. The new contract is in progress and expected to start in June 2022. Meanwhile, contracts for Perlis, Negeri Sembilan, Federal Territory of Kuala Lumpur & Putrajaya, Pahang, Terengganu and Sabah will end in 2022 and Sarawak in November 2023.

ACTIVITIES AND ACHIEVEMENT: ORAL HEALTH POLICY AND STRATEGIC PLANNING DIVISIION

ORAL HEALTH EPIDEMIOLOGY AND RESEARCH

Oral health research activities and management of the oral health research agenda were carried out to provide evidence to support existing oral health policy and decision-making. Dissemination of research projects findings has been carried out through various platforms. Throughout 2021, various activities were undertaken in collaboration with other agencies within and outside Ministry of Health (MOH) either at National or State level.

Technical Committee of The National Oral Health Research Priority Areas (JTPBKP)

In line with the increase in dental research activities in Malaysia, JTPBKP was established to provide documents that encompass the oral health research priority areas in Malaysia. This document will be referenced by all dental personnel in conducting impactful research in line with the national oral health agenda.

The technical committee consists of 51 dental specialists from nine (9) areas of speciality and an oral cancer research group and chaired by the Director of Oral Health Policy and Strategic Planning Division, Oral Health Programme MOH.

A total of ten (10) meetings were held during June to July 2021 for the preparation of documents according to their respective areas of specialty. The document was then presented at the National Oral Health Research Initiative (NOHRI) Meeting on 14 December 2021.

Monitoring and Evaluation of Oral Health Research

- **Oral Health Research at State Level by MOH Oral Health Personnel**

Oral Health System Research (HSR) projects conducted at the state level was continuously monitored by the Oral Health System Research Unit. HSR state coordinators meeting was held on 28 July 2021 whereby all state HSR projects' achievements were presented.

In 2021, a total of 209 active projects has been conducted throughout Malaysia and Institutions, with 54 completed projects. Despite the COVID-19 pandemic, MOH personnel were still able to disseminate the research findings from HSR projects and among those completed, 21 projects were either presented or published **(Table 23).**

Table 23:
Status of HSR Projects by State/Institution, 2021

State/Institution	*No. of Active Projects	Completed Projects	No. of Projects Presented	No. of Projects Published
Perlis	7	2	2	-
Kedah	10	4	1	2
P. Pinang	22	4	-	-
Perak	15	6	3	-
Selangor	16	3	-	-
FT Kuala Lumpur & Putrajaya	21	7	2	1
Negeri Sembilan	8	2	-	-
Melaka	4	2	-	-
Johor	16	1	-	-

State/Institution	*No. of Active Projects	Completed Projects	No. of Projects Presented	No. of Projects Published
Pahang	28	6	2	-
Terengganu	13	4	2	-
Kelantan	5	1	-	-
Sabah & Labuan	15	1	1	-
Sarawak	18	8	4	-
HKL	6	2	1	-
HTA	1	-	-	-
PPKK & ILKKM	4	2	-	-
Total	**209**	**55**	**18**	**3**

** No. of Active Research Projects: refer to new/on-going/completed in current year*
Target: State ≥ 5, PPKK & ILKKM, Peads HTA ≥ 1

Source: Oral Health Programme, MOH

The dissemination of completed HSR research projects, were done either through presentation or published articles. **Table 24** showed the total presentations and publications done by states/institutions in 2021.

Table 24:
Presentations or Publications by State/Institution, 2021

State/Institution	No. of Presentation	No. of Publication
	State & OMFS HKL ≥ 3 PPKK & ILKKM, Peads HTA ≥ 1	Target = 1
Perlis	4	-
Kedah	5	12
P. Pinang	5	1
Perak	21	20
Selangor	10	6
FT Kuala Lumpur & Putrajaya	5	10
Negeri Sembilan	7	17
Melaka	4	-
Johor	6	-
Pahang	21	10
Terengganu	4	1
Kelantan	3	6
Sabah	5	19
Sarawak	4	-
HKL	10	1
HTA	8	6
PPKK & ILKKM	3	-
Total	125	109

Source: Oral Health Programme, MOH

Oral Health Research conducted in MOH dental facilities by non-MOH Agencies/ MOH Postgraduates

A total of 32 research proposals application from non-MOH agencies including postgraduate students were reviewed in 2021 **(Table 25):**

Table 25:
Oral Health Research by MOH Postgraduates / Non-MOH, 2021

No.	Title	Researcher / Agency
	Research in Dental Public Health	
1.	Effectiveness of Smoking Cessation Intervention among Adolescents: A Systematic Review and Meta Analysis	Dr. Sharina binti Dolah/ *Universiti Sains Malaysia* (USM)
2.	An Assessment of the Awareness, Capability, and Practice Modification of the Malaysian Dental Professionals in Providing Dental Care during a Pandemic	Dr. Muhammad Faiz bin Mohd Hanim/ *Universiti Teknologi MARA* (UiTM)
3.	Perception of Negeri Sembilan Oral Health Personnel on Sustainability of *Program Kampung Angkat Pergigian* Negeri Sembilan	Dr. Afidatulmasrie binti Ahmad/ University of Malaya (UM)
4.	Awareness and Incorporation of Dental Home Concept among Malaysian Ministry of Health Dental Officers and Dental Therapists	Dr. Munalizaini binti Mukhtar/ *Universiti Sains Malaysia* (USM)
5.	The Impact of COVID-19 Pandemic on Dental Practitioners and Dental Therapists in Northern Zone of Malaysia	Dr. Noor Baiti binti Bab/ *Universiti Teknologi MARA* (UiTM)
6.	The Roles and Preparedness of Dental Officer in Charge of Clinic in Penang: A Qualitative Study	Dr. Lenny binti Lesa/ *Universiti Teknologi MARA* (UiTM)
7.	Utilisation Trends, Satisfaction and Oral Health Related Quality of Life among Patients Attending Visiting Dental Health Services (VDS) in Selangor	Dr. Munirah binti Paiizi/ *Universiti Teknologi MARA* (UiTM)
8.	The Distribution of Reticulated Water Fluoride in Relation to the Caries Trends among Preschool Children in Pahang Using Geographical Information System (GIS-R)	Dr. Badrul Munir bin Mohd Arif/ *Universiti Teknologi MARA* (UiTM)
9.	Role Ambiguity and Role Conflict and Its Effects on Job Satisfaction and Turnover Intention amongst Dental Officers in the Ministry of Health	Dr. Muhammad Faris bin Muhammad Noor/ University of Malaya (UM)
10.	E-Cigarette: Knowledge, Attitude and Use among Dental Personnel in Government Clinics, Malaysia	Dr. Nuraida binti Daud/ University of Malaya (UM)
11.	Perception of Risk Getting Infected COVID-19 and Associated Factors of Oral Health Care Workers in Attending Patient during COVID-19 Pandemic in Malaysia	Dr. Suhaila binti Mat Said/ *Universiti Sains Malaysia* (USM)
12.	Awareness and Practice on COVID -19 Pandemic among Adult in Kota Bharu, Kelantan	Dr. Yusra binti Zahir/ *Universiti Sains Malaysia* (USM)
13.	Musculoskeletal Disorders (MSD) among General Dental Practitioners in Pahang	Dr. Norfaezah binti Ahmad/ *Universiti Islam Antarabangsa Malaysia* (UIAM)
14.	Effectiveness of UMAR Module in Improving the Knowledge, Attitude and Practice Towards Smoking Cessation Activities among Dentists in Malaysia	Dr. Nurul Zatil Ismah binti Ismail/ *Universiti Sains Malaysia* (USM)
15.	Silver Diamine Fluoride: A National Survey on Knowledge, Attitude and Professional Behaviours among Dental Personnel	Dr. Intan Elliayana binti Mohammed/ *Universiti Teknologi MARA* (UiTM)
16.	*Soal Selidik Majikan Terhadap Graduan Pergigian UIAM Tahun 2020 Untuk Semakan Kurikulum (Curriculum Review)*	Dekan, *Universiti Islam Antarabangsa Malaysia* (UIAM)
17.	*Kaji Selidik Maklum Balas Majikan Terhadap Graduan Ijazah Sarjana Muda Pembedahan Pergigian, Universiti Sains Islam Malaysia*	Dekan, *Universiti Sains Islam Malaysia* (USIM)

No.	Title	Researcher / Agency
18.	The Prevalence of COVID-19 among Malaysian Dental Practitioners: Adjoint Perspective on the Awareness and Engagement to the Existing Guidelines	Asst. Prof. Dr. Mohd Haikal bin Muhammad Halil/ *Universiti Islam Antarabangsa Malaysia* (UIAM)
19.	Effectiveness of Oral Health Care Module for Improving Oral Health of Children with Autism Spectrum Disorder	Dr. Roslina binti Mohd Fadzillah Mah/ Universiti Sains Malaysia (USM)
20.	Oral Health Related Quality of Life Score among Different Category of General Health, Oral Health, Developmental Problems and Oral Symptoms of Children with Down Syndrome by Their Caregivers in Kelantan	Dr. Siti Nur Baiduri binti Mohd Jaini/ *Universiti Sains Malaysia* (USM)
21.	Development and Evaluation of a Digital Patient Health Passport as Part of a Primary Health Care Service in Malaysia	Dr. Intan Elliayana binti Mohamed/ *Universiti Teknologi MARA* (UiTM)
22.	Internet Use, Online Seeking Behaviours and e-Health Literacy among Dental Auxilliaries in Pahang, Malaysia	Dr. Zarikh Hafizah Saqina binti Zaberi / University of Malaya (UM)
23.	Process Evaluation of Antenatal Oral Health Care Programme and Effectiveness of Digital Oral Health Education in Primary Health Care Facilities	Dr. Nursharhani binti Shariff/ *Universiti Teknologi MARA* (UiTM)
24.	Adoption of IoT Framework in Healthcare Service for Elderly People in Malaysia	UNITEN
25.	Development and Evaluation of an Online Smoking Cessation Course for Government Dental Officers	Dr. Khairul Fikri bin Sebri/ *Universiti Teknologi MARA* (UiTM)
26.	Effectiveness of Automation Data Collection Format for Primary Oral Health Care Negeri Sembilan	Pn. Noormalia binti Harun/ Azman Hashim International Business School
	Research in Paediatric Dentistry	
27.	Effectiveness of Oral Health Education Intervention on Caregivers in Prevention of Early Childhood Caries among Toddlers – A Systematic Review	Dr. Noorul Hidayah binti Noor Zamry / *Universiti Sains Malaysia* (USM)
28.	The Effectiveness of Education and Activity-based Interventions to Improve Oral Health in Children at Different Age Group	Dr. Siti Sarah binti Ayub/ *Universiti Sains Malaysia* (USM)
	Research in Oral Pathology & Oral Medicine	
29.	Serum and Salivary Biomarkers of Oxidative and Nitrative Stress and Susceptibility to Genetic Damage in Oral Leukoplakia	Dr. Kathreena binti Masnah Kadir/ University of Malaya (UM)
	Research in Orthodontics	
30.	Illegal Orthodontics from the Perspective of Patients and Dentists in Malaysia	Dr. Yasmin binti Kamarudin/ University of Malaya (UM)
31.	Early Orthodontic Screening and Referral Practices by Dental Therapists in Malaysia	Dr. Fadzlinda BAharin/ *Universiti Sains Malaysia* (USM)
	Research in Periodontology	
32.	Prevalence of Periodontitis in an Adult Population in Selangor: A Retrospective Study	Dr. Siti Lailatul Akmar binti Zainuddin/ *Universiti Sains Malaysia* (USM)

Source: Oral Health Programme, MOH

Publication of Abstracts from Research Projects and Publications by Oral Health Personnel, Ministry of Health Malaysia

The abstracts of completed research projects and publication by MOH oral health personnel were compiled in Compendium of Abstracts report which is published every two (2) years. A total of 108 reviewed abstracts from eight (8) dental specialties; Dental Public Health, Oral and Maxillofacial Surgery, Paediatrics Dentistry, Oral Pathology & Oral Medicine, Special Needs Dentistry, Orthodontics, Restorative Dentistry, Periodontology were published in the Compendium of Abstracts 2019/2020.

ORAL HEALTH PROFESSIONAL DEVELOPMENT

Recognition and Endorsement of Dental Postgraduate Qualifications

There were no newly accredited local postgraduate qualifications in dentistry by the Malaysian Qualifications Agency in 2021. Similarly, there were no newly endorsed foreign postgraduate qualifications in dentistry by the *Jawatankuasa Khas Perubatan* (JKP).

Gazettement of Dental Specialists

There were four (4) meetings of the Dental Specialist Gazettement and Evaluation Committee [*Jawatankuasa Penilaian Pewartaan Pakar Pergigian (JPPPP)]* in 2021 to assess and make recommendation to the *Jawatankuasa Khas Perubatan (JKP)* for gazettement of Dental Specialists in the MOH.

Gazettement of Dental Public Health Specialists

Five (5) Dental Public Health Specialists were gazetted in 2021 **(Table 26).**

Table 26:
Dental Public Health Specialists Gazetted, 2021

No.	Name	Eligible Date for Specialist Appointment
1.	Dr Syirahaniza binti Mohd Salleh	1 September 2020
2.	Dr Rosnani binti Ngah	1 September 2020
3.	Dr Ainon Natrah binti Aminnudin	19 October 2020
4.	Dr Nurul Hayati binti Anwar	19 October 2020
5.	Dr Noor Azhani binti Zakaria	19 October 2020

Source: Oral Health Programme, MOH 2021

Gazettement of Clinical Dental Specialists

A total of 33 Clinical Dental Specialists from various specialty were gazetted in 2021 **(Table 27).**

Table 27:
Clinical Dental Specialists Gazetted, 2021

No.	Name	Specialty	Eligible Date for Specialist Appointment
1.	Dr Norzaliza binti Abd Ghani	Oral and Maxillofacial Surgery	22 July 2020
2.	Dr Najahhuddin bin Shahbudin	Periodontic	22 July 2020
3.	Dr Nurul Farah binti Azih	Restorative Dentistry	22 July 2020
4.	Dr Wan Ahmad Faiz bin Wan Jamil	Restorative Dentistry	22 July 2020
5.	Dr Anusia Annmarie Mathew	Restorative Dentistry	22 July 2020
6.	Dr Mera Christina A.P Michael	Restorative Dentistry	22 July 2020
7.	Dr Ahmad Ramdzan bin Mohamad Yusof	Oral and Maxillofacial Surgery	28 August 2020
8.	Dr Jonathan A.L Rengarajoo	Oral and Maxillofacial Surgery	1 September 2020

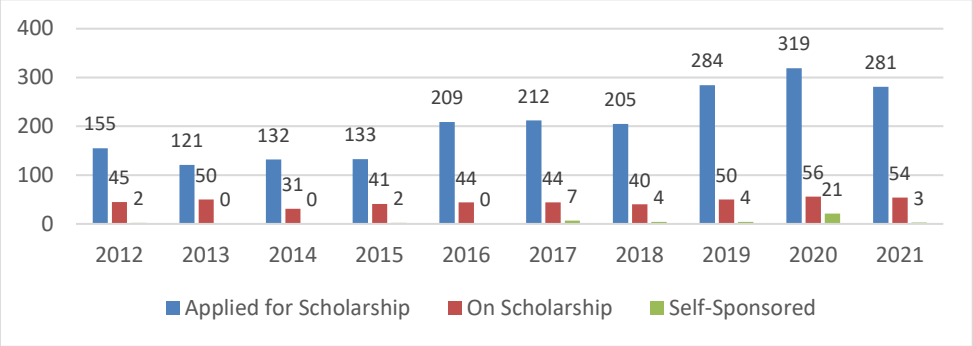
No.	Name	Specialty	Eligible Date for Specialist Appointment
9.	Dr Foo Qi Chao	Oral and Maxillofacial Surgery	1 September 2020
10.	Dr Chin Siok Yoong	Oral and Maxillofacial Surgery	1 September 2020
11.	Dr Siti Nur Nabihah binti Zainul Abidin	Oral and Maxillofacial Surgery	1 September 2020
12.	Dr Ahmad Fadhli bin Ahmad Badruddin	Oral and Maxillofacial Surgery	1 September 2020
13.	Dr Nurhalim bin Ahmad	Oral and Maxillofacial Surgery	1 September 2020
14.	Dr Norul Mashirah binti Mohd Noor	Oral Pathology and Oral Medicine	1 September 2020
15.	Dr Lew Huai Lin	Oral Pathology and Oral Medicine	1 September 2020
16.	Dr Lim Fei Yee	Periodontic	7 September 2020
17.	Dr Dzulqarnain bin Ahmad Iskandar Shah	Periodontic	7 September 2020
18.	Dr Nuzul Izwan bin Omar	Periodontic	7 September 2020
19.	Dr Farah Syazwani binti Mohamd Tarmizi	Restorative Dentistry	7 September 2020
20.	Dr Norul Nurdiyana binti Nordin	Periodontic	21 September 2020
21.	Dr Lee Yin Hui	Periodontic	21 September 2020
22.	Dr Muhammad Firdaus bin Mat Saad	Restorative Dentistry	21 September 2020
23.	Dr Nurhidayah binti Muhd Noor	Paediatric Dentistry	1 October 2020
24.	Dr Nur Hafizah binti Hazmi	Paediatric Dentistry	1 October 2020
25.	Dr Nurmimie binti Abdullah	Paediatric Dentistry	1 October 2020
26.	Dr Ng Meei Yi	Paediatric Dentistry	1 October 2020
27.	Dr Fayyadhah Bt Mohd Azmi	Paediatric Dentistry	1 October 2020
28.	Dr Farah Liyana binti Jaafar	Orthodontic	19 October 2020
29.	Dr Darshayani a/p Meyyappan	Orthodontic	19 October 2020
30.	Dr Nurul Ain binti Mohamed Yusof	Periodontic	2 November 2020
31.	Dr Mohd Salman bin Masri	Periodontic	3 November 2020
32.	Dr Arunadevi a/p Ramasamy	Special Care Dentistry	3 January 2021
33.	Dr Najiyyatu Nazihah binti Zakaria	Orthodontic	5 March 2021

Source: Oral Health Programme, MOH 2021

Postgraduate Training for Dental Professionals

Out of the 281 dental officers who applied and passed the interview screening, 54 (19 percent) were offered the federal training scholarship (*Hadiah Latihan Persekutuan* - HLP) for postgraduate courses / area of special interest in 2021, and three (3) were offered full paid study leave (*Cuti Belajar Bergaji Penuh* - CBBP) without HLP **(Figure 1).**

Figure 1:
Dental Officers Pursuing Postgraduate Training, 2012-2021



Source: Oral Health Programme, MOH 2021

Out of the 57 officers who received approval of CBBP with/without HLP in 2021, 53 officers undertook postgraduate / area of special interest training at local public universities, while four (4) officers at universities abroad **(Table 28)**.

Table 28:
Dental Officers Pursuing Postgraduate Training by Discipline, 2021

Discipline	On Federal Scholarship		Self-sponsored/ Other sponsorship		Total
	Local	Abroad	Local	Abroad	
1. Oral and Maxillofacial Surgery	10	0	0	1	11
2. Orthodontic	4	0	2	0	6
3. Periodontic	8	0	0	0	8
4. Paediatric Dentistry	8	0	0	0	8
5. Restorative Dentistry	2	0	0	0	2
6. Oral Pathology and Oral Medicine	2	0	0	0	2
7. Special Care Dentistry	3	0	0	0	3
8. Dental Public Health	15	0	0	0	15
9. Forensic Odontology	0	0	0	1	1
10. Area of Special Interest	0	0	0	0	0
11. Enforcement Law	1	0	0	0	1
TOTAL	**53**	**0**	**2**	**2**	**57**

Source: Oral Health Programme, MOH 2021

A total of 58 dental officers completed postgraduate training in 2021 and commenced the induction training/pre-gazettement period **(Table 29)**.

Table 29:
Dental Officers Completed Postgraduate Training by Speciality, 2021

Speciality	Local Universities	Institutions Abroad
1. Oral and Maxillofacial Surgery	11	2
2. Orthodontic	9	0
3. Periodontic	11	1
4. Paediatric Dentistry	8	2
5. Restorative Dentistry	4	0
6. Oral Pathology and Oral Medicine	2	0
7. Special Care Dentistry	0	0

Speciality	Local Universities	Institutions Abroad
8. Dental Public Health	6	0
9. Forensic Odontology	0	2
TOTAL	**51**	**7**

Source: Oral Health Programme, MOH 2021

New Dental Officer Programme

New Dental Officer Programme (NDOP) started in 2017 and was specially designed to provide adequate and structured training for the new dental officers (NDOs) within a one (1) year period upon appointment. In 2021, a total of 1,094 NDOs from three (3) cohorts were contractually appointed as listed below **(Table 30):**

Table 30:
Dental Officers who Contractually Appointed in MOH, 2021

Cohort	Date of Appointment	Number of NDOs
1 / 2020	7 April 2021	509
2 / 2020	12 July 2021	539
3 / 2020	6 September 2021	46
TOTAL		**1,094**

Source: Oral Health Programme, MOH 2021

Professional Development of Dental Auxiliaries

- **Certificate of Dental Surgery Assistant, Diploma in Dental Nursing and Diploma in Dental Technology**

The training for Dental Auxiliaries, which comprised of Dental Surgery Assistants (DSA), Dental Therapists and Dental Technologists, were coordinated by *Bahagian Pengurusan Latihan* (BPL) and conducted at Training Institute of MOH (Georgetown). In 2021, the intake for Certificate of Dental Surgery Assistants was 96, whereas for the Diploma of Dental Therapy and Diploma of Dental Technology, the intakes were 49 and 39 respectively. A total of 162 DSA candidates passed the final examination in 2021, as well as 65 Dental Therapist and 51 Dental Technologist candidates **(Table 31).**

Table 31:
Number of Trainee Intake for Certificate of Dental Surgery Assistants, Diploma of Dental Therapy and Diploma of Dental Technology, 2021

Course	Number of Trainee	
	January Intake	July Intake
Certificate of Dental Surgery Assistant	No intake	96
Diploma in Dental Therapy		49
Diploma in Dental Technology		39

Source: Oral Health Programme, MOH 2021

- **Post-basic Training**

As for the post-basic training, after a few postponements due to the COVID-19 pandemic, the Oral and Maxillofacial Prosthesis Post-Basic Course finally kick started in September 2021 with a total intake of 17 candidates from the MOH and three (3) from other agencies.

In-Service Training for Dental Personnel (*Latihan Dalam Perkhidmatan*)

- **Local In-Service Training**

As of end December 2021, there were 44 consultancy trainings, courses and conferences conducted and attended by Dental Specialists, Dental Officers, Dental Auxilliaries and Supporting Staff **(Table 32).**

Table 32:
Consultancy Trainings and Courses Conducted and Attended in 2020

No	Training Topic	Participants	Date	Expenses (MYR)	Venue
1.	Distributed Workforce	1 Officer	20 - 21 January 2021	1,054.70	Virtual Webinar
2.	SCATE 2021	34 Officers	5 - 9 March 2021	13,600.00	Virtual Webinar
3.	*Bengkel Latihan Sistem Gabungan Kes (CASEMIX) Pergigian*	3 Officers	25 March 2021	600.00	Virtual Webinar
4.	Restorative Dentistry Index of Treatment Need (RDITN) *dan Pengenalan Vital Pulp Therapy*	120 Officers	07 April 2021	1,166.00	Virtual Webinar
5.	Solving the Diabetes Equation: Preventive Approaches using AI	1 Officer	14 April 2021	220.50	Virtual Webinar
6.	MLSM Workshop: Medico-legal 101	5 Officers	17 April 2021	150.00	Virtual Webinar
7.	*Bengkel Penilaian Inisiatif- Inisiatif Promosi Kesihatan Pergigian*	6 Officers and 39 auxilliaries	April – September 2021	4,100.00	Virtual Webinar
8.	*Bengkel Pemantapan Perlaksanaan Program Ikon Gigi*	30 Officers	May 2021	15,810.00	Virtual Webinar
9.	*Kursus Keselamatan Pesakit & Pelaporan Insiden, PKP KKM* (Incident Reporting)	131 Officers and 35 auxilliaries	4 May 2021	300.00	Virtual Webinar
10.	Therapeutic Communication for Dental Practicioners	151 Officers and 5 auxilliaries	9 - 10 June 2021	14,605.70	Virtual Webinar
11.	*Kursus* Programming Language HTML *dan* Java script	76 Officers	14 - 16 June 2021	12,945.60	Virtual Webinar
12.	Meeting the Oral Health Needs of People with Disabilities	202 Officers	1 July 2021	8,317.82	Virtual Webinar
13.	Certified Digital Forensic for First Responder (CDFFR)	1 Officer	5-8 July 2021	6,673.55	Virtual Webinar
14.	*Seminar dan Bengkel Penulisan dan Penerbitan Saintifik 2021*	10 Officers	29 June - 1 July 2021	3,000.00	Virtual Webinar
15.	*Bengkel QGIS Siri 1 dan 2* *Bengkel GIS Publisher*	39 Officers and 2 auxilliries	29 July 2021; 3-4 August 2021 26 - 27 August 2021	7,565.00	*Bilik Mesyuarat Utama PKP KKM*
16.	*Bengkel Halatuju Inovasi*	50 Officers and 5 auxilliaries	21-22 July 2021	4,435.00	*Bilik Mesyuarat Utama PKP KKM*

No	Training Topic	Participants	Date	Expenses (MYR)	Venue
17.	Dealing With Difficult Customer Behaviour & Handling Complaints	1 Officer	26 July 2021	699.60	Virtual Webinar
18.	Malaysia-International Dental Exhibition and Conference (MIDEC 2021)	44 Officers	5 - 8 August 2021	14,400	Virtual Webinar
19.	*Bengkel Transformasi Penampilan & Imej Profesional Penjawat Awam PKP*	52 Officers and 65 auxilliaries	12 August 2021	6,000.00	*Bilik Mesyuarat Utama PKP KKM*
20.	*Seminar Minggu Keselamatan dan Kesihatan Pekerjaan Pergigian (KKPP) 2021*	49 Officers and 59 auxilliaries	16-19 August 2021	4,400	*Bilik Mesyuarat Utama PKP KKM*
21.	*Kursus Pemantapan Dan Pengukuhan Kepakaran Patologi Mulut & Perubatan Mulut (OPOM) Bagi Pegawai Pergigian di Kementerian Kesihatan Malaysia (KKM) Peringkat Kebangsaan Tahun 2021*	40 Officers	22 August 2021	430.00	Virtual Webinar
22.	Webinar Online Workshop Series on Biostatics	11 Officers	2- 30 August 2021	3,900.00	Virtual Webinar
23.	*Seminar Juruterapi Pergigian Peringkat Kebangsaan 2021*	250 Auxilliaries	3 - 4 September 2021	2,650.00	Virtual Webinar
24.	*Kursus e-Warta 2021*	2 Officers	14 - 15 September 2021	1,000.00	Virtual Webinar
25.	*Seminar Penjagaan Kesihatan Pergigian Warga Emas*	51 Officers and 15 auxilliaries	15 September 2021	1,660.00	Virtual Webinar
26.	National Patient Safety Week PKP, KKM	20 Officers and 5 auxilliaries	17 September 2021	5,341.00	*Bilik Mesyuarat Utama PKP KKM*
27.	NIIH Conference	53 Officers	21 - 23 September 2021	8,100.00	Virtual Webinar
28.	*Bengkel* ToT for Trainers on Early Detection of Oral Cancer and Oral Potentially Malignant Disorders using Oral Detect Programme	61 Officers	22 - 23 September 2021	5,800	Virtual Webinar
29.	*Kursus Tangani Stress, Minda Sejahtera*	54 Officers and 61 auxilliaries	28 - 29 September 2021	4,890.00	Virtual Webinar
30.	*Kursus* SPSS: Webinar Online Workshop Series on Biostatistics	16 Officers	6,9,15,20 &23 September 2021	5,040.00	Virtual Webinar
31.	*Kursus Pengenalan Akta Pergigian 2018 & Akta-Akta Lain Yang Berkaitan bagi pegawai di beri Kuasa di Bawah Akta Pergigian 2018*	24 Officers	28 - 30 September 2021	12,330	Hotel Penang

No	Training Topic	Participants	Date	Expenses (MYR)	Venue
32.	*Kursus Tazkirah*	127 Officers and 212 auxilliaries	27 August 2021 10 September 2021 8 October 2021	8,350.00	Virtual Webinar
32.	*Kursus Pemimpin Super*	44 Officers and 6 auxilliaries	20 - 21 October 2021	6,600.00	Virtual Webinar
33.	*Kursus Pakar Pergigian Dalam Tempoh Pra-Pewartaan 2021*	36 Officers	12 - 13 October 2021	320.00	Virtual webinar
34.	*Bengkel Pengukuhan Sistem Malaysian* Health Data Warehouse (MyHDW) E-reporting V2.0 (Oral Health)	7 Officers and 24 auxilliaries	29 September – 31 October 2021	3,920.00	Virtual Webinar
35.	*Kursus Pemantapan Tatacara Pemantauan Klinik Pergigian Swasta Zon Selatan*	11 Officers and 1 auxilliary	11 - 13 October 2021	6,600.00	Palm Seremban Hotel
36.	*Bengkel Pejawatan Program Kesihatan Pergigian*	18 Officers and 18 auxilliaries	27 - 29 October 2021	17,279.60	Hotel Paya Bunga Kuala Terengganu
37.	*Bicara Ilmu*: Design Thinking *Aplikasinya dalam menghasilkan Projek Kumpulan Inovatif dan Kreatif*	4 Officers	21 October 2021	600.00	Virtual Webinar
38.	Medico-Legal 101	2 Officers	23 October 2021	200.00	Virtual Webinar
39.	*Bengkel Pelaksanaan Pengurusan Risiko Dalam ISO 9001:2015*	35 Officers	10 November 2021	4,110.00	Virtual Webinar
40.	MES Pre-Congress	20 Officers	06 November 2021	2,170.00	Hotel Grand Hyatt, Kuala Lumpur
41.	*Bengkel Unjuran Keperluan Pengamal Pergigian Sehingga Tahun 2030*	46 Officers	24 - 25 November 2021	2,300.00	*Bilik Mesyuarat Utama PKP KKM*
42.	*Bengkel Pemurnian Kertas Cadangan Penentuan Subject Matter Expert (SME) Perundangan Pergigian*	15 Officers	18-19 November 2021	800.00	*Bilik Mesyuarat Utama PKP KKM*
43.	*Taklimat Cawangan PKP KKM bersama DrDPH*	26 Officers	23 - 24 November 2021	1,300.00	*Bilik Mesyuarat Utama PKP KKM*
44.	*Pembentangan Stakeholder PPE*	54 Officers and 61 auxilliaries	29 November 2021	1,150.00	Virtual Webinar

Source: Oral Health Programme, MOH 2021

Advanced Competency Programme (ACP)

In 2021, the offer to undergo training under Advanced Competency Programme (ACP) was cancelled due to COVID-19 pandemic that affected the whole world.

Continuing Professional Development (CPD)

The following CPD sessions were held in the Oral Health Programme in 2021 **(Table 33).**

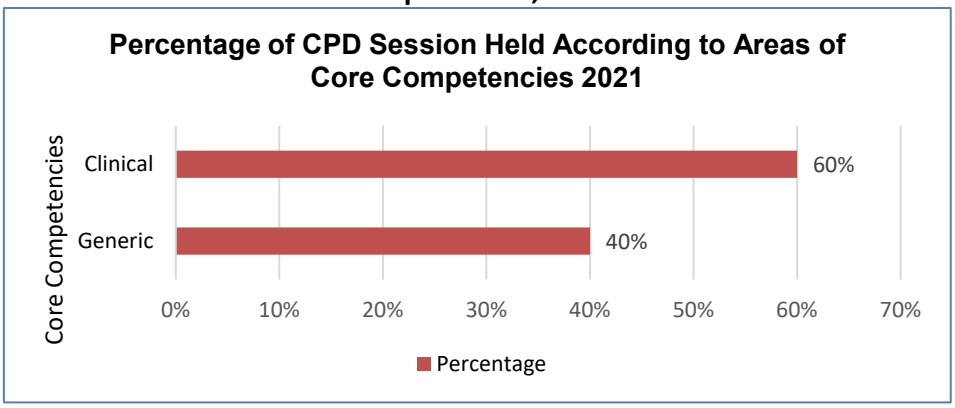
Table 33:
List of Continuing Professional Development Sessions Conducted in Oral Health Programme, 2021

No	CPD Courses	Date
1.	Digital Denture Using 3D Printing	13 January 2021
2.	*Penggunaan Produk Nyahkuman MEDKLINN bagi Klinik dan Makmal Pergigian*	1 March 2021
3.	Harm Reduction	2 April 2021
4.	Unleashing Creativity & Innovation in Organisation	20 August 2021
5.	*Taklimat Skim Penghospitalan dan Kemalangan Diri Cuepacscare*	1 October 2021

Source: Oral Health Programme, MOH 2021

These CPD sessions comprised of two (2) areas of the core competencies namely Clinical (60%) and Generic (40%) **(Figure 2)**.

Figure 2:
Number of Continuing Professional Development Sessions According to Areas of Core Competencies, 2021



Source: Oral Health Programme, MOH 2021

Oral Health Policies

- **Development of National Oral Health Policy and National Oral Health Plan 2021-2030**

The development of NOHPol and NOHP 2021-2030 started at the end of 2019 and continued into 2021 throughout the nation's struggle to curb the COVID-19 pandemic. The process involved series of discussions, meetings and workshops with representatives from dental fraternities, public and private agencies and non-governmental organisations in the spirit of the whole government and the whole society approach concept. The draft concept of both documents was presented and approved by both the Special Meeting of the Director General of Health; and the Policy and Planning Committee Meeting (*Jawatankuasa Dasar Perancangan Kementerian Kesihatan)* in 2021. It was subsequently presented and approved at the *Mesyuarat Jawatankuasa Perancang dan Pembangunan Negara* on 13 December 2021. Since the end of 2021, the Cabinet Memorandum paper for NOHPol and NOHP 2021 - 2030 has been prepared, pending Cabinet approval.

The vision of the policy and the plan is to improve the Malaysian's oral health status and quality of life by collaborating with stakeholders of public & private sectors in promoting oral healthcare, clinical prevention, treatment and rehabilitation with emphasis on identified priority groups including marginalized and vulnerable population through a high-quality system that is equitable, affordable, efficient, technologically appropriate, environmentally adaptable, customer centered and innovative. The ultimate goal of the policy and plan is to improve the oral health status of the Malaysian population.

The policy was developed based on the three (3) major guiding principles; Firstly, to promote Universal Health Coverage in which the oral healthcare services shall be affordable, physically accessible and acceptable that is able to cater to a wide range of the population with the motto of 'leave no one behind'. Secondly, by integrating oral healthcare with general healthcare as oral diseases share common risk factors with other major non-communicable diseases (NCD) such as poor diet, high sugar consumption, tobacco and alcohol use, and majority of lower socio-economic status suffer disproportionately form oral diseases. Furthermore, oral diseases are associated with a number of other major NCD, such as diabetes, cardiovascular disease, respiratory disease such as pneumonia and gastrointestinal and pancreatic cancers. The dental fraternity alone has not been successful in tackling this issue. Therefore, rather than functioning or working in isolation and separated from the mainstream health-care system, oral healthcare needs to be more integrated with it, particularly with primary healthcare services. Thirdly, to enhance safe and quality oral healthcare in ensuring oral healthcare to be delivered safely and with high quality for all Malaysians. It is aimed at preventing and reducing risks, errors and harm to patients during provision of health care and recognize the impact of patient safety in reducing costs related to patient harm and improving efficiency in health care systems.

The policy was formulated in anticipation of the active involvement and commitment from different agencies and stakeholders. Major activities proposed in the plan are enhancement of the School Dental Service by extending services to high risk student's family, teachers and school staff, inclusion of oral cancer screening in Peka B40, increase service availability in underserved area by public-private partnership, introducing tax relief for oral health examination and basic treatment as to increase dental service accessibility, enhancement of private general dental practitioners, non-governmental organizations involvement in outreach programme, oral cancer screening M-Quit programme, coverage of toddler, pre-school children, B40, lower M40, and Orang Asal.

ORAL HEALTH INFORMATION MANAGEMENT

The Oral Health Programme has benefited from the fast-paced digital transformation development during the pandemic era of COVID-19, towards expansion of digitalization of oral health services in MOH. Taking into cognizance of the Ministry of Health Malaysia Digitalization Strategic Plan 2021-2025 (PSP MOH 2021-2025), the Oral Health Programme took steps to adopt relevant oral healthcare related strategic thrust, strategies and programme of the PSPMOH 2021-2025 for better oral healthcare delivery as shown in **Table 34**. This PSPMOH 2021-2025 plan provides the MOH digital health service direction from 2021 to 2025, of which 13 strategies and 31 programmes were formulated to support four (4) strategic thrusts of PSP 2021-2025.

Table 34:
Relevant Oral Healthcare Related Strategic Thrust, Strategies and Programme of the Ministry of Health Malaysia Digitalization Strategic Plan 2021-2025 Adopted for Implementation in 2021

Strategic Thrust (TS)	Strategic (S)	Programme (P)	Objective
TS1: Empowerment of integrated and inclusive digital health services	S1: Strengthening comprehensive and integrated end-to-end digital health services	P1: Development of Integrated Health Information System	Implement EMR initiatives to drive integrated health information system towards Lifetime Health Record (LHR) to achieve the welfare of the people
		P2: Upgrading and Expansion of Existing Applications and Development of New Applications	Strengthen the function of end to end health services for Person Care, Population Health, Functional Support, Management Services and Pandemic Management.
	S3: The Surge of the Analytical Data Initiative	P1: Strengthening of the Malaysian Health Data Warehouse (MyHDW)	Improving infrastructure and capabilities of MyHDW Ensure collection and availability of big data that can meet the needs stakeholder
	S4: Adaptation of Emerging Technologies or the evolution Industry Fourth (IR4.0) In Services Health	P1: Emerging technologies adaptations In health services	Improve the effectiveness of delivery health services through use of emerging technologies or industrial revolution fourth (IR4.0)
TS2: Continuity of sustainable and secure digital services	S2: Consolidation of New Technologies	P1: Expansion of Access through Virtual Initiative	Taking advantage on the latest technology to increase virtual access capacity

Source: Oral Health Programme, MOH 2021

National Electronic Medical Record (EMR) Implementation Project

The National EMR initiative involves the implementation of the EMR System Expansion Project at the hospital facilities and health clinics of the Ministry of Health Malaysia in Negeri Sembilan. In 2021, the project focused on the preparation of tender documents and technical specifications related to procurement process of EMR components as follow **(Image 1, 2 & 3):**

1. Development of Virtual Clinic (VC)
2. Development of Health Information Exchange (HIE)
3. Expansion and Improvement of Hospital Information System Application (HIS@KKM)
4. Expansion and Improvement of Clinic Information System Application (TPC-OHCIS)

Image 1, 2 & 3:
Preparation of Tender Documents and Technical Specification Meetings

Source: Oral Health Programme, MOH 2021

As 2021 finally come to end, following the award of the tender, a Kick-Off Meeting of Health Information Exchange tender was successfully held at the Everly Hotel, Putrajaya, on 21 & 22 December 2021, involving all stakeholders at the MOH headquarters organized by the Planning Division, MOH which aimed to achieve a clear understanding of the terms and conditions of the contract and the MOH's expectations in terms of the quality of the scheduled deliverables. Adding to that, the KKM participants were briefed on relevant topics such as Overarching Concept of HIE Ecosystem within EMR Project, Application Programming Interface (API), HL7 FHIR, Overall Logical Architecture, Data Storage Architecture and Project Activities Overview **(Image 4, 5 & 6)**.

Image 4, 5 & 6:
The HIE Project Kick-off Workshop

Source: Oral Health Programme, MOH 2021

Electronic Medical Record Strategic Collaboration with Dental Fraternities

In line with rapid advancement of information technology today, initiatives to strengthen the management of patients' electronic medical records across dental facilities in Malaysia have been listed among the key focus areas of The National Oral Health Plan 2021-2030 (NOHP) 2021-2030. In this endeavor, the Oral Health Programme took an initiative to hold a tele-conference discussion session which was chaired by the Principal Director (Oral Health), on 3 March 2021 to discuss on the synergy between Electronic Medical Record (EMR) and National Oral Health Plan 2021-2030. The oral health EMR stakeholders such as the Public and Private Institutions of Higher Learning (IPTA/IPTS), the Malaysian Armed Forces Oral Health Service (ATM) and Dental Associations in Malaysia were engaged to delve into the Electronic Medical Record System (EMR) direction in oral healthcare service delivery in Malaysia **(Image 7)**.

Image 7:
Discussion on Synergy between Electronic Medical Record (EMR) and National Oral Health Plan 2021-2030

Source: Oral Health Programme, MOH 2021

Following the engagement, the Faculty of Dentistry, *Universiti Sains Islam Malaysia* (USIM), held a series of discussions with MOH and MIMOS on exploring the opportunity in digitalizing the dental patient management in USIM. On 10 December 2021, the MOH and MIMOS team paid a site-visit to USIM to assess the availability of university's ICT equipment and network infrastructure for the implementation of Tele-Primary Care-Oral Health Clinical Information system (TPC-OHCIS) **(Image 8, 9 & 10)**.

Image 8, 9 & 10
A Site-visit by MOH and MIMOS team

Source: Oral Health Programme, MOH 2021

Tele-Primary Care-Oral Health Clinical Information System (TPC-OHCIS)

The expansion of the TPC-OHCIS system in 21 dental clinics in Negeri Sembilan in November 2020 with additional of existing 16 piloted health and dental clinics TPC-OHCIS in Seremban District, resulted in data storage space stretching in *Pusat Data Sektor Awam* (PDSA). As such, Syarikat Inteksoft Sdn. Bhd. was tasked by MOH to carry out the installation and configuration activity of an additional storage of TPC-OHCIS system in PDSA which was completed in November 2021. A series of teleconferencing and physical meetings were held involving the

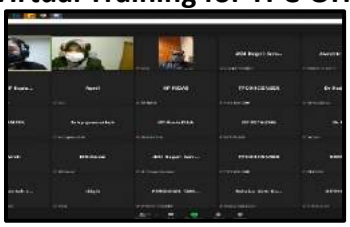
MOH and vendor to ensure the safety and security of the project **(Image 11 & 12)**.

Image 11 & 12:
Meetings on Storage Expansion of TPC-OHCIS System in PDSA


Source: Oral Health Programme, MOH 2021

The TPC-OHCIS System Administrator of the 21 newly TPC-OHCIS operated dental clinics in Negeri Sembilan played a significant role in ensuring the smooth operation of the system in the dental clinic. As such, a virtual training was conducted on 3 & 10 September 2021 with the aims of strengthening their role and developing skill to identify and anticipate potential issues of the system. The training session was facilitated by a team of trainers from TPC-OHCIS pilot dental clinics in Seremban District and Oral Health Programme **(Image 13 & 14)**.

Image 13 & 14:
Virtual Training for TPC-OHCIS System Administrators




Source: Oral Health Programme, MOH 2021

Tele-Dentistry Initiatives

Breaking of the COVID-19 pandemic infection chain through social distancing at the dental clinic is utmost importance, but it also matters to increase patient accessibility to oral healthcare during the pandemic era of COVID-19. At this juncture, the Oral Health Programme and Family Health Development Division MOH, Information Management Division MOH and MAMPU embarked on a strategic collaboration to resume implementation of two Tele-Dentistry Initiatives which was started in 2020, namely Virtual Dental Clinic and *Sistem Janji Temu Klinik Kementerian Kesihatan Malaysia* (SJTKKKM)

- **Virtual Dental Clinic**

A Proof of Concept (PoC) of Virtual Dental Clinic at the identified dental clinics was planned in 2020, but it was delayed due to change of policy by MAMPU on use of online conference platform from the Skype for Business platform (SfB) to Icewarp platform, which took effect on January 2021.

Over a period of five (5) months of its implementation (between January and May 2021), the Icewarp platform was thought to be fairly valued by the MOH Clients. In June 2021, the following four (4) dental clinics in WPKL & Putrajaya which located within health clinics with virtual clinics service, encounter a high workload and have had an ICT infrastructure readily installed, were identified to participate in the Proof of Concept (PoC) of Virtual Dental Clinic project using the Icewarp platform :

1. Dental Clinic at Precinct 18 Health Clinic, Putrajaya
2. Dental Clinic at Kuala Lumpur Health Clinic
3. Dental Clinic at Tanglin Health Clinic
4. Dental Clinic at Jinjang Health Clinic

In October and November 2021, a site visit to assess the availability and readiness of ICT equipment and infrastructure in the dental clinics involved was held **(Image 15, 16 & 17)**.

Image 15, 16 & 17:
Virtual Training for TPC-OHCIS System Administrators

Source: Oral Health Programme, MOH 2021

- ***Sistem Janji Temu Klinik Kementerian Kesihatan Malaysia (SJTKKKM)***

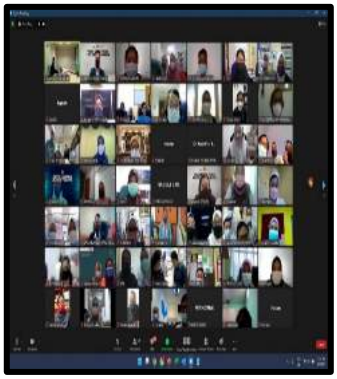
The On-line appointment system greatly reduced the congestion that occurs in the clinic's waiting room and reduce unnecessary physical interactions. In relation with upgrading efficiency in managing patient appointment, the SJTKKKM was piloted at five (5) following dental clinics in Selangor and Melaka in March 2021, objectively to identify the needs and conditions for successful implementation of an online appointment system nationwide:

1. *Klinik Pergigian Serendah, Selangor*
2. *Klinik Pergigian Simpang Lima, Selangor*
3. *Klinik Pergigian Sungai Besar, Selangor*
4. *Klinik Pergigian Peringgit, Melaka*
5. *Klinik Pergigian Jasin, Melaka*

The MOH clients and the SJTKKKM System Administrator at the dental clinic can access the system via a web browser or a mobile application on a smartphone **(Image 18)**. The clients can choose the service they require and receives a booking confirmation. The clients also can check in by themselves using the QR Code and staff-assisted check-in is also available. The clients do not have to be in the building until it is time for their appointment and would be called when it is their turn to receive the service. The findings of the post - piloted evaluation in four (4) pilot dental clinics formed the basis for a decision on expansion of pilot initiative in another 36 dental clinics nationwide in early 2022. Thus, several series of the SJTKKKM training sessions involving the users of 36 dental clinics nationwide were conducted in December 2021 on notification of change in the dental clinic workflows, change in interaction behavioural with patients and the skills required in mastering the system **(Image 19 and Table 35)**.

Image 18:
Mobile Application

Image 19:
SJTKKKM Training Session



Source: Oral Health Programme, MOH 2021

Table 35:
SJTKKKM Training Sessions to Users of 36 Dental Clinics Nationwide in December 2021 by States

Session	State	Date
1	Perlis, Kedah & Pulau Pinang	6-7 December 2021
2	Perak, Selangor & FT Kuala Lumpur & Putrajaya	8-9 December 2021
3	Negeri Sembilan, Melaka &Johor	13-14 December 2021
4	Sabah, Sarawak & FT Labuan	15-16 December 2021
5	Kelantan, Terengganu & Pahang	20-21 December 2021

Source: Oral Health Programme, MOH 2021

MyHDW E-reporting (Oral Health)

Malaysian Health Data Warehouse (MyHDW) which was developed by MIMOS Berhad in 2017 is a centralized health data storage warehouse storing a comprehensive health data and integrates with various source systems such as the E-reporting V2.0 (Oral Health). Data entry done by the users of source system would determine the quality of oral health service data generated through MyHDW. For this purpose, the Guidelines & Definitions (glossaries); and Instructions for Primary and Specialist Oral Health Services is deemed necessary for users to refer when they enter the data via the E-reporting V2.0 (Oral Health). These guidelines and definitions shall also be used in updating the Refset MyHarmony Oral Health (Refset C) as well.

Several series of discussion sessions involving Subject Matter Expert (SME) of Primary and Specialist Oral Healthcare Services from the states, Oral Health Programme and Health Informatics Centre MOH was held over a period of six (6) months (2 March 2021 until 27 August 2021) to discuss on the development and harmonization of Primary and Specialist Oral Health Services Guidelines & Definitions (Glossaries) and Instructions in accordance with the requirements and standards set **(Image 20-27 & Table 36)**. Oral Health Programme's higher management level's approval for users to use the finalized Primary and Specialist Oral Health Services Guidelines and Definitions (Glossaries) and Instructions was obtained on 20 December 2021.

Image 20 – 27:
The Development of Primary and Specialist Oral Health Services Guidelines & Definitions (Glossaries) and Instructions, 2 March 2021 to 27 August 2021

Image 20: Primary and Specialty Dental Health Services

Image 21: Oral and Maxillofacial Surgery

Image 22: Paediatric Dentistry

Image 23: Special Care Dentistry

Image 24: Forensic Dentistry

Image 25: Orthodontic

Image 26: Restorative Dentistry

Image 27: Periodontic

Source: Oral Health Programme, MOH 2021

Table 36:
The Guidelines & Definitions (Glossaries) and Instructions for Primary and Specialist Oral Health Services Development Sessions by Services

No.	Services	Activities
PRIMARY ORAL HEALTHCARE		
1.	2, 5 & 12 March 2021	Primary Oral Healthcare Section
2.	8 March & 27 August 2021	Oral Health Promotion Section
3.	9 – 10 March 2021	Community Oral Healthcare Section
4.	5 March 2021	Dental Technology
SPECIALIST ORAL HEALTHCARE		
5.	23 – 28 April, 3 – 4 June 2021	Oral and Maxillofacial Surgery
6.	23 – 28 April, 28 June 2021	Paediatric Dentistry
7.	6 May & 18 June 2021	Special Care Dentistry
8.	7 May 2021	Oral Pathology & Oral Medicine
9.	21 June 2021	Forensic Dentistry
10.	3 May & 29 June 2021	Orthodontic
11.	4 May, 2 & 12 July 2021	Periodontic
12.	5 May, 5 – 6 July 2021	Restorative Dentistry

Source: Oral Health Programme, MOH 2021

A total of nine (9) dental clinics and eight (8) hospitals in Selangor and WP Kuala Lumpur & Putrajaya listed below were involved in a pilot initiative for familiarization of the MyHDW E-reporting V2.0 (Oral Health) System which commenced on 1 November 2021:

1. *KP Cahaya Suria*
2. *KP di KK Kuala Lumpur*
3. *KP di Hospital Kuala Lumpur*
4. *Jabatan Pergigian Pediatrik di Hospital Tunku Azizah*
5. *KP di Hospital Rehabilitasi Cheras*
6. *KP di KK Putrajaya Presint 18*
7. *Jabatan Bedah Mulut dan Maksilofasial di Hospital Putrajaya*
8. *KP di Hospital Selayang*
9. *KP Selayang Baru*
10. *KP di Hospital Kajang*
11. *KP di Hospital Tengku Ampuan Rahimah*
12. *KP di Hospital Serdang*
13. *KP Salak*
14. *KP Kuala Selangor*
15. *KP Sungai Besar*
16. *KP Banting*
17. *KP Kuala Kubu Bharu*

In this light, it was pivotal to improve oral health service providers' knowledge and skills in data entry and report generation using the E-reporting system V2.0 (Oral Health). A total of 12 series of *Bengkel Pengukuhan Malaysian Health Data* Warehouse (MyHDW) E-reporting V2.0 (Oral Health) involving oral healthcare providers was conducted between 29 September 2021 to 23 November 2021 via hybrid mode (physical and teleconference). The 12 series of workshops were as follows **(Table 37 & Image 28 – 35)**.

Table 37:
Bengkel Pengukuhan Malaysian Health Data Warehouse (MyHDW) E-reporting V2.0 (Oral Health), 29 September to 23 November 2021

No.	Date	Module
1	29 – 30 September 2021	Orthodontics
2	4 – 5 October 2021	Restorative Dentistry
3	6 – 7 October 2021	Periodontics
4	11 – 14 October 2021	Clinic, Outreach, School
5	20 – 21 October 2021	Promotion
6	25 – 26 October 2021	Fluoridation
7	27 October 2021	Dental Technologist
8	8 – 9 November 2021	Paediatrics Dentistry
9	10 – 11 November 2021	Oral & Maxillofacial Surgery
10	15 – 16 November 2021	Special Care Dentistry
11	17 – 18 November 2021	Oral Pathology & Oral Medicine
12	23 November 2021	Forensic Dentistry

Source: Oral Health Programme, MOH 2021

Image 28 – 35:
Bengkel Pengukuhan Malaysian Health Data Warehouse (MyHDW) E-reporting V2.0 (Oral Health), 29 September to 23 November 2021

Image 28: Promotion

Image 29: Oral and Maxillofacial Surgery

Image 30: Paediatric Dentistry

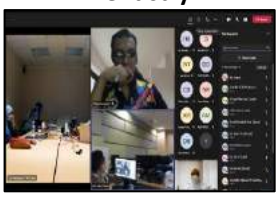


Image 31: Special Care Dentistry

Image 32: Forensic Dentistry

Image 33: Orthodontic

Image 34: Technology

Image 35: Oral Pathology & Oral Medicine

Source: Oral Health Programme, MOH 2021

To adequately assess the quality of the implementation of the piloted project MyHDW E-reporting V2.0 (Oral Health) System, a post-implementation review on the familiarization session & Question and Answer (Q&A) Session was held at the Putrajaya Dental Clinic Precinct 18, on 24 November 2021. This session aimed to provide the users with a further understanding of the system as well as identify and overcome the arising problem **(Image 36 – 38)**.

Image 36 – 38:
Monitoring piloted project MyHDW E-reporting V2.0 (Oral Health) at Putrajaya Dental Clinic Precinct 18

Source: Oral Health Programme, MOH 2021

Oral Health Clinical Information System (OHCIS)

The two (2) years contract of operational and maintenance support services of OHCIS project by Persada Digital Sdn. Berhad which commenced on 5 July 2019, ended on 14 July 2021. The contract was further extended from 15 July 2021 to 14 July 2022. On 9 July 2021, the Project Working Team meeting was convened to discuss on the project deliverables by the vendor such as monthly report, Helpdesk and preventive maintenance work **(Image 39)**.

Image 39:
Project Team Meeting for OHCIS

Source: Oral Health Programme, MOH 2021

Operating Theatre Management System (OTMS) Project for HIS@KKM Phase 1

The Oral Health Programme was involved in the enhancement of HIS@KKM Phase 1 project which includes the development of the Clinical Documentation (CD) Module and the Operating Theatre Management System (OTMS), led by the Medical Development Division, MOH. The OTMS project had "GO-LIVE" at Hospital Tuanku Jaafar, Seremban in August 2021 **(Image 40)**.

Image 40:
"GO-LIVE" OTMS

Source: Oral Health Programme, MOH 2021

ORAL HEALTH TECHNOLOGY

Oral Health Technology Section is responsible for managing and conducting activities related to:

1. Development or review of Clinical Practice Guidelines;
2. Approved Products Purchase List (APPL); and
3. Health technology assessment including horizon scanning, activities related to Minamata Convention on Mercury and activities related to medical device registration under Medical Device Act 2012 [*Act 737*] for oral health technology or equipment.

The activities under this section also include systematic search for scientific evidence, collaboration with various agencies in formulating evidence-informed health decision making in ensuring safe, effective and cost-effective technologies to be used in oral health services nationwide.

Dental Clinical Practice Guidelines (CPG)

A total of 13 Clinical Practice Guidelines (CPG) published by Oral Health Programme. In 2021, six (6) CPGs were up-to-date (either published less than five (5) years or still relevant after five (5) years), one (1) CPG was in the process of editing for publication, three (3) CPGs were being reviewed and another three (3) CPGs were due for review, as listed in **Table 38**.

A series of briefings were organised to give exposure to CPG Development Group members on the work process of producing CPG. Among the topics discussed during the briefings were techniques on critical appraisal and the formulation of evidence table. The briefing sessions were conducted online and facilitated by officers from the Health Technology Assessment Unit (MaHTAS), Ministry of Health (MOH). This was an initiative taken in 2021 to replace the annual face-to-face Systematic Review Course which could not be conducted due to the movement control under during COVID-19 pandemic. The briefings were attended by three (3) CPG Development Groups, which are in the process of reviewing current CPGs, with the aims of providing guidance on how to search articles systematically, examine articles and extract scientific evidence for the production of CPG.

Table 38:
Clinical Practice Guidelines (CPG) Status as of 31 December 2021

No.	Title of CPG	Publication Year	Status
1.	Management of Avulsed Permanent Anterior Teeth (3rd Edition)	2019	Current
2.	Management of Mandibular Condyle Fractures (2nd Edition)	2019	Current
3.	Management of Unerupted Maxillary Incisor (2nd edition)	2015	Current
4.	Antibiotic Prophylaxis in Oral Surgery for Prevention of Surgical Site Infection (2nd Edition)	2015	Current
5.	Management of Ameloblastoma	2015	Current
6.	Management of Chronic Periodontitis (2nd edition)	2012	Current

No.	Title of CPG	Publication Year	Status
7.	Management of Unerupted and Impacted Third Molar	2005	Publication in progress
8.	Management of Anterior Crossbite in the Mixed Dentition (2nd edition)	2013	Review in progress
9.	Management of Severe Early Childhood Caries (2nd edition)	2012	Review in progress
10.	Orthodontic Management of Developmentally Missing Incisors	2012	Review in progress
11.	Management of the Palatally Ectopic Canine (2nd Edition)	2016	Due for review
12.	Management of Acute Orofacial Infection of Odontogenic Region in Children	2016	Due for review
13.	Management of Periodontal Abscess (2nd Edition)	2016	Due for review

Source: Oral Health Programme, MOH 2021

Approved Purchase Price List

This section supports the role of the Procurement and Privatisation Division, MOH by providing input with regards to Approved Products Purchase List (APPL). This includes preparation of specifications, technical assessment of products, price negotiations, finalise the product list and suppliers, as well as monitor issues related to tendering companies, such as penalty on late delivery and product complaints. There were eight (8) dental products listed in APPL 2020 to 2021, namely Dental Amalgam one (1) spill, Dental Amalgam two (2) spill, Dental Plaster of Paris (POP), Hypodermic Needle (long), Hypodermic Needle (short), Mepivacaine and Cotton Roll.

For the year 2021, a technical evaluation on alternative sources for Hypodermic Needles was conducted at six (6) dental clinics around Selangor and the Federal Territory of Putrajaya. A visit to one of the dental clinics was done to review the evaluation process. A total of six (6) products were added to the APPL, which are disposable personal protective equipment – head cover, hood cover, boot cover, shoe cover, plastic apron and gown. The purpose of the addition is to increase preparedness in dealing with the COVID-19 pandemic. More than 300 tenderers participated in the open tender for the six (6) items and evaluation by the Technical Evaluation Committee was conducted by teleconference meeting for seven (7) days throughout the month of May 2021.

Oral Health Technology Assessment

Oral Health Technology Assessment was conducted on two (2) products as follows:

1. Silver Diamine Fluoride; and
2. Visually-Enhanced Light Device for Detection of Oral Potentially Malignant Disorders (OPMD) and Oral Cancer.

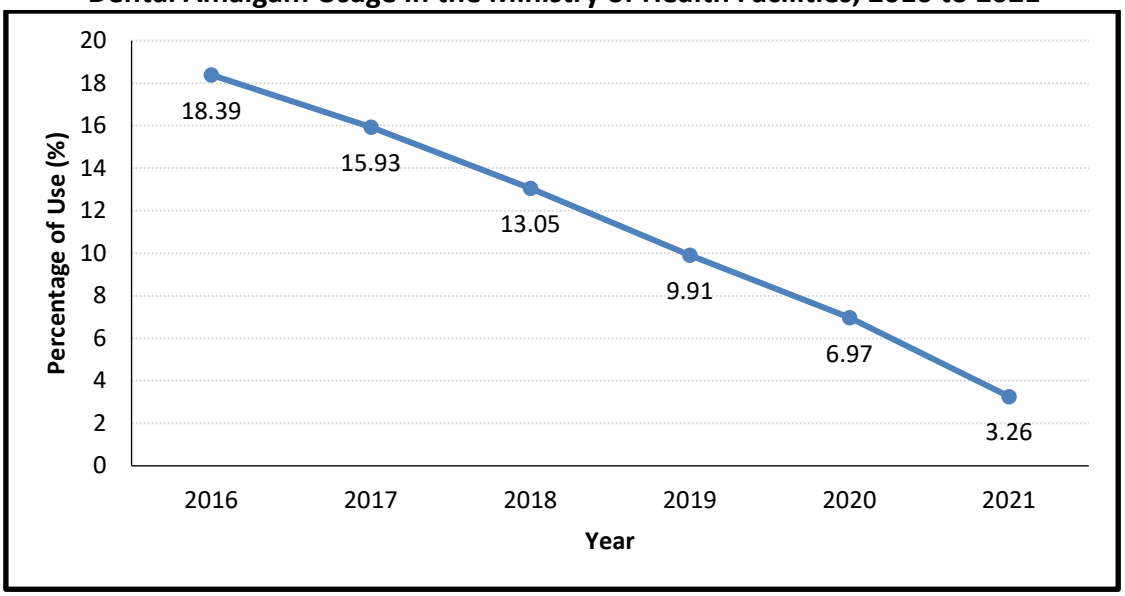
Technology Review Reports were produced based on scientific evidence and literature search. These reports are accessible via the OHP official website, https://ohd.moh.gov.my.

Use of Dental Amalgam in Ministry of Health Facilities

As time progresses, dental amalgam fillings have become less popular due to the colour and mercury content in the compounds that could affect the environment. There has been a reduction in the usage of dental amalgam in the Ministry of Health Facilities for the past five (5) years **(Figure 3)**. MOH has taken the initiative to phase down the use of dental amalgam fillings in MOH facilities to five (5) percent by 2025. Various efforts have been made by the OHP MOH to reduce or avoid the use of dental amalgam unless absolutely necessary. Among the efforts made are:

1. Strengthen oral health prevention and promotion strategies with emphasis given to detection and prevention of early caries lesion. With this, the need for dental fillings will reduce;
2. Collaborate with all relevant stakeholders (Malaysian Armed Forces, Universities, private practitioners and suppliers of dental materials) in developing sustainable strategies to phase down the use of dental amalgam and ensuring access to alternative dental materials at affordable prices;
3. Limit the use of dental amalgam to encapsulated dental amalgam and the installation of dental amalgam traps or filters in line with best environmental management practices for dental amalgam waste; and
4. Conduct research on the use of safe, effective and quality mercury-free dental fillings materials.

Figure 3:
Dental Amalgam Usage in the Ministry of Health Facilities, 2016 to 2021



Source: Oral Health Programme, MOH 2021

ACTIVITIES AND ACHIEVEMENTS: ORAL HEALTHCARE DIVISION

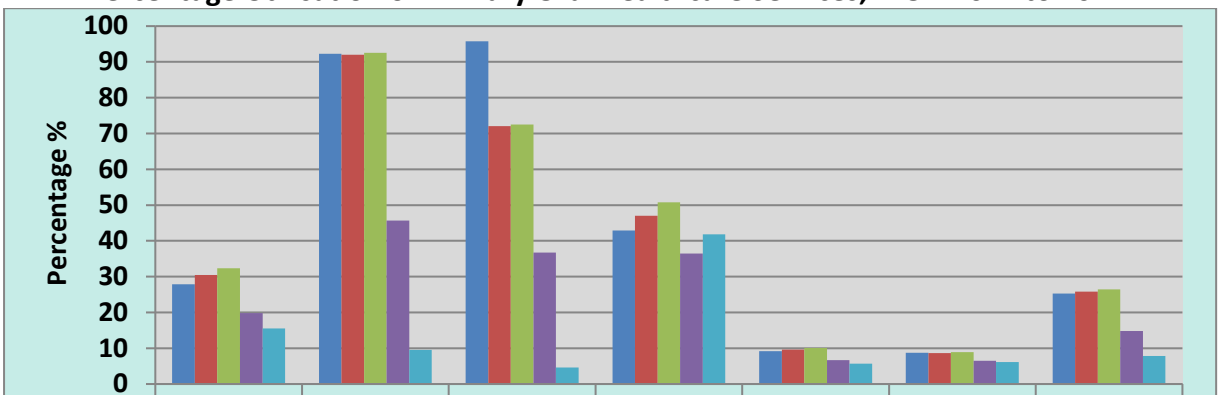
PRIMARY ORAL HEALTHCARE

Primary Oral Healthcare Section is responsible for ensuring that delivery of primary oral healthcare services is implemented in a comprehensive and integrated manner for each target group to improve the oral health status of the community. The services are targeted to infants and children aged 0 to 4 years old, preschool children aged 5 to 6 years old, school children aged 7 to 17 years old, special needs children, antenatal mothers, adults and the elderly. Services are delivered through static facilities in primary dental clinics and outreach. The section is also responsible for monitoring the implementation of various policy strategies, activities progression as well as collaborating with various sectors and other divisions within and outside the Ministry of Health Malaysia.

In 2021, primary oral healthcare services were still affected by the COVID-19 pandemic where there are some outreach activities such as school dental services and visits to kindergartens or institutions could not be executed. Meanwhile operations at primary dental clinics were carried out by adopting the new norms such as the implementation of an online appointment system to reduce congestion in the clinic as well as the use of additional equipment during treatment involving Aerosol Generating Procedure (AGP).

The overall utilisation of primary oral healthcare in the MOH during the pandemic COVID-19 had further declined from 14.8 percent in 2020 to 7.8 percent in 2021 compared to 26.4 percent in 2019 **(Figure 4)**.

Figure 4:
Percentage Utilisation of Primary Oral Healthcare Services, MOH 2017 to 2021



	Pre-School	Primary School	Secondary School	Antenatal	Adults	Elderly	Overall
2017	27.9	92.3	95.8	42.9	9.2	8.7	25.3
2018	30.5	92.0	72.1	47.0	9.6	8.6	25.8
2019	32.3	92.5	72.5	50.8	10.1	8.9	26.4
2020	19.9	45.7	36.7	36.5	6.7	6.5	14.8
2021	15.5	9.5	4.6	41.8	5.7	6.1	7.8

Source: Health Informatics Centre, MOH 2021

The actual number of utilization in MOH primary oral healthcare services by target group over the years are as shown in **Table 39**. Overall, a decreasing trend in all target groups were seen.

Table 39:
Utilisation of Primary Oral Healthcare by Category of Patients, 2017 to 2021

Year	Preschool	Primary School	Secondary School	Antenatal	Adults	Elderly	Special need Children	Overall
2017	1,047,391	2,809,766	1,964,105	245,018	1,810,480	269,500	62,114	8,208,374
2018	1,146,680	2,861,585	1,944,312	257,609	1,918,086	292,665	68,339	8,489,276
2019	1,218,595	2,890,267	1,948,194	272,179	2,036,601	317,007	75,827	8,523,311
2020	710,199	1,376,852	974,604	189,687	1,331,228	226,471	38,044	4,847,085
2021	553,704	287,975	121,466	217,691	1,133,934	212,200	14,376	2,541,346

Source: Health Informatics Centre, MOH 2021

Early Childhood Oral Healthcare for Toddlers

Anticipatory guidance, clinical prevention programme such as fluoride varnish application and cursory examination of the oral health cavity through 'lift-the-lip' technique was done in settings such as child care centers or Mother-Child Health Clinic.

In 2021, there were a total of 344,236 (13.5 percent) toddlers seen by dental officers and dental therapist. The coverage in oral healthcare services still remained low since 2017. Following the COVID-19 pandemic, there was even a drastic declined in the year 2020 coverage. However, in 2021 a slight increment was noted as compared to 2020 **(Table 40)**.

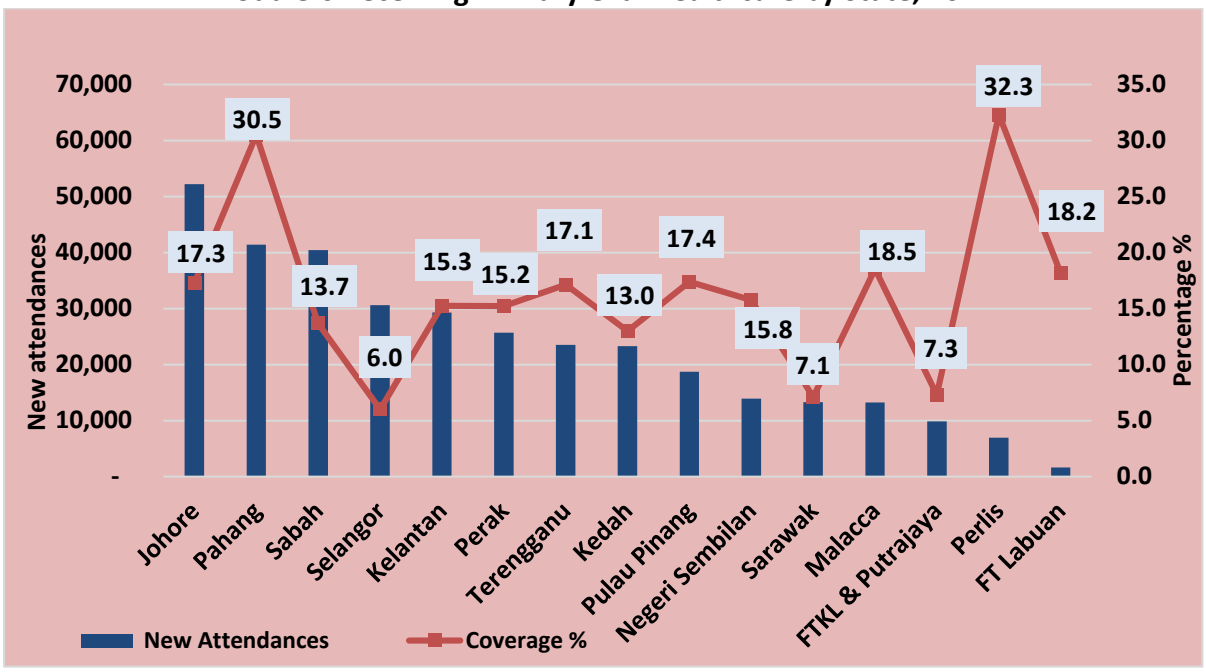
Table 40:
Coverage of Toddlers, 2017 to 2021

Year	Toddlers Estimated Population (0-4 years old)	No. of Toddler seen	Percentage of Toddler seen
2017	2,720,900	379,335	13.9
2018	2,727,100	425,887	15.6
2019	2,729,700	476,934	17.5
2020	2,542,000	285,951	11.2
2021	2,542,000	344,236	13.5

Source: Oral Health Programme, MOH 2021

In 2021, Perlis recorded the highest number for coverage of toddlers followed by Pahang **(Figure 5)**.

Figure 5:
Toddlers Receiving Primary Oral Healthcare by State, 2021



Source: Oral Health Programme, MOH 2021

Due to the low coverage of toddlers in Malaysia, an initiative involving collaboration with external agencies had been introduced. The initiative was implemented nationwide starting 1 April 2021 in accordance with the *Garis Panduan Perkhidmatan Kesihatan Pergigian Toddler: Kolaborasi Bersama Agensi Luar*. However, there were constraints in implementation at the state level due to the COVID-19 pandemic.

Oral Healthcare for Preschool Children

In 2021, there were a total of 24,110 kindergartens and preschools institutions in Malaysia which includes 18,557 government and 5,553 private owned. The coverage of kindergartens nationwide for 2017 to 2021 is as tabulated in **Table 41**.

Table 41:
Coverage of Kindergartens and Preschools, 2017 to 2021

Year	Total Kindergartens	Government Kindergartens	Private Kindergartens	% Government Kindergartens Coverage	% Private Kindergartens coverage
2017	21,245	16,714	4,531	96.1	90.4
2018	21,488	16,769	4,719	97.0	92.1
2019	21,799	16,867	4,932	97.1	97.2
2020	22,254	16,915	5,339	27.7	14.2
2021	24,110	18,557	5,553	11.3	16.5

Source: Health Informatics Centre, PKP 203, MOH 2021

A total of 553,704 (15.5 percent) preschool children aged 0 – 6 years old received primary oral healthcare, a decrease in percentage coverage compared to 2020 **(Table 42)**.

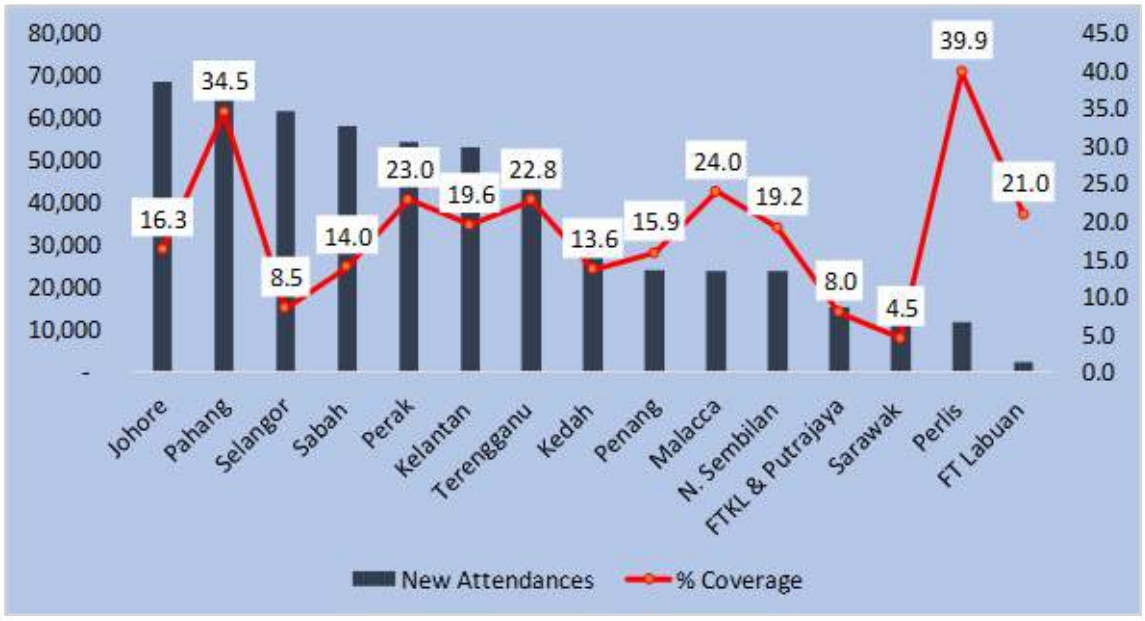
Table 42:
Coverage of Preschool Children, 2017 to 2021

Year	Estimated Preschool Population (0 to 6 years old)	No. of Preschool Children Covered (0 to 6 years old)	% Coverage
2017	3,750,100	1,047,391	27.9
2018	3,755,300	1,146,680	30.4
2019	3,774,700	1,218,595	32.3
2020	3,577,400	710,199	19.9
2021	3,577,400	553,704	15.5

Source: Health Informatics Centre, MOH 2021

However, Perlis (39.9 percent) and Pahang (34.5 percent) recorded the highest coverage of preschool children in 2021 **(Figure 6)**.

Figure 6:
Preschool Children Receiving Primary Oral Healthcare by State, 2021



Source: Oral Health Program, MOH 2021

Oral Healthcare for Schoolchildren

In order to curb the spread of COVID-19 among schoolchildren, the schools were closed for physical attendances for almost a year. Therefore, the delivery of oral healthcare services to schoolchildren was also affected. This has led to a significant decline in the achievement of primary and secondary school coverage nationwide, as well as the oral health status of the schoolchildren.

- **Primary schoolchildren**

Since schools had not been operating as usual since beginning of 2021, there was a significant drop of primary school coverage from 28.9 percent in 2020 to 1.4 percent in 2021 **(Table 43)**.

Table 43:
Coverage of Primary Schools, 2017 to 2021

Year	Total No. of Primary Schools	No. of Primary Schools Covered	% Coverage of Primary Schools
2017	7,858	7,390	94.0
2018	7,851	7,420	94.5
2019	7,865	7,469	94.9
2020	7,851	2,274	28.9
2021	7,860	28	0.4

Source: Health Informatics Centre, MOH 2021

Most states did not cover any primary schools (0 percent) in 2021 except for Kedah, Perak, FT Kuala Lumpur, Pahang and FT Labuan **(Table 44)**.

Table 44:
Coverage of Primary Schools by States, 2017 to 2021

State	Percentage of Coverage of Primary Schools				
	2017	2018	2019	2020	2021
Perlis	100	100	100	100	0
Kedah	99.6	99.8	100	27.5	0.5
Penang	95.2	98.9	100	25.6	0
Perak	100	99.5	99.3	35.4	1.9
Selangor	94.2	99.8	79.8	22.1	0
FT Kuala Lumpur	100	100	100	26.7	1.0
FT Putrajaya	100	100	100	25.0	0
N. Sembilan	100	100	100	25.4	0
Melaka	99.6	100	100	38.5	0
Johor	100	100	100	35.1	0
Pahang	98.6	100	99.6	33.2	1.1
Terengganu	100	100	100	17.3	0
Kelantan	98.6	99.3	99.8	24.1	0
FT Labuan	100	100	100	47.1	4.5
Sabah	88.4	89.5	95.1	32.4	0
Sarawak	78.2	75.8	84.3	20.7	0
MALAYSIA	**94.0**	**94.5**	**94.9**	**28.9**	**0.4**

Source: Health Informatics Centre, MOH 2021

In 2021, the coverage of primary schoolchildren also decreased as compared to previous years, which was only 1.4 percent **(Table 45)**.

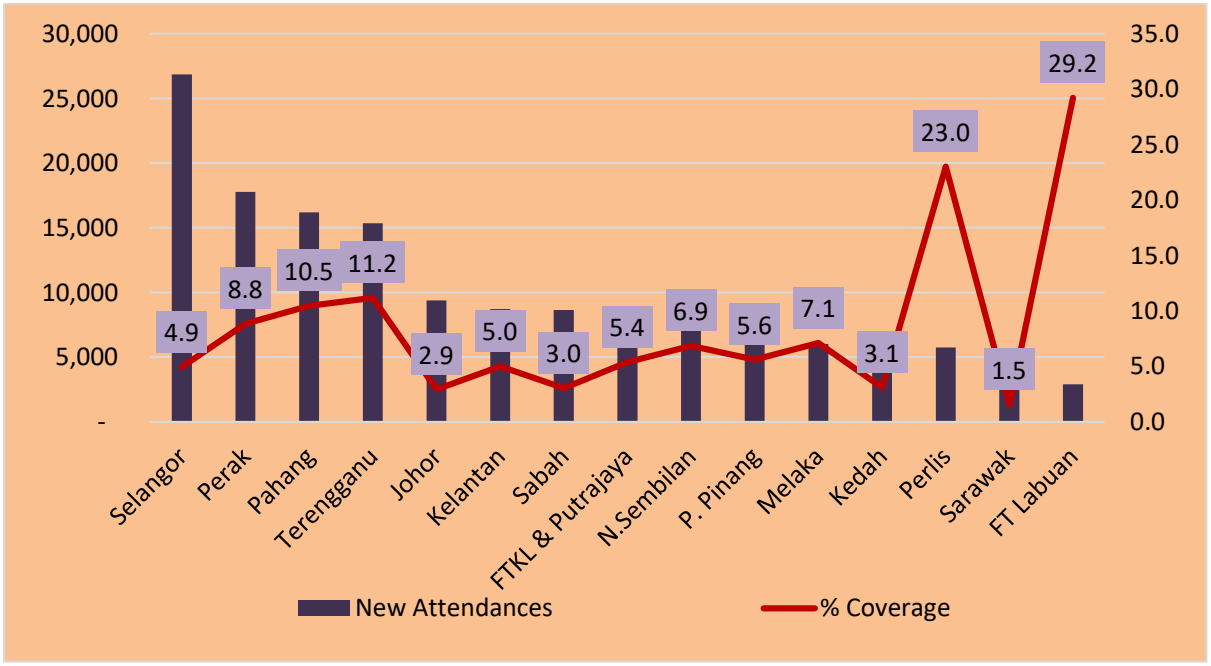
Table 45:
Coverage of Primary Schoolchildren, 2017 to 2021

Year	Enrolment of Primary Schoolchildren	No of Primary Schoolchildren Covered	% Coverage
2017	2,678,793	2,656,519	99.2
2018	2,689,218	2,670,944	99.3
2019	2,724,019	2,706,494	99.4
2020	2,735,590	1,214,270	44.4
2021	2,763,559	150,436	1.4

Source: Health Informatics Centre, MOH 2021

All states did not achieve the primary schoolchildren coverage target of more than 98 percent. FT Labuan recorded the highest percentage of schoolchildren coverage at 29.2 percent **(Figure 7)**.

Figure 7:
Number and Percentage of Primary Schoolchildren Received Primary Oral Healthcare by State, 2021



Source: Health Informatics Centre, MOH 2021

The oral health status of primary schoolchildren also decreased significantly compared to previous years. Out of the total number of schoolchildren examined in 2021, 56.5 percent of them were orally-fit, 40.2 percent with no treatment required (NTR), and 27.8 percent were caries-free **(Table 46)**.

Table 46:
Percentage of Primary Schoolchildren Orally-Fit, NTR and Caries-free, 2017 to 2021

Year	No of Primary Schoolchildren Covered	Percentage Case Completion	Percentage NTR	Percentage Maintained Caries-free Mouth
2017	2,656,519	97.0	63.4	37.1
2018	2,670,944	97.4	62.5	38.2
2019	2,706,494	96.9	62.5	38.3
2020	1,214,270	81.7	60.1	34.5
2021	150,436	56.5	40.2	27.8

Source: Health Informatics Centre, MOH 2021

In 2021, Perak achieved the highest percentage of case completion among the schoolchildren with 91.4 percent. Meanwhile, FT Kuala Lumpur achieved the highest percentage for the NTR (60.1 percent) and caries–free schoolchildren (50.8 percent). However the other states reported a low percentage of achievement **(Table 47)**.

Table 47:
Oral Health Status of Primary Schoolchildren by State, 2021

State	Percentage Case Completion	Percentage No Treatment Required (NTR)	Percentage Maintained Caries-free
Perlis	49.5	41.9	27.2
Kedah	53.9	36.7	28.9
Pulau Pinang	75.9	56.6	30.7
Perak	91.4	53.2	35.1
Selangor	65.6	55.2	39.1
FT Kuala Lumpur	46.9	60.1	50.8
FT Putrajaya	74.4	38.4	18.0
N. Sembilan	45.9	28.5	24.2
Melaka	40.4	18.7	17.7
Johor	39.4	20.8	17.5
Pahang	52.0	33.8	21.2
Terengganu	59.1	39.4	25.1
Kelantan	24.8	13.3	7.9
FT Labuan	57.7	46.4	21.7
Sabah	29.4	14.6	9.9
Sarawak	55.6	49.6	36.2
MALAYSIA	**56.5**	**40.2**	**27.8**

Source: Health Informatics Centre, MOH 2021

The gingival health status of primary schoolchildren was assessed based on the Gingival Index for Schoolchildren (GIS) 2013 Guidelines. It was found that 77.4 percent of primary schoolchildren had a GIS score of 0 (no gingivitis and no calculus) in 2021. Comparison of GIS scores for primary schoolchildren are tabulated in **Table 48**.

Table 48:
GIS score for Primary Schoolchildren, 2017 to 2021

Year	New attendances	GIS 0 (percent)	GIS 1 (percent)	GIS 2 (percent)	GIS 3 (percent)
2017	2,629,005	2,036,310 (77.5)	128,316 (4.9)	324,031 (12.3)	140,347 (5.3)
2018	2,665,769	2,129,361 (79.9)	148,326 (5.6)	262,569 (9.8)	125,513 (4.7)
2019	2,706,494	2,195,260 (81.1)	158,975 (5.9)	231,449 (8.6)	120,810 (4.5)
2020	1,214,270	1,006,433 (82.9)	67,601 (5.6)	92,515 (7.6)	47,721 (3.9)
2021	150,436	116,446 (77.4)	11,234 (7.5)	13,644 (9.1)	9,112 (6.1)

Source: Oral Health Programme, MOH 2021

- **Secondary Schoolchildren**

The delivery of oral health services in secondary schools was also affected by the COVID-19 pandemic with secondary schools not operating "physically" as to curb the spread of the pandemic. In 2021, percentage of secondary school coverage dropped significantly with none being covered **(Table 49)**.

Table 49:
Coverage of Secondary Schools, 2017 to 2021

Year	Total No. of Secondary Schools	No. of Secondary Schools Covered	Coverage of Secondary Schools (Percentage)
2017	2,563	2,142	83.6
2018	2,567	2,247	87.5
2019	2,544	2,314	91.0
2020	2,526	706	27.9
2021	2,504	3	0

Source: Health Informatics Centre, MOH 2021

All states were not able to achieve coverage for any secondary school in 2021. **(Table 50)**.

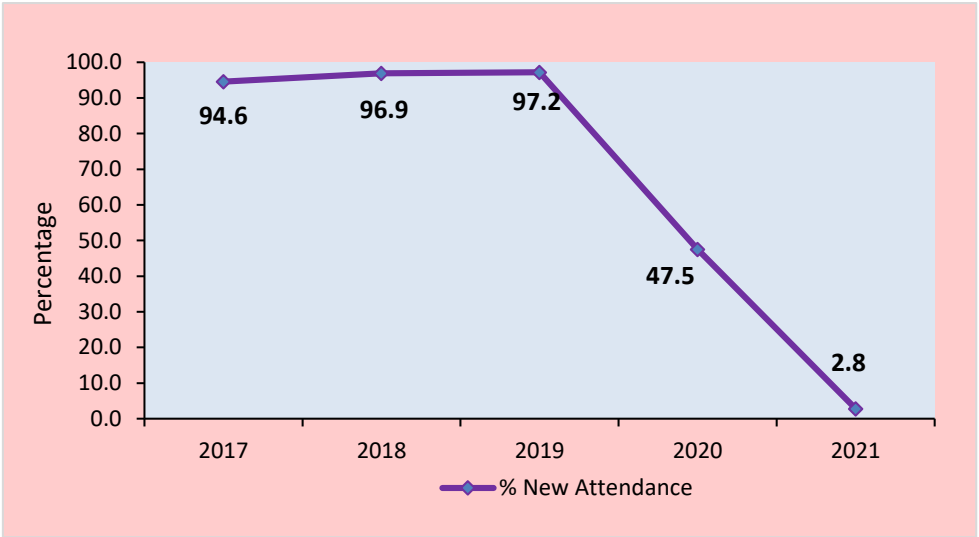
Table 50:
Percentage of Secondary School Coverage under Incremental Dental Care by State, 2017 to 2021

State	Percentage of Secondary Schools Covered by year and state				
	2017	2018	2019	2020	2021
Perlis	100	100	100	93.5	0
Kedah	91.6	98.0	100	25.6	0
Pulau Pinang	94.4	97.7	100	23.4	0
Perak	100	99.3	99.2	31.2	0
Selangor	72.9	89.6	92.1	23.7	0
FTKL	100	100	100	35.7	0
FT Putrajaya	100	100	100	36.4	0
N. Sembilan	100	100	100	33.1	0
Melaka	100	100	100	36.7	0
Johor	100	100	100	30.1	0
Pahang	98.7	100	100	30.1	0
Terengganu	99.4	98.8	99.4	30.3	0
Kelantan	68.4	71.4	84.6	84.3	0
FT Labuan	100	100	100	30.0	0
Sabah	48.9	57.7	65.1	17.4	0
Sarawak	40.8	32.3	38.1	50.8	0
MALAYSIA	**84.1**	**86.7**	**87.5**	**91.0**	**0**

Source: Health Informatics Centre, MOH 2021

In 2021, percentage of secondary schoolchildren examined further decreased to 2.8 percent from the previous year **(Figure 8).**

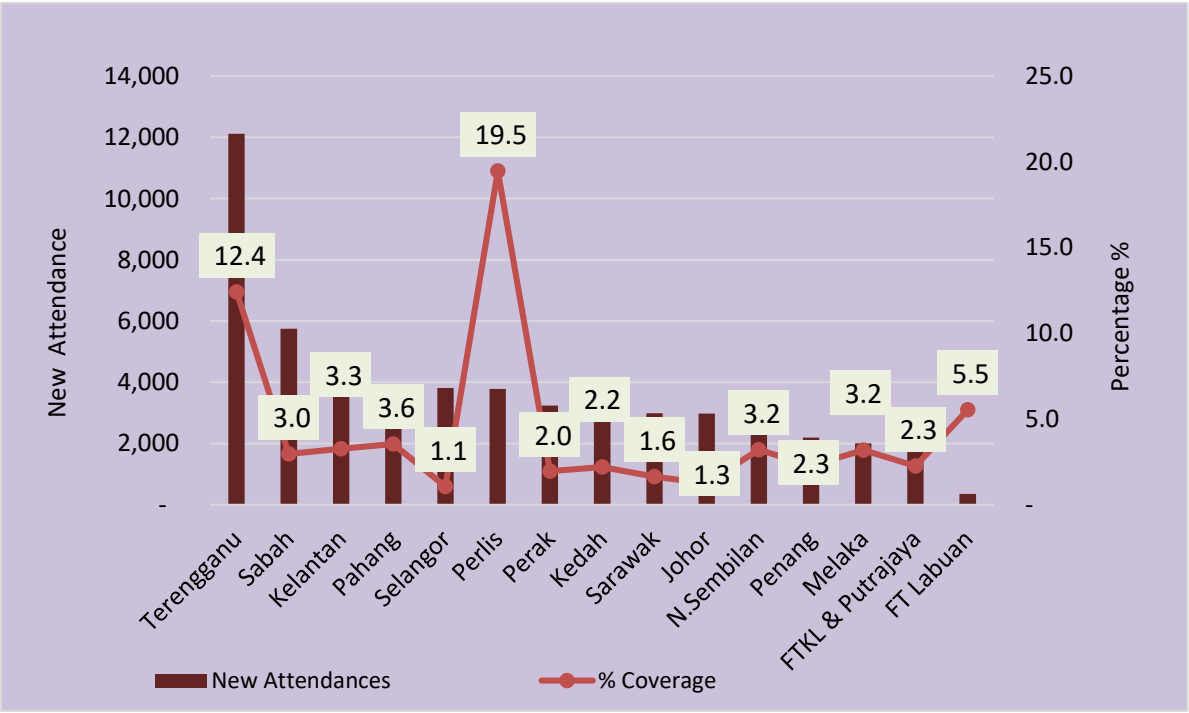
Figure 8:
Coverage of Secondary Schoolchildren, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

Perlis recorded the highest secondary schoolchildren (19.5 percent) coverage followed by Terengganu (12.4 percent) **(Figure 9).**

Figure 9:
Secondary Schoolchildren Receiving Primary Oral Healthcare by State, 2021



Source: Health Informatics Centre, MOH 2021

Oral health status among secondary school children also decreased due to the decrease in the number of new attendance **(Table 51)**. By the end of 2021, 52.2 percent of secondary schoolchildren were orally-fit while 38.7 percent of schoolchildren did not require treatment and 42.1 percent of schoolchildren were caries-free.

Table 51:
Percentage of Secondary Schoolchildren Orally-Fit, NTR and Caries-free, 2017 to 2021

Year	No of Secondary Schoolchildren Covered	Percentage Case Completion	Percentage NTR	Percentage Maintained Caries-free
2017	1,936,477	92.5	68.3	59.2
2018	1,926,123	93.6	67.7	59.1
2019	1,896,608	94.5	68.4	60.1
2020	929,185	82.3	67.6	58.9
2021	55,659	52.2	38.7	42.1

Source: Health Informatics Centre, MOH 2021

By 2021, most states did not meet the target for percentage of orally-fit children. The lowest NTR and caries-free status for secondary schoolchildren were recorded in Kelantan **(Table 52).**

Table 52:
Oral Health Status of Secondary Schoolchildren, 2021

States	Percentage Case Completion	Percentage NTR	Percentage Caries-free Mouth
Perlis	62.8	55.1	55.5
Kedah	53.6	39.7	47.0
Penang	71.9	46.8	52.0
Perak	79.0	75.3	69.9
Selangor	61.5	46.0	60.8
FT Kuala Lumpur	77.0	70.7	74.1
FT Putrajaya	83.5	26.2	24.3
N. Sembilan	53.1	30.8	40.5
Melaka	49.1	25.6	37.7
Johor	46.1	18.4	36.7
Pahang	45.7	22.1	26.6
Terengganu	45.6	42.8	44.0
Kelantan	45.2	17.4	18.4
FT Labuan	52.0	19.9	40.2
Sabah	32.8	21.5	18.5
Sarawak	56.6	53.0	44.6
MALAYSIA	**52.2**	**38.7**	**42.1**

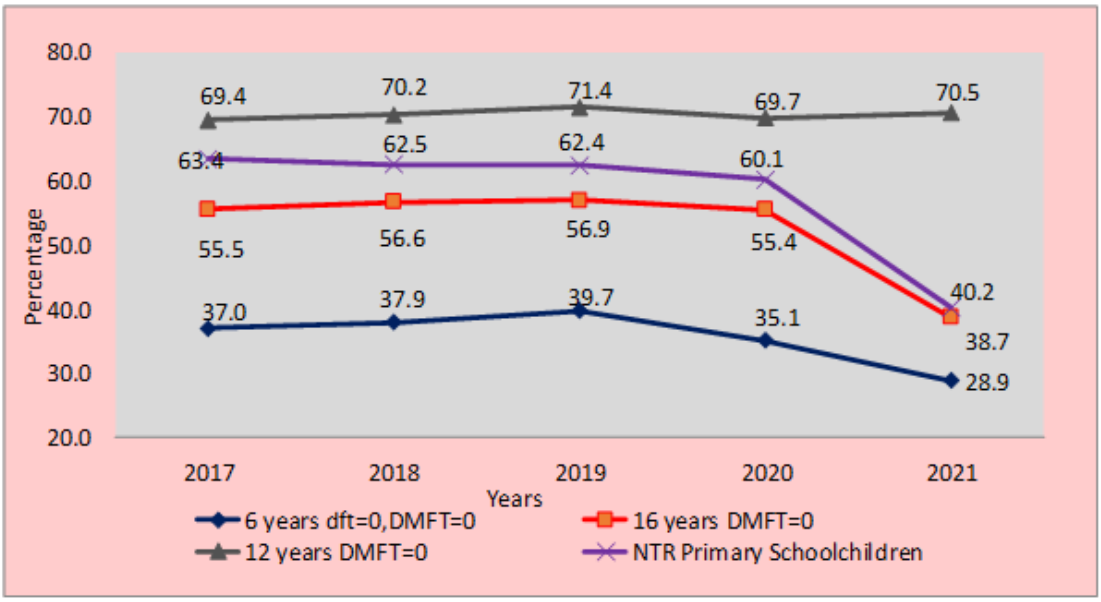
Source: Health Informatics Centre, MOH 2021

- **Impact Indicators - Caries-free 6, 12 and 16 year-old Schoolchildren and NTR for Primary Schoolchildren**

Overall, the oral health status of school children in 2020 to 2021 showed a declining trend. However, there was a slight increase in the percentage of caries-free in 12 years-old schoolchildren as compared to the previous year (70.5 percent) **(Figure 10)**.

For 16-year-old schoolchildren with caries-free status, FT Kuala Lumpur showed the highest achievement (80.5 percent) **(Table 53)**.

Figure 10:
Caries Free 6, 12 and 16 years-old Schoolchildren, NTR of Primary Schoolchildren, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

Table 53:
Percentage of 16-year-old Children with Caries-free by State, 2017 to 2021

State	2017	2018	2019	2020	2021
Perlis	60.0	94.1	54.4	56.1	47.8
Kedah	65.4	95.8	67.2	65.6	41.8
Pulau Pinang	60.2	97.3	61.9	59.8	55.4
Perak	62.8	97.4	65.8	65.0	67.2
Selangor	72.7	96.3	74.3	74.7	52.1
FT Kuala Lumpur	76.1	96.9	75.7	74.2	80.5
FT Putrajaya	62.8	94.4	61.6	64.4	9.7
N. Sembilan	67.4	96.7	68.4	68.4	32.5
Melaka	56.2	96.9	58.5	57.7	34.3
Johor	68.2	96.1	68.0	66.0	33.3
Pahang	44.0	96.0	45.4	43.8	23.0
Terengganu	32.4	94.6	34.7	37.3	36.8
Kelantan	29.0	93.3	31.7	32.1	16.6
FT Labuan	35.1	95.5	49.7	53.4	36.6
Sabah	22.9	86.1	24.4	25.1	16.1
Sarawak	41.0	82.0	43.7	42.6	35.7
MALAYSIA	**55.5**	**56.6**	**56.9**	**55.4**	**38.6**

Source: Health Informatics Centre, MOH 2021

The mean DMFT for 12-year-old and 16-year-old children has shown an increase in 2021 as compared to 2019 **(Table 54)**.

Table 54:
Mean DMFT Score for 12 and 16-year-olds, 2017 to 2021

Age Group	2017	2018	2019	2020	2021
12-year-old	0.75	0.71	0.68	0.71	0.7
16-year-old	1.40	1.35	1.31	1.38	2.4

Source: Health Informatics Centre, MOH 2021

As for the gingival health status of secondary schoolchildren based on the 2013 GIS Guidelines, it was found that 49.6 percent of secondary schoolchildren had a GIS score of 0 in 2020. There was a significant decrease in the number of GIS screened school children in 2021 as compared to 2020. The comparison of GIS scores for secondary school children is as shown in **Table 55**.

Table 55:
GIS Score for Secondary Schoolchildren, 2017 to 2021

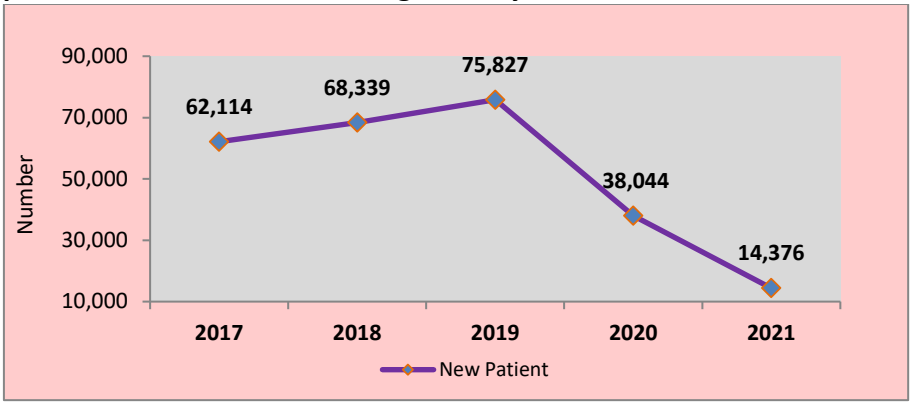
Year	New attendances	GIS 0	GIS 1	GIS 2	GIS 3
2017	1,923,699	1,346,571 (70.0)	128,733 (6.7)	239,033 (12.4)	209,368 (10.9)
2018	1,923,072	1,365,278 (70.7)	165,474 (8.6)	204,602 (10.6)	187,718 (9.7)
2019	1,896,608	1,371,551 (72.3)	167,445 (8.8)	184,359 (9.7)	173,253 (9.1)
2020	929,185	671,133 (72.2)	85,727 (9.2)	90,000 (9.7)	82,325 (8.9)
2021	55,659	27,620 (49.6)	9,946 (17.9)	7,387 (13.3)	10,706 (19.2)

Source: Oral Health Programme, MOH 2021

Oral Healthcare for Children with Special Needs

The number of children with special needs received primary oral healthcare services has also shown a decreased trend as the outreach programme could not be implemented. In 2021, a total of 14,376 children with special needs received primary oral healthcare services **(Figure 11)**.

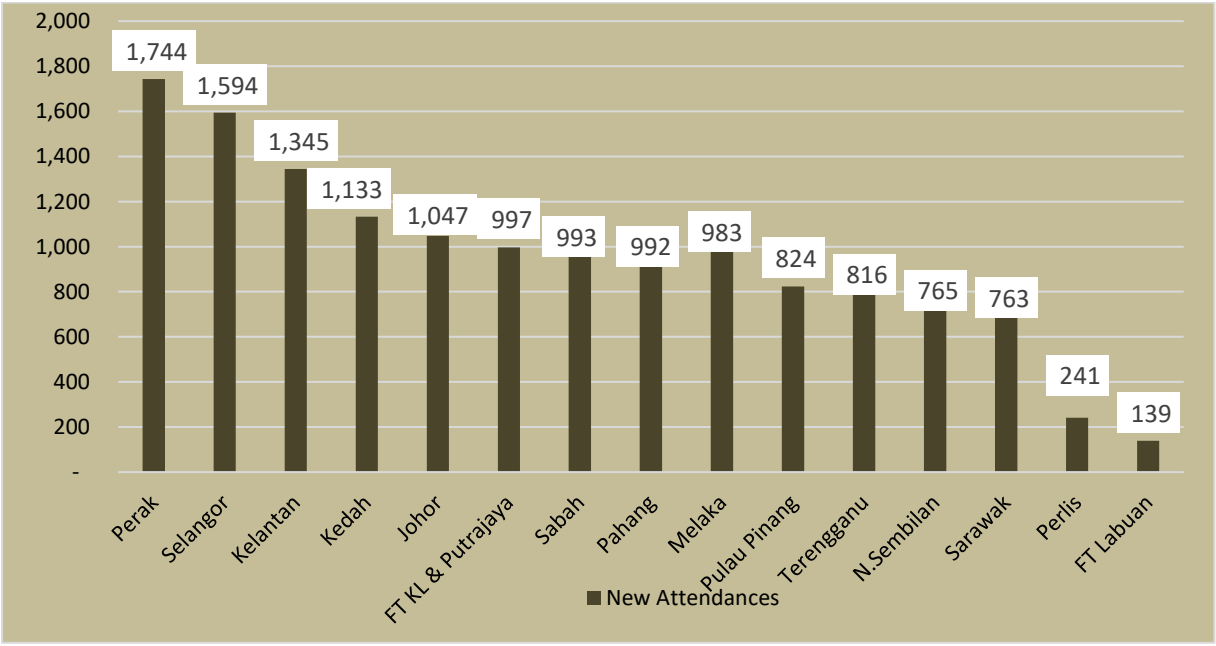
Figure 11:
Special Need Children Receiving Primary Oral Healthcare, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

The states with the highest number of special needs children seen was Perak, Selangor and Kelantan **(Figure 12)**.

Figure 12:
Children with Special Needs Receiving Primary Oral Healthcare by State, 2021

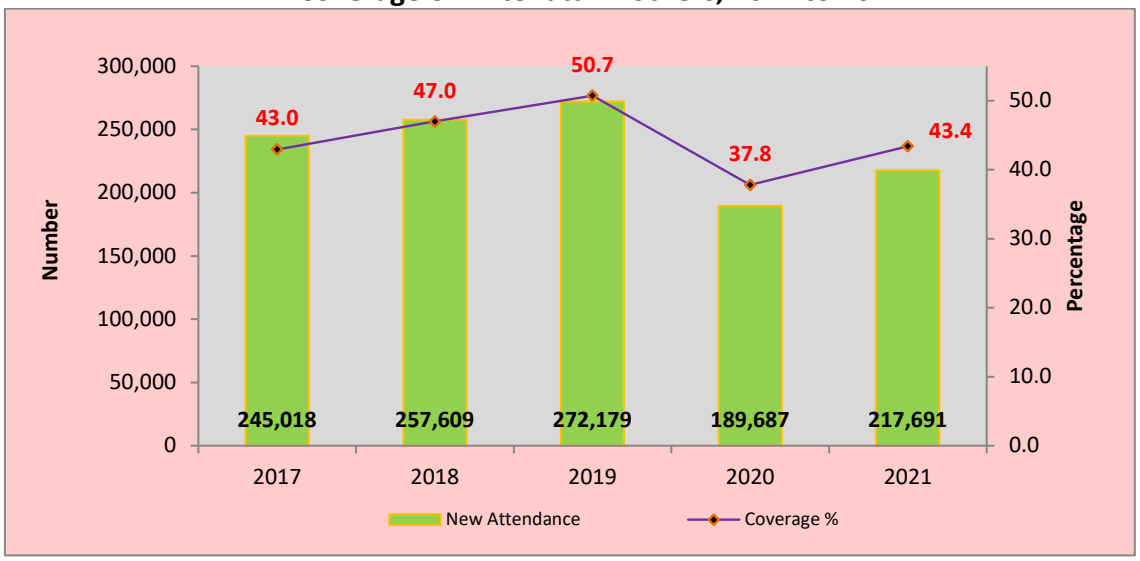


Source: Health Informatics Centre, MOH 2021

Oral Healthcare for Antenatal Mothers

Various efforts were taken to increase the attendance of antenatal mothers at dental clinics such as increasing the referrals from MCH clinics and health clinics. In 2021, oral health services to antenatal mothers had shown an increased coverage as a result of increase coverage by the dental officers during pandemic **(Figure 13)**.

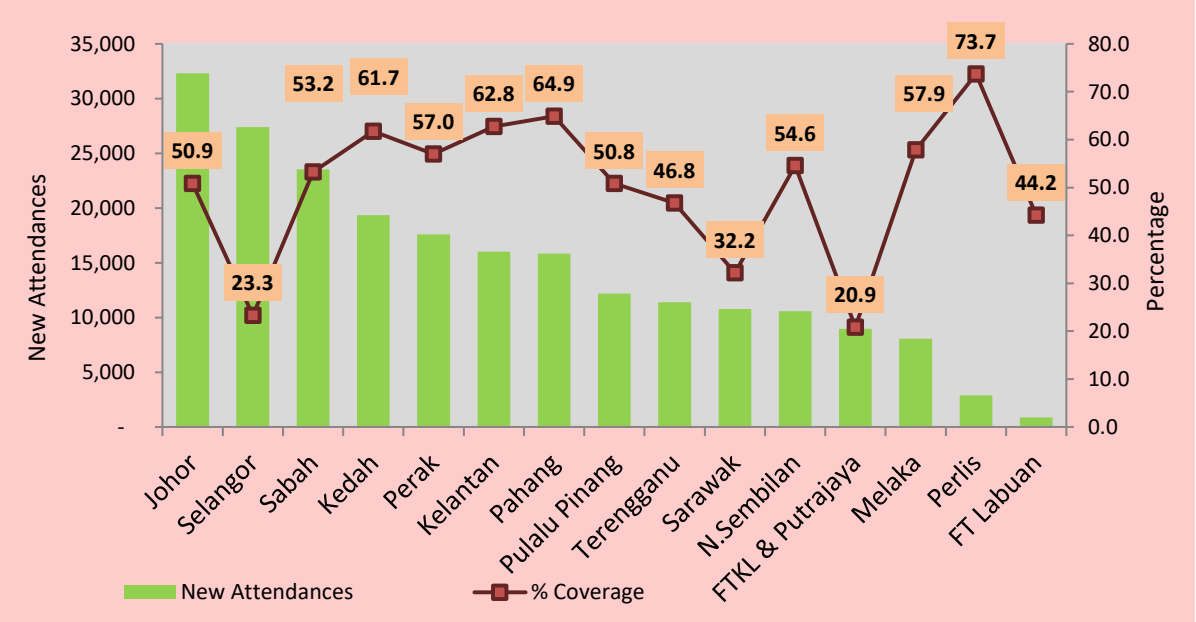
Figure 13:
Coverage of Antenatal Mothers, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

The highest coverage of antenatal mothers were in Perlis (73.7 percent) and followed by Pahang (64.9 percent) **(Figure 14)**.

Figure 14:
Antenatal Mothers Receiving Primary Oral Healthcare by State, 2021

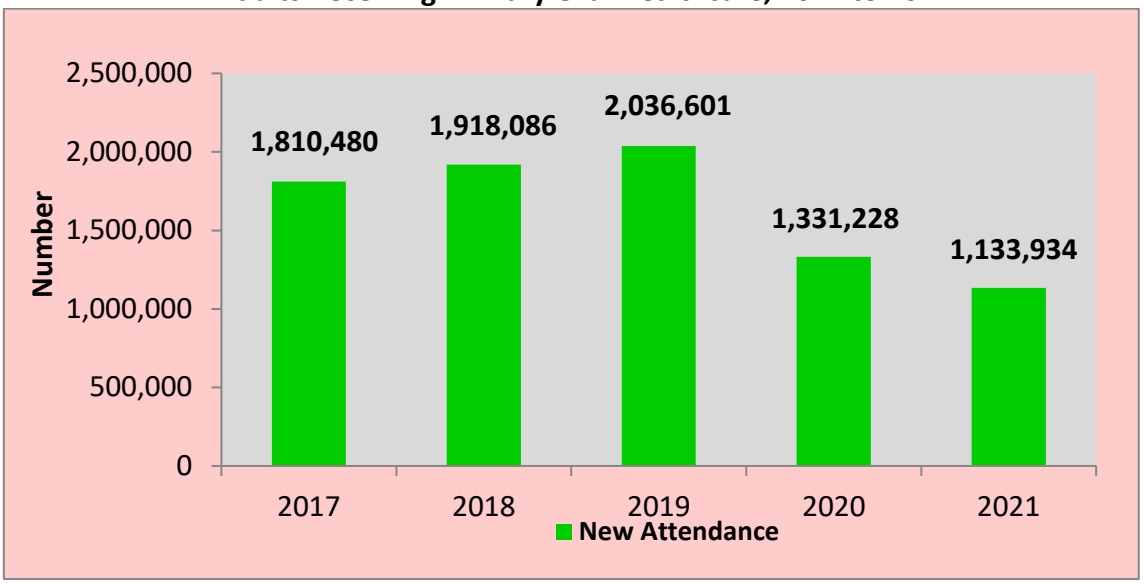


Source: Health Informatics Centre, MOH 2021

Oral Healthcare for Adults

Oral healthcare services for adults are delivered through outpatient services. The number of dental clinics offering outpatient services on a daily basis increased (87.6 percent) in 2021 as compared to 86 percent in 2020. In 2021, all dental clinics were in the process to be equipped with Aerosol Generating Procedure (AGP) rooms. However, the number of AGP rooms were still limited thus less patients could be seen per day. This has also resulted in less number of adult patients receiving oral healthcare services at dental clinics **(Figure 15)**.

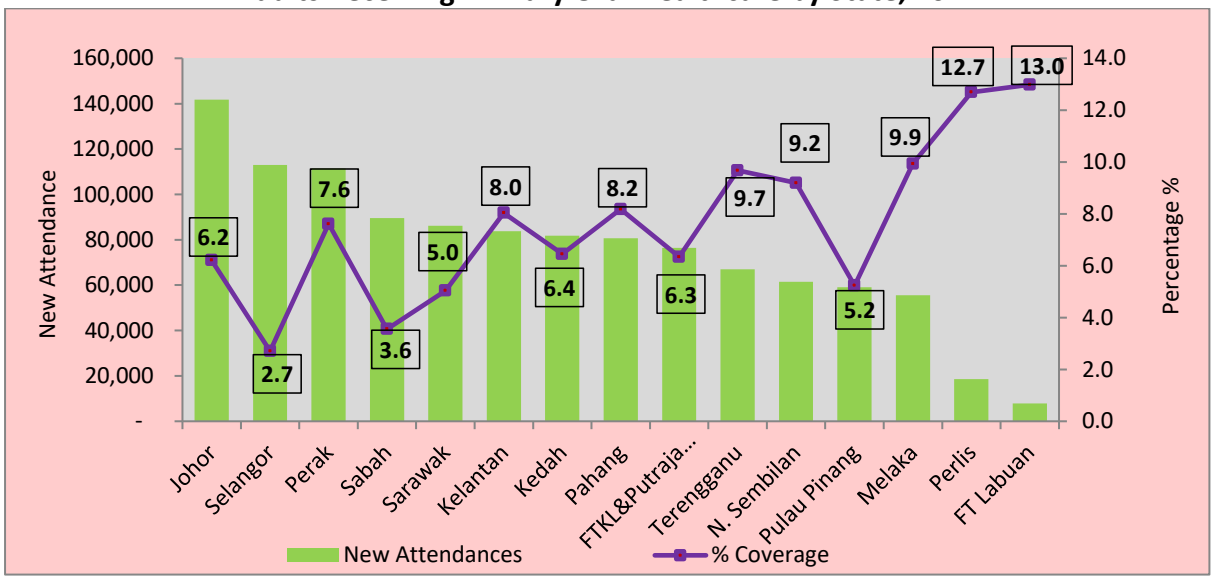
Figure 15:
Adults Receiving Primary Oral Healthcare, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

A total of 5.7 percent of the adult population aged 18 - 59 years old received primary oral healthcare services in 2021. FT Labuan (13.0 percent) recorded the highest percentage of coverage followed by Perlis (12.7 percent) **(Figure 16)**.

Figure 16:
Adults Receiving Primary Oral Healthcare by State, 2021



Source: Health Informatics Centre, MOH 2021

There were 50 KEPP (*Klinik Endodontik di Perkhidmatan Primer*) in 2021 offering endodontic treatment. Identified dental officers were trained to undertake simple cases of anterior and posterior teeth endodontics using rotary instruments. In 2021, a total of 2,125 endodontic cases were completed **(Table 56)**.

Table 56:
Completed Endodontic Cases in KEPP, 2017 to 2021

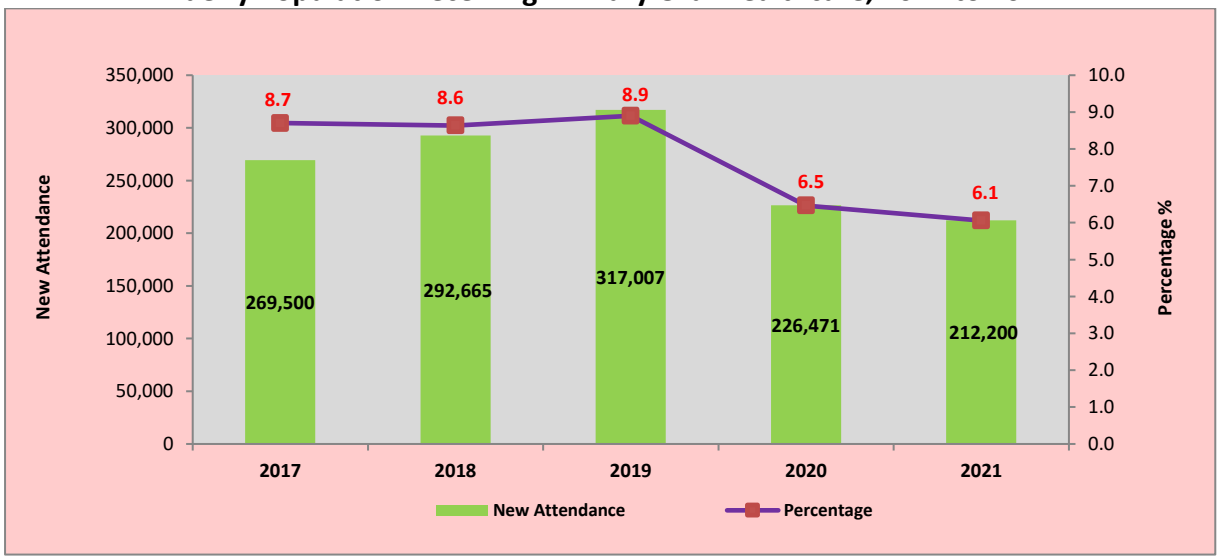
Year	Number of Completed Endodontic Cases				Total cases
	Anterior	Premolar	Molar	Retreatment	
2017	554	397	1,226	49	2,226
2018	491	446	1,274	38	2,249
2019	578	459	1,762	63	2,862
2020	269	235	741	15	1,245
2021	409	367	1,349	36	2,125

Source: Oral Health Programme, MOH 2021

Oral Healthcare for the Elderly

In 2021, the percentage of the elderly population receiving MOH primary oral healthcare services had decreased to 6.1 percent (212,200) as compared to 2020 (6.5 percent) **(Figure 17)**.

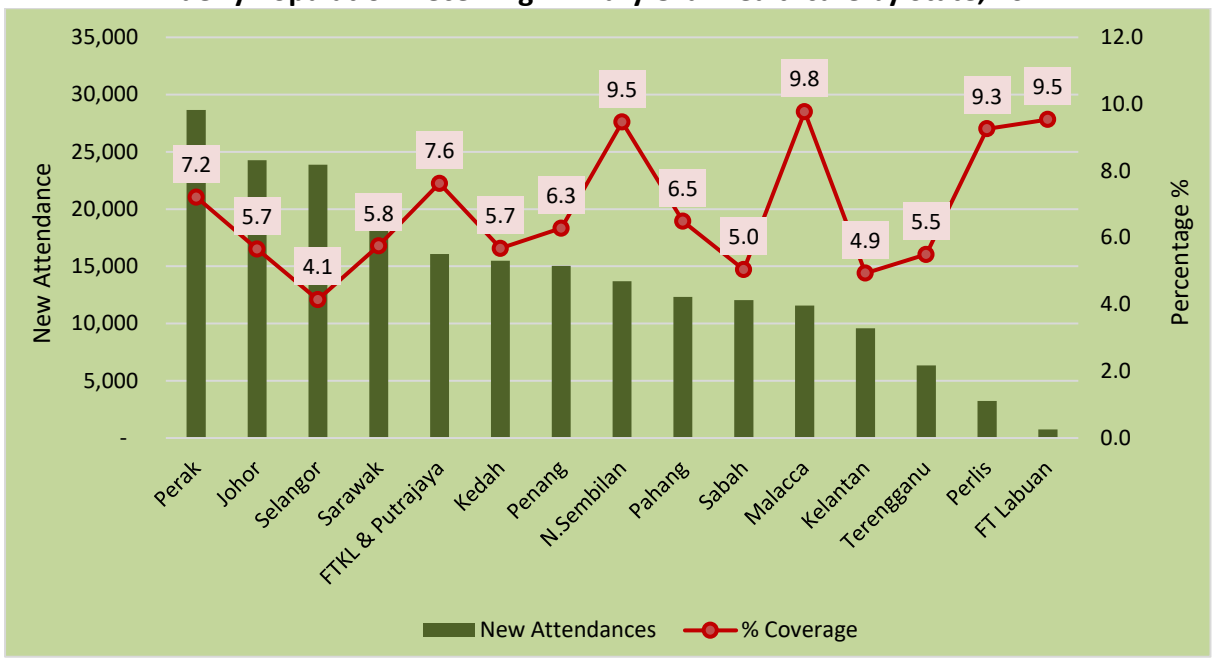
Figure 17:
Elderly Population Receiving Primary Oral Healthcare, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

The highest coverage of primary oral healthcare for the elderly was in Melaka (9.8 percent) followed by Negeri Sembilan and FT Labuan (9.5 percent) **(Figure 18)**.

Figure 18:
Elderly Population Receiving Primary Oral Healthcare by State, 2021



Source: Health Informatics Centre, MOH 2021

The oral health status of the elderly was also unsatisfactory with only 41.7 percent of 60-year-old elderly people having a minimum of 20 teeth **(Table 57)**. The target set in the National Oral Health Plan 2011-2020 for 60 percent of the elderly with ≥ 20 teeth by 2020 has not been achieved.

Table 57:
Oral Health Status of the Elderly, 2017 to 2021

Age group (years)	Average no. of teeth present					Edentulous (percent)				
	2017	2018	2019	2020	2021	2017	2018	2019	2020	2021
60	16.1	16.2	16.3	16.1	16.3	8.0	7.0	7.1	6.7	6.7
65	14.3	14.6	14.7	14.6	14.4	10.4	9.6	9.3	9.1	9.4
75 and above	10.5	10.6	10.8	10.6	10.8	20.6	19.8	19.4	18.8	18.0

Age group (years)	With 20 or more teeth (percent)				
	2017	2018	2019	2020	2021
60	41.4	41.6	43.2	41.7	42.9
65	32.5	33.8	35.1	34.1	34.1
75 and above	19.8	19.9	20.5	19.7	20.2

Source: Health Informatics Centre, MOH 2021

Workload of Dental Providers, 2021

The workload of the dental providers are collected and kept in the Health Information Management System (HIMS)-Oral Health Subsystem which started in 1981. These data served as the basis for monitoring performance and as guidance for future planning towards improving the oral healthcare delivery system. Some of the basic dental procedures carried out by Dental Officers and Dental Therapists in 2021 were as below **(Table 58)**.

Table 58:
Workload of Dental Officers and Dental Therapists by Dental Procedure, 2021

Dental Procedure	Dental Officer	Dental Therapist	TOTAL
Restoration	875,684	99,182	974,866
Scaling	332,792	13,247	346,039
Periodontal Cases	217	-	217
Fissure Sealant	17,326	18,393	35,719
Tooth Extraction	1,063,702	89,392	1,153,094
Surgical Tooth Extraction	8,918	-	8,918
Abscess Management	89,071	-	89,071
Endodontic	16,240	-	16,240
Crown & Bridges	322	-	322
Partial Denture	57,503	-	57,503
Full Denture	44,182	-	44,182
TOTAL	**2,505,957**	**220,214**	**2,726,171**

Source: Health Informatics Centre, MOH 2021

SPECIALIST ORAL HEALTHCARE

There are nine (9) dental specialties in Ministry of Health (MOH) and the specialties are divided into two categories; Hospital Based and Non-Hospital Based specialties. Overall, in 2021, there were 424 dental specialists in MOH **(Table 59)**.

Table 59:
Number of Dental Specialists in MOH, 2017-2021

Specialty \ Year	2017	2018	2019	2020	2021
Hospital Based Specialties					
Oral and Maxillofacial Surgery	75	77	81	84	90
Paediatric Dentistry	38	45	46	49	54
Oral Pathology & Oral Medicine	15	14	15	15	17
Special Care Dentistry	4	5	6	7	7
Forensic Dentistry	1	1	2	3	3
Non-Hospital Based Specialties					
Orthodontic	64	69	70	80	81
Periodontic	36	42	44	49	58
Restorative Dentistry	28	31	37	40	46
Dental Public Health Specialist	90	85	80	72	71
TOTAL	**351**	**369**	**381**	**399**	**427**

(Not inclusive of specialist undergoing gazettement and Contract Dental Specialist)
Source: Oral Health Programme, MOH 2021

Mapping of specialist services was done to ensure appropriate distribution of existing specialists based on needs, availability of post and facilities and to identify future training requirements for all specialties. The expansion of six (6) dental specialist services were undertaken for 14 dental facilities in 2021 **(Table 60)**.

Table 60:
New Dental Specialty Services Established in 2021

Specialty	Facility
Oral and Maxillofacial Surgery	Hospital Queen Elizabeth II, Sabah
Paediatric Dentistry	Hospital Sibu, Sarawak
Oral Pathology and Oral Medicine	Hospital Serdang, Selangor
Orthodontics	Klinik Pergigian Batu Berendam, Melaka Klinik Pergigian Chendering, Terengganu
Periodontics	Klinik Pergigian Bandar Tun Hussein Onn, Selangor KP Taman Batu Muda, WPKL & Putrajaya Klinik Pergigian Rembia, Melaka Klinik Pergigian Labis, Segamat Johor Klinik Pergigian Bukit Indah, Johor Klinik Pergigian Marang, Terengganu Klinik Pergigian Luyang, Sabah
Restorative Dentistry	Klinik Pergigian Jalan Gambut, Pahang Klinik Pergigian Manir, Terengganu

Source: Oral Health Programme, MOH 2021

Dental Specialist Meetings

Dental Specialist Meetings are organized annually for each discipline to discuss Annual Plan of Actions, Achievements, Key Performance and Patient Safety Indicators and issues pertaining to each specialty. In 2021, ten (10) Dental Specialist Meetings were held virtually including a Combined Dental Specialists Meeting **(Table 61).**

Table 61:
Dental Specialist Meetings Organized in 2021

Specialty	Date
Forensic Dentistry	4 February 2021
Special Care Dentistry	17 February2021
Oral Pathology Oral Medicine	4 March 2021
Periodontics	10 March 2021
Paediatric Dentistry	15 March 2021
Orthodontics	24 March 2021
Restorative Dentistry	30 March 2021
Oral and Maxillofacial Surgery	1 April 2021
Dental Public Health	14 June 2021
Combined Dental Specialist Meeting	23 – 24 June 2021

Source: Oral Health Programme MOH 2021

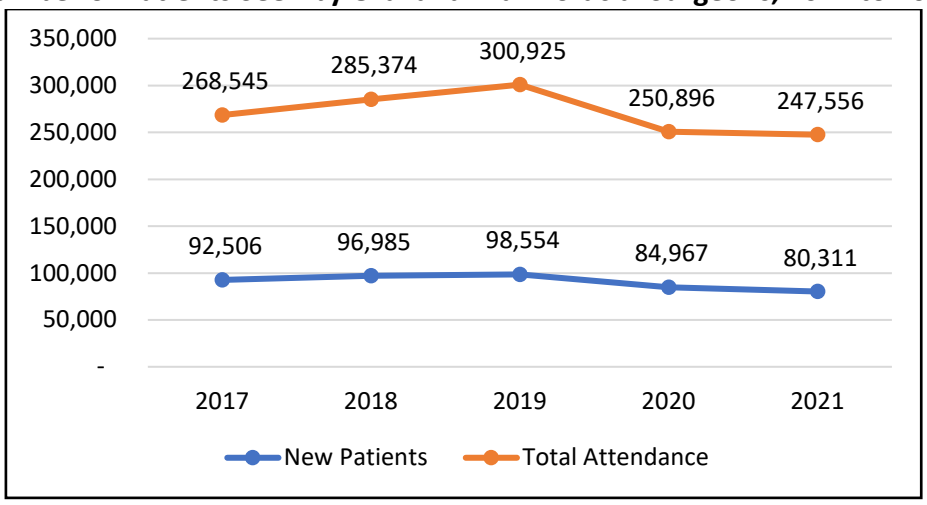
Hospital Based Dental Specialties

- **Oral and Maxillofacial Surgery**

There was a gradual increase of total attendance for Oral and Maxillofacial Surgery (OMFS) patients in the last three years. However, it decreased by 16.6 percent in 2020 (250,896) and further 1.3 percent in 2021 (247,556) as compared to 2019 (300,925) and 2020 (250,896) respectively due to pandemic COVID-19 **(Figure 19)**.

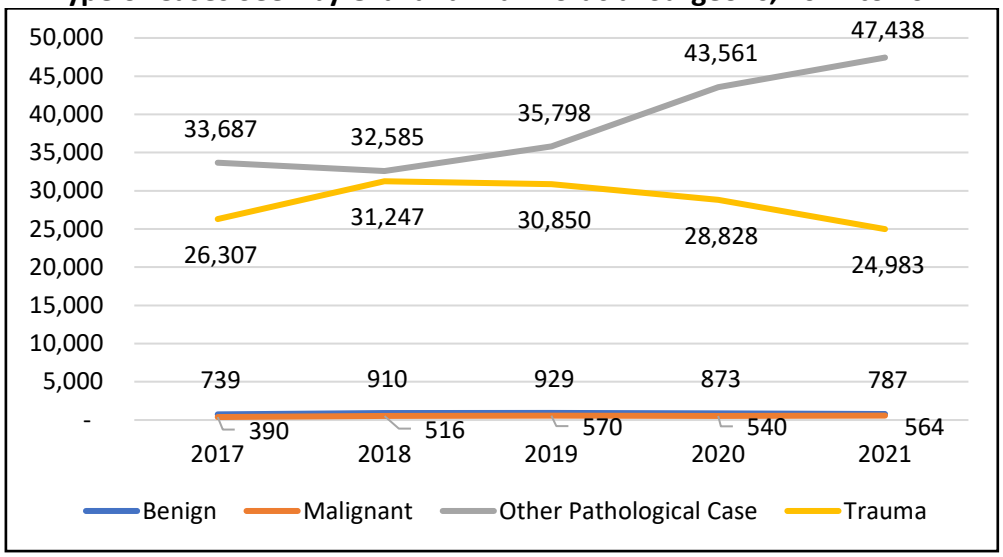
Type of cases seen by OMFS include benign and malignant cancer cases, trauma, and other pathological cases. In 2021, other pathological cases increased by 8.9 percent but trauma cases decreased 13.3 percent as compared to 2020 **(Figure 20)**.

Figure 19:
Number of Patients Seen by Oral and Maxillofacial Surgeons, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

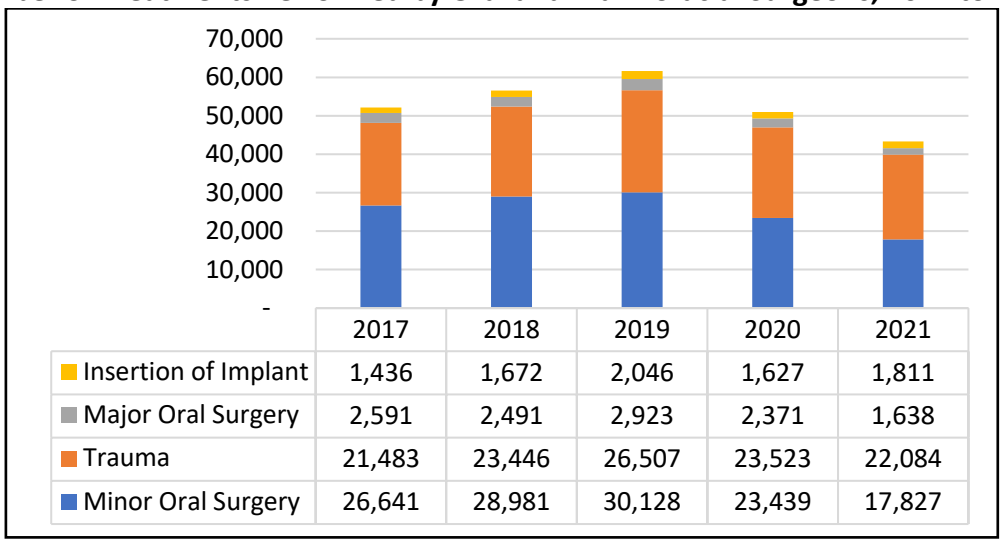
Figure 20:
Type of Cases Seen by Oral and Maxillofacial Surgeons, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

Type of treatment performed by OMFS includes minor oral surgery, major oral surgery, trauma, and insertion of implant. Trends showed all type of treatment given decreased in 2020 and 2021. However, insertion of implant increased 11.3 percent in 2021 as compared to 2020 **(Figure 21)**.

Figure 21:
Number of Treatments Performed by Oral and Maxillofacial Surgeons, 2017 to 2021



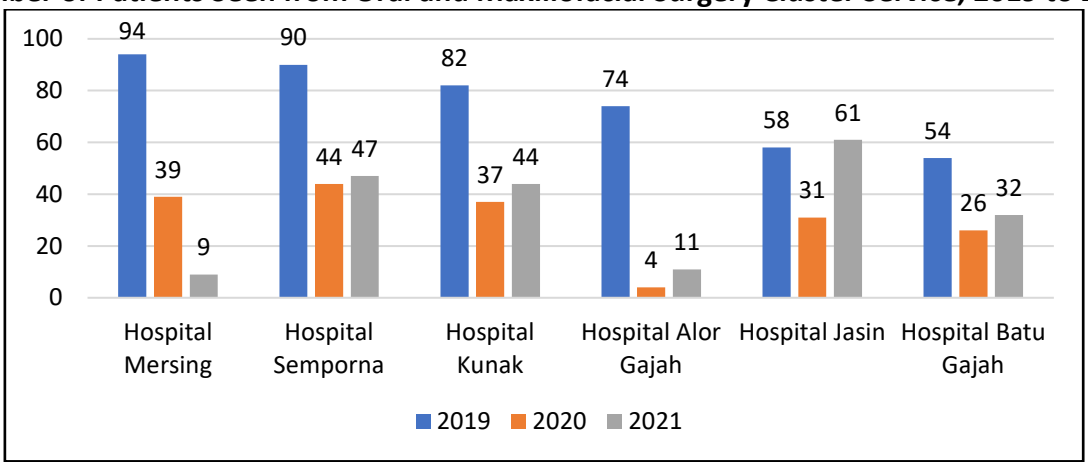
	2017	2018	2019	2020	2021
Insertion of Implant	1,436	1,672	2,046	1,627	1,811
Major Oral Surgery	2,591	2,491	2,923	2,371	1,638
Trauma	21,483	23,446	26,507	23,523	22,084
Minor Oral Surgery	26,641	28,981	30,128	23,439	17,827

Source: Health Informatics Centre, MOH 2021

Oral and Maxillofacial Cluster Services

Oral and Maxillofacial Surgery cluster services implemented in 2019 involved the state of Perak, Melaka, Johor dan Sabah which include Hospital Semporna, Kunak, Jasin, Mersing, Alor Gajah and Batu Gajah. Number of patients seen in the hospitals increased (7 to 175 percent) except Hospital Mersing; in year 2021 as compared to 2020 **(Figure 22)**.

Figure 22:
Number of Patients Seen from Oral and Maxillofacial Surgery Cluster Service, 2019 to 2021



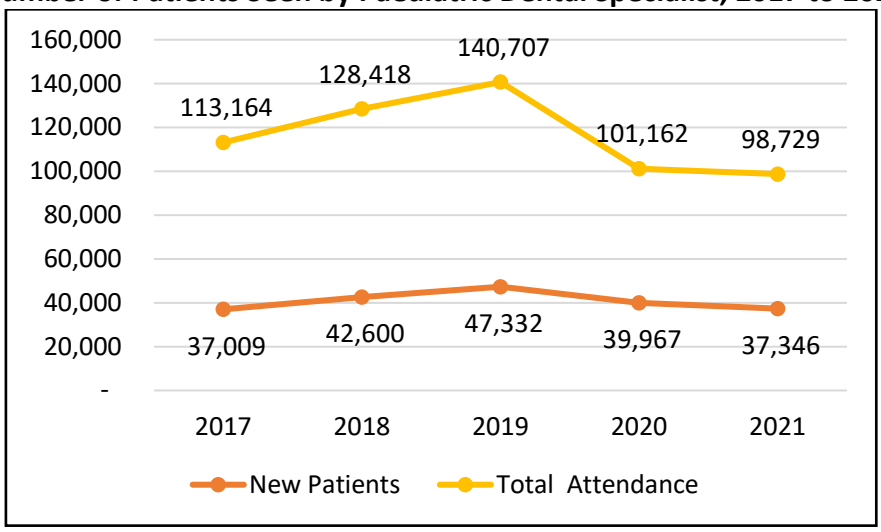
Source: Health Informatics Centre, MOH 2021

- **Paediatric Dentistry**

Paediatric Dental Specialist (PDS) attends to children below 17-year-old. There was a decrease 28.1 percent (101,162) in total attendance in 2020 and 2.4 percent (98,729) in 2021 as compared to 2019 and 2020 respectively due to pandemic COVID-19 **(Figure 23)**.

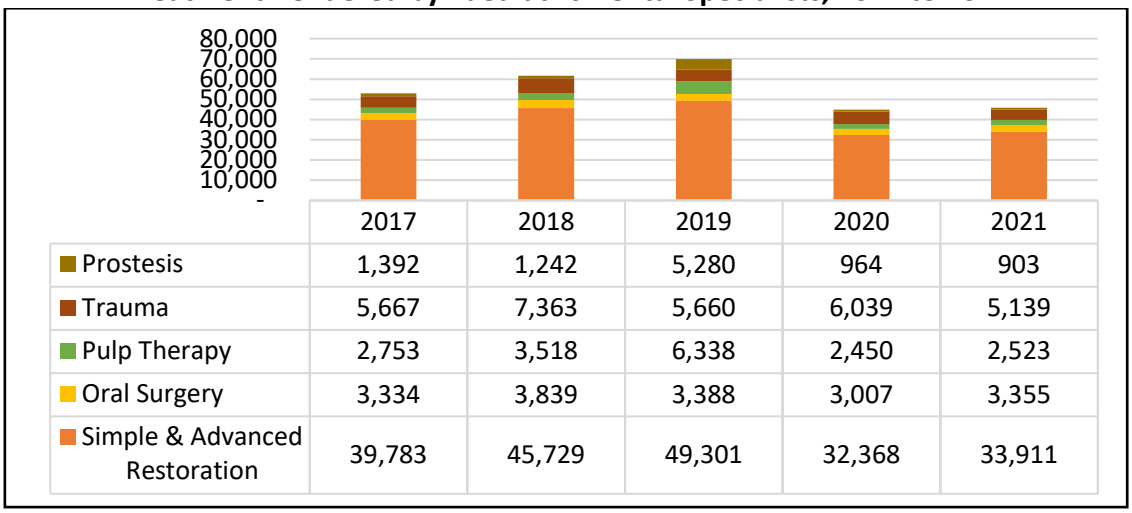
In 2021 type of treatments rendered increased were restorations (5 percent), oral surgery (12 percent) and pulp therapy (3 percent) and treatment decreased were for trauma (15 percent) and prosthesis (5 percent) as compared to 2020 **(Figure 24**).

Figure 23:
Number of Patients Seen by Paediatric Dental Specialist, 2017 to 2021



Source: Oral Health Programme, MOH 2021

Figure 24:
Treatment Rendered by Paediatric Dental Specialists, 2017 to 2021

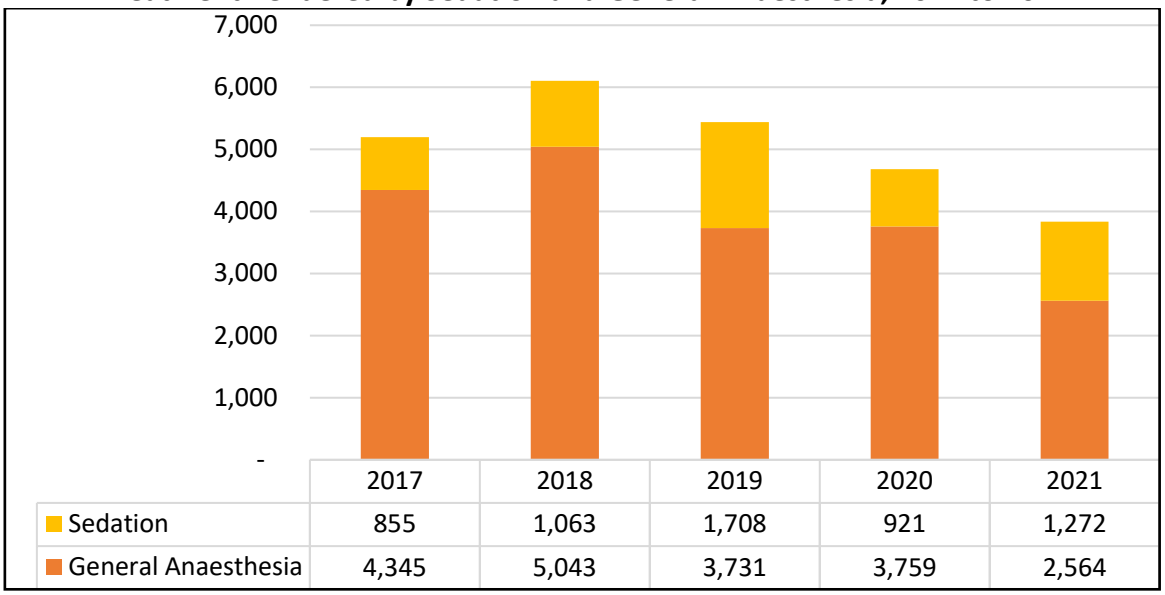


	2017	2018	2019	2020	2021
Prostesis	1,392	1,242	5,280	964	903
Trauma	5,667	7,363	5,660	6,039	5,139
Pulp Therapy	2,753	3,518	6,338	2,450	2,523
Oral Surgery	3,334	3,839	3,388	3,007	3,355
Simple & Advanced Restoration	39,783	45,729	49,301	32,368	33,911

Source: Health Informatics Centre, MOH 2021

More procedures for treatment were done under General Anaesthesia as compared to Sedation. However, procedures under sedation increased from 19.7 percent (2017) to 49.6 percent (2021) **(Figure 25)**.

Figure 25:
Treatment Rendered by Sedation and General Anaesthesia, 2017 to 2021



	2017	2018	2019	2020	2021
Sedation	855	1,063	1,708	921	1,272
General Anaesthesia	4,345	5,043	3,731	3,759	2,564

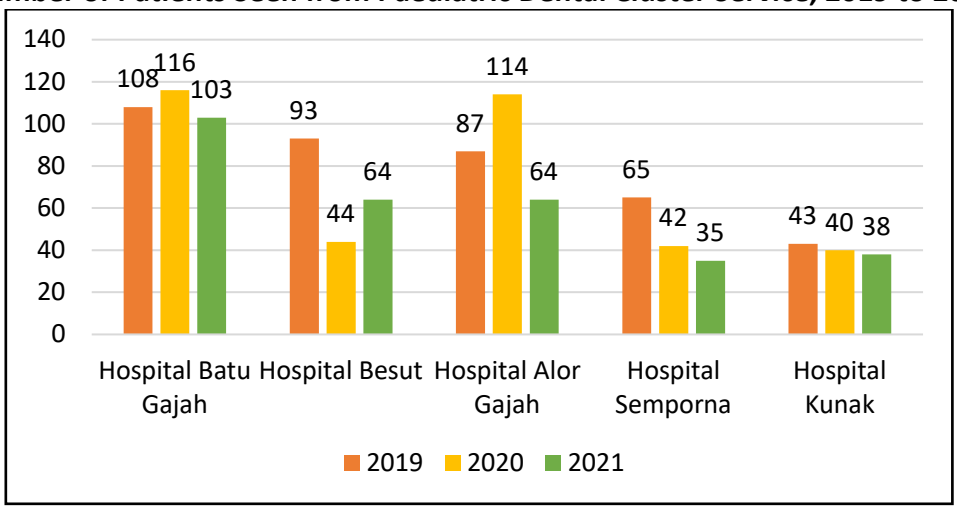
Source: Health Informatics Centre, MOH 2021

Dental Paediatric Cluster Services

Paediatric Dentistry (PD) cluster services implemented in 2019 involved the state of Perak, Melaka, Terengganu and Sabah which include Hospital Batu Gajah, Alor Gajah, Besut, Semporna and Kunak.

Number of patients seen in the hospitals decreased (5.0 to 43.9 percent) except Hospital Besut increased 45.5 percent; in year 2021 as compared to 2020 **(Figure 26)**.

Figure 26:
Number of Patients Seen from Paediatric Dental Cluster Service, 2019 to 2021

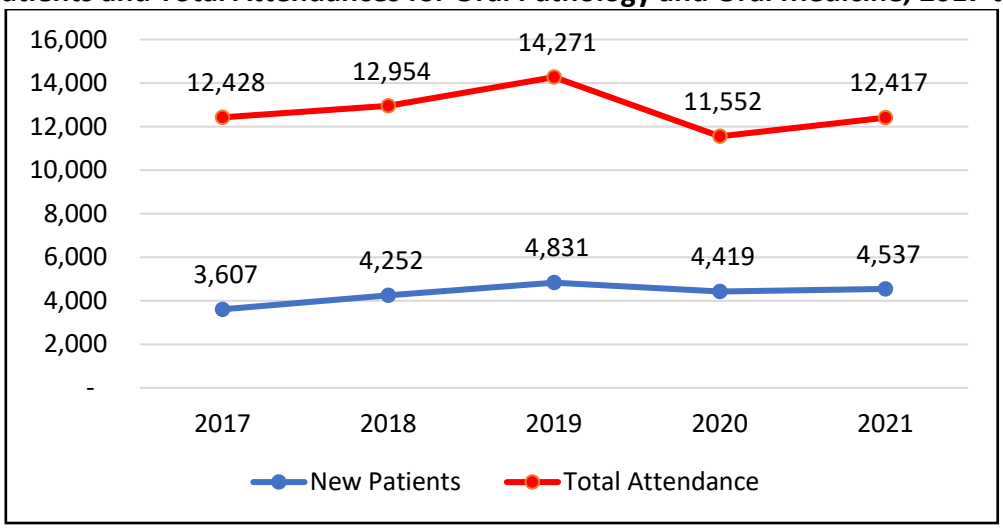


Source: Health Informatics Centre, MOH 2021

- **Oral Pathology and Oral Medicine**

Total attendance of patients seen by Oral Pathology and Oral Medicine (OPOM) specialists decreased 19.1 percent (11,552) in 2020 and increased 7.5 percent (12,417) 2021 as compared to 2019 and 2020 respectively **(Figure 27)**.

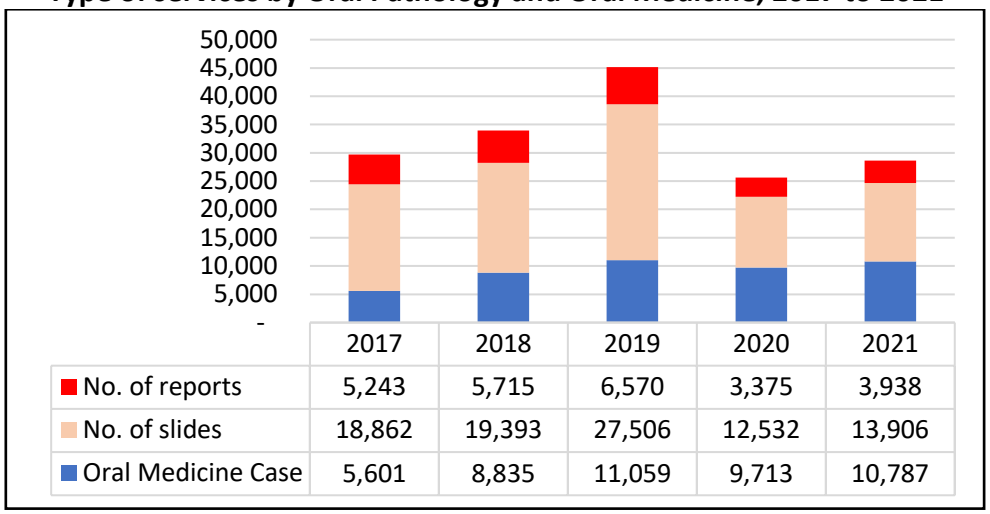
Figure 27:
New Patients and Total Attendances for Oral Pathology and Oral Medicine, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

Number of Oral Medicine cases, slides seen, and reports issued by OPOM specialists in year 2021 increased 11.1, 11.0 and 16.7 percent respectively as compared to 2020 **(Figure 28)**.

Figure 28:
Type of services by Oral Pathology and Oral Medicine, 2017 to 2021

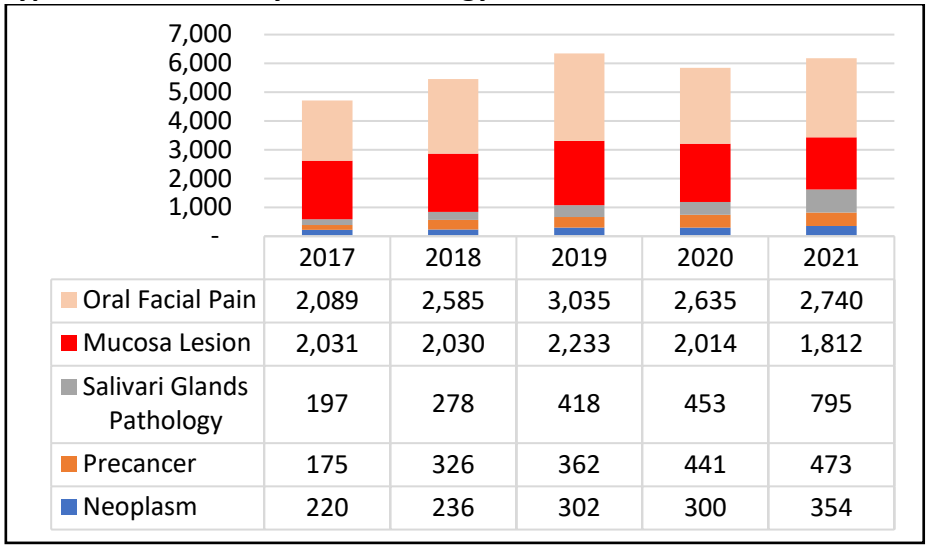


	2017	2018	2019	2020	2021
No. of reports	5,243	5,715	6,570	3,375	3,938
No. of slides	18,862	19,393	27,506	12,532	13,906
Oral Medicine Case	5,601	8,835	11,059	9,713	10,787

Source: Health Informatics Centre, MOH 2021

In 2021, case of neoplasm, precancer, salivary glands pathology, and oral facial pain increased 18.0, 7.3, 75.5 and 4 percent respectively; however, mucosal lesions decreased 10.0 percent as compared to 2020 **(Figure 29)**.

Figure 29:
Type of cases seen by Oral Pathology and Oral Medicine, 2017 to 2021



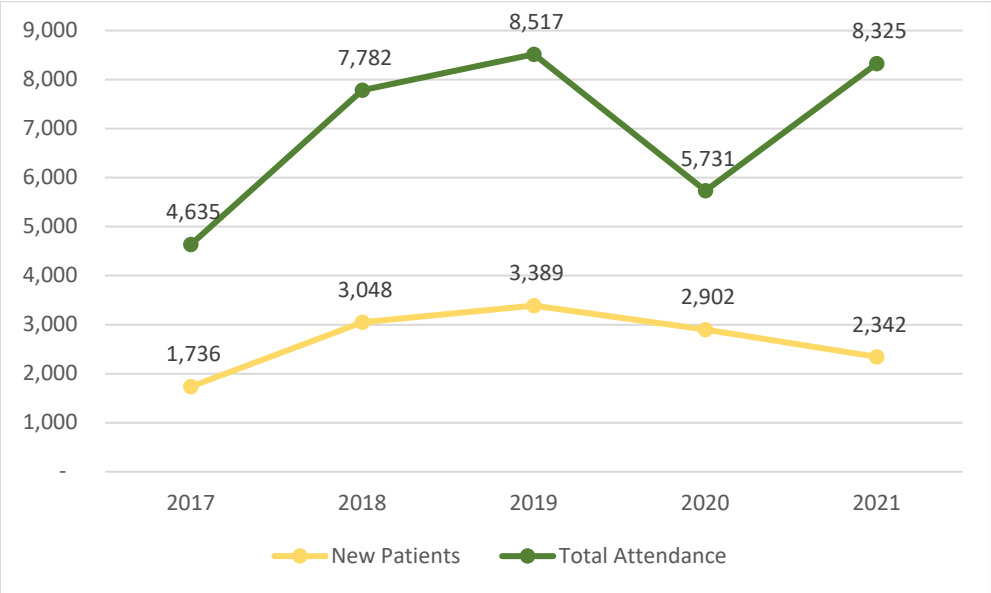
	2017	2018	2019	2020	2021
Oral Facial Pain	2,089	2,585	3,035	2,635	2,740
Mucosa Lesion	2,031	2,030	2,233	2,014	1,812
Salivari Glands Pathology	197	278	418	453	795
Precancer	175	326	362	441	473
Neoplasm	220	236	302	300	354

Source: Health Informatics Centre, MOH 2021

- **Special Care Dentistry**

In 2021, there were six (6) Special Care Dentistry (SCD) specialists in MOH, based in Kuala Lumpur Hospital (HKL), Cheras Rehabilitation Hospital, Kajang Hospital, Seberang Jaya Hospital, Queen Elizabeth Hospital and Raja Perempuan Zainab II Hospital. Total attendances increased 45.3 percent (8,325) in 2021 as compared to 2020 **(Figure 30)**.

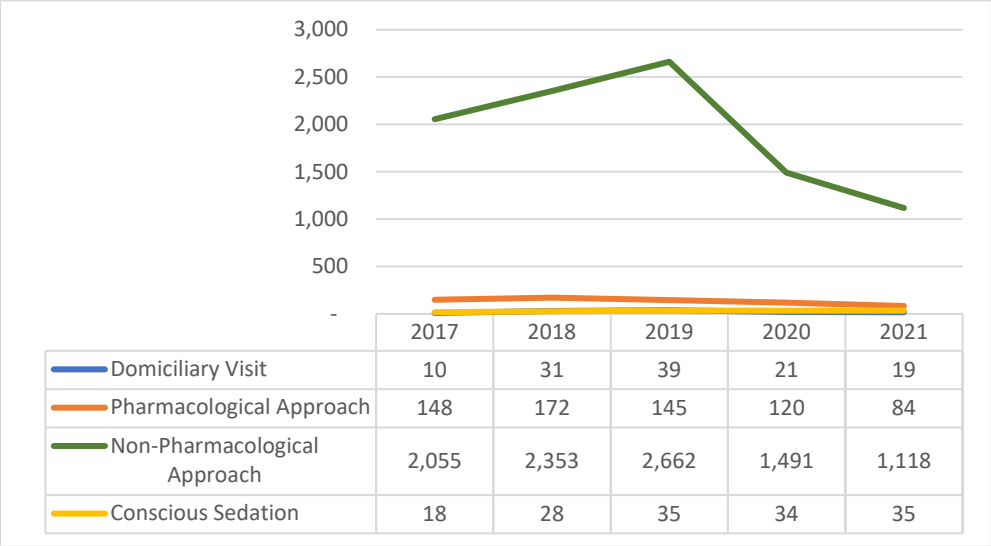
Figure 30:
Number of Patients Seen by Special Care Dentistry Specialists, 2017-2021



Source: Oral Health Programme, MOH 2021

In 2021, there was a decrease in cases seen by SCD which includes conscious sedation (9.5 percent), non-pharmacological approach (30.0 percent), pharmacological approach (25.0 percent) and domiciliary visit (2.9 percent) as compared to 2020 **(Figure 31)**.

Figure 31:
Type of Cases Seen by Special Care Dentistry Specialists, 2017 to 2021



	2017	2018	2019	2020	2021
Domiciliary Visit	10	31	39	21	19
Pharmacological Approach	148	172	145	120	84
Non-Pharmacological Approach	2,055	2,353	2,662	1,491	1,118
Conscious Sedation	18	28	35	34	35

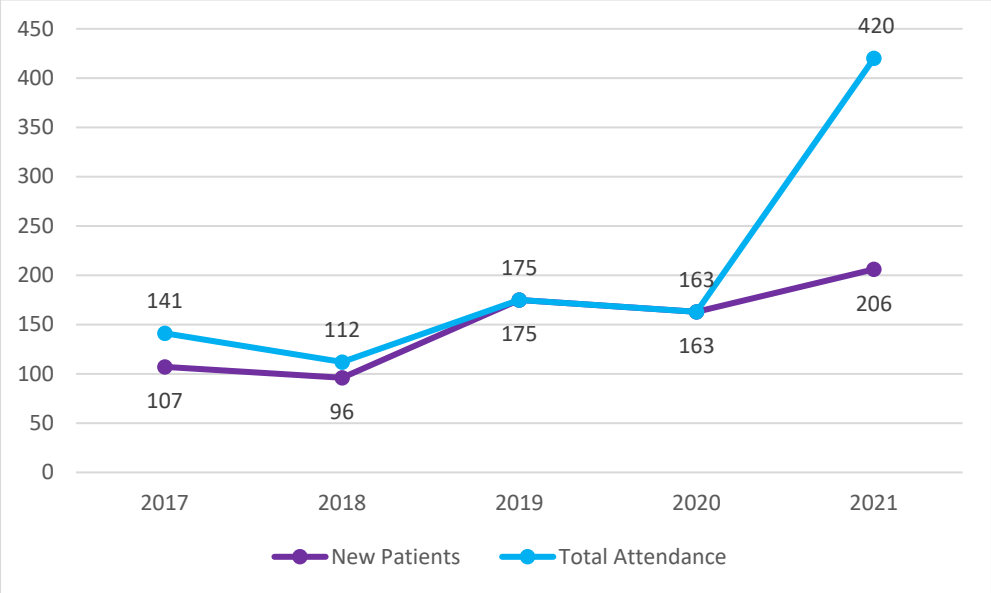
Source: Oral Health Programme, MOH 2021

- **Forensic Dentistry**

Forensic Dentistry (FD) Unit was established in Hospital Kuala Lumpur (HKL) and working closely with General Forensic Department. In 2021, there are two (2) Forensic Dentistry Specialists (FDS) positioned in HKL and one (1) in Hospital Pulau Pinang to manage forensic cases throughout the country. Total number of cases seen in 2021 increased 157.7 percent (420) as compared to 163 (2020) **(Figure 32)**.

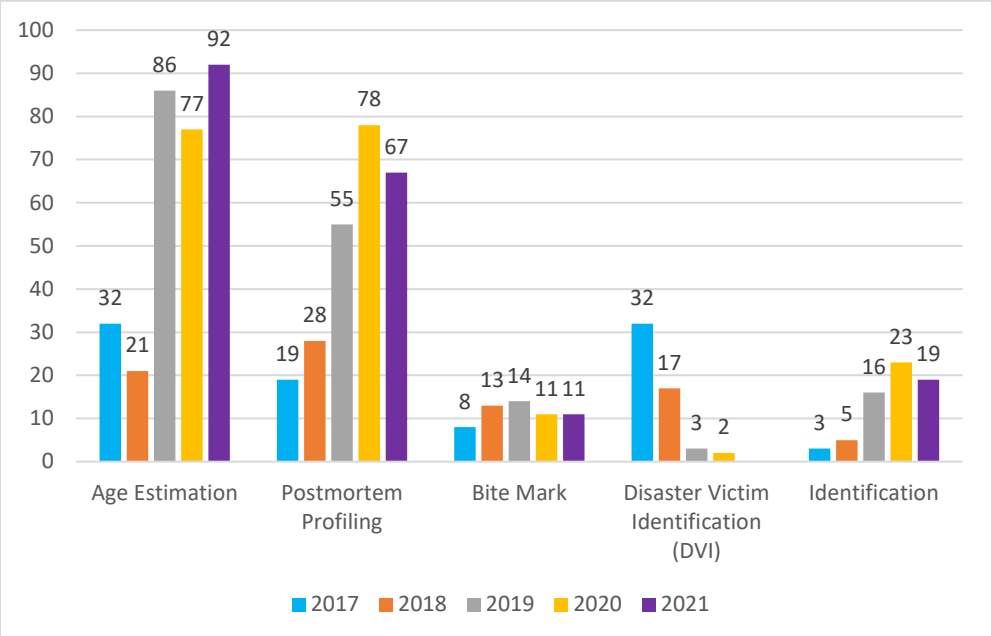
In 2021, age identification cases increased 19.5 percent but other cases decreased include post-mortem profiling (14.1 percent), disaster victim investigation (100 percent) and identification (17.4 percent) as compared to 2020 **(Figure 33)**.

Figure 32:
Number of Cases Seen by Forensic Dentistry Specialists, 2017 to 2021



Source: Oral Health Programme, MOH 2021

Figure 33:
Type of Cases Seen by the Forensic Dentistry Specialists, 2017 to 2021



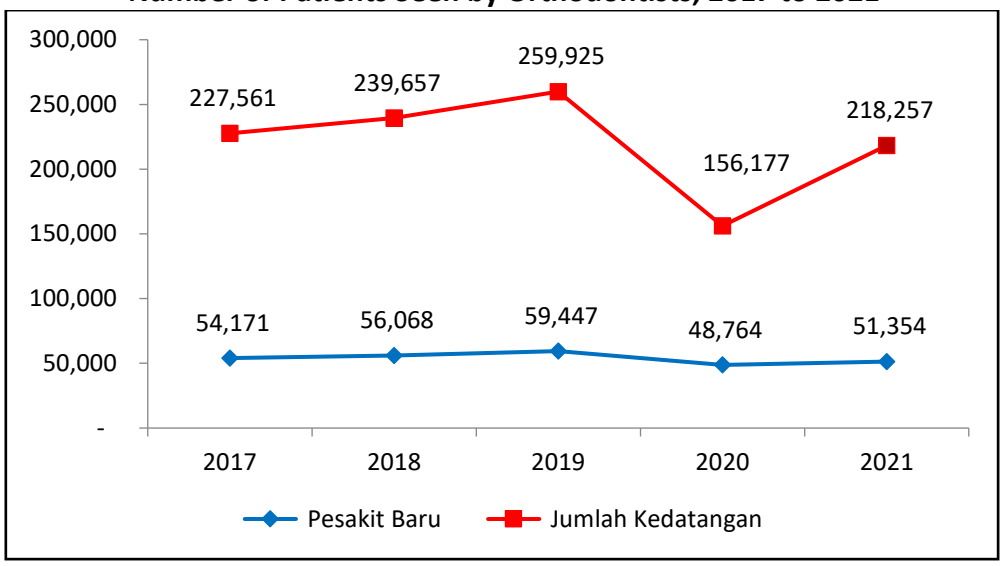
Source: Oral Health Programme, MOH 2021

Non-Hospital Based Dental Specialties

- **Orthodontics**

The demand for orthodontic treatment has always been on the rise. Total attendance increased by 39.7 percent in 2021 (218,257) compared to 2020 (156,177) **(Figure 34)**.

Figure 34:
Number of Patients Seen by Orthodontists, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

In 2021, the number of patients who received removable dan fixed appliances increased by 56.8 and 57.5 percent respectively as compared to 2020. Number of patients completed active treatment increased by 68.2 percent in 2021 (5,968) compared to 2020 (3,549) **(Table 62)**.

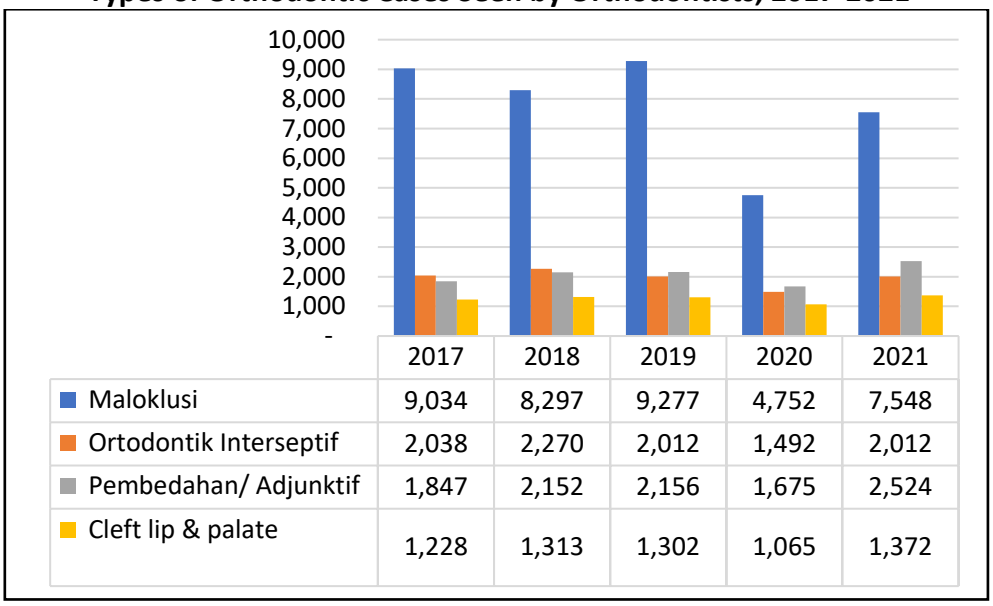
Table 62:
Type of Services for Orthodontic Cases, 2016-2020

Service Categories		2016	2017	2018	2019	2020	2021
Consultation	I	13,643	13,503	13,077	13,753	7,498	9,862
	II	8,207	9,034	8,297	9,277	4,955	7,548
Removable Appliances	No. of Patients	7,159	7,844	8024	9,084	5,287	8,291
Fixed Appliances	No. of Patients	9,666	10,333	9,684	10,418	5,846	9,209
No. of active treatment cases		31,389	34,868	35,213	37,186	33,914	34,665
Active treatment completed		4,665	5,267	5,293	6,501	3,549	5,968

Source: Health Informatics Centre, MOH 2021

Among the types of orthodontic cases seen in Orthodontic Specialist Clinics are malocclusion, interceptive orthodontics, surgical/adjunctive and cleft and palate cases. Overall, the number of orthodontic cases seen increased by 66.4 percent in year 2021 (14,977) as compared to 2020 (9,002). The cases seen most commonly in 2021 is malocclusion (7,548) **(Figure 35)**.

Figure 35:
Types of Orthodontic Cases Seen by Orthodontists, 2017-2021

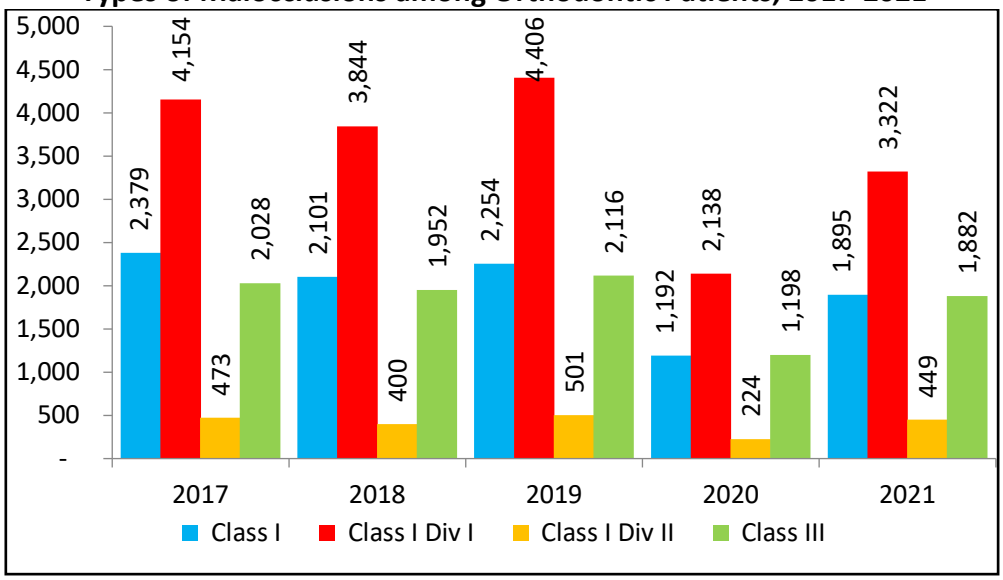


	2017	2018	2019	2020	2021
Maloklusi	9,034	8,297	9,277	4,752	7,548
Ortodontik Interseptif	2,038	2,270	2,012	1,492	2,012
Pembedahan/ Adjunktif	1,847	2,152	2,156	1,675	2,524
Cleft lip & palate	1,228	1,313	1,302	1,065	1,372

Source: Health Informatics Centre, MOH 2021

Relative to type of malocclusion, the highest type of cases treated are Class II Division I (3,322), followed by Class I (1,895), Class III (1,882), and Class II Division II (449) in 2021. Overall, malocclusion cases seen increased 58.8 percent (7,548) as compared to 2020 (4,752) **(Figure 36)**.

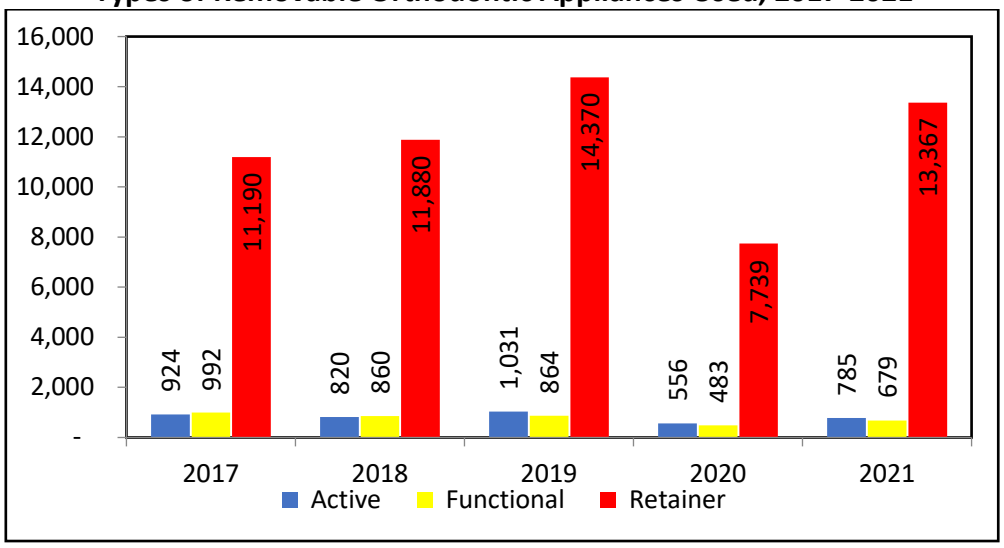
Figure 36:
Types of Malocclusions among Orthodontic Patients, 2017-2021



Source: Health Informatics Centre, MOH 2021

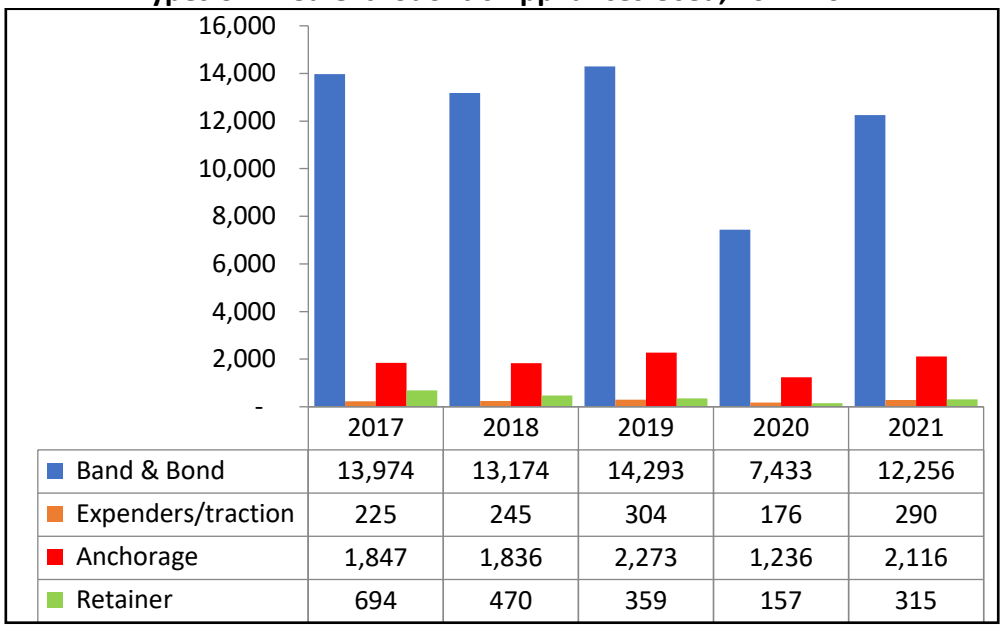
The most commonly used removable appliances for orthodontic treatment in 2021 were retainers (13,367), followed by active appliances (785) and functional appliances (679) **(Figure 37)**.

Figure 37:
Types of Removable Orthodontic Appliances Used, 2017-2021



Source: Health Informatics Centre, MOH 2021

Figure 38:
Types of Fixed Orthodontic Appliances Used, 2017-2021



	2017	2018	2019	2020	2021
Band & Bond	13,974	13,174	14,293	7,433	12,256
Expenders/traction	225	245	304	176	290
Anchorage	1,847	1,836	2,273	1,236	2,116
Retainer	694	470	359	157	315

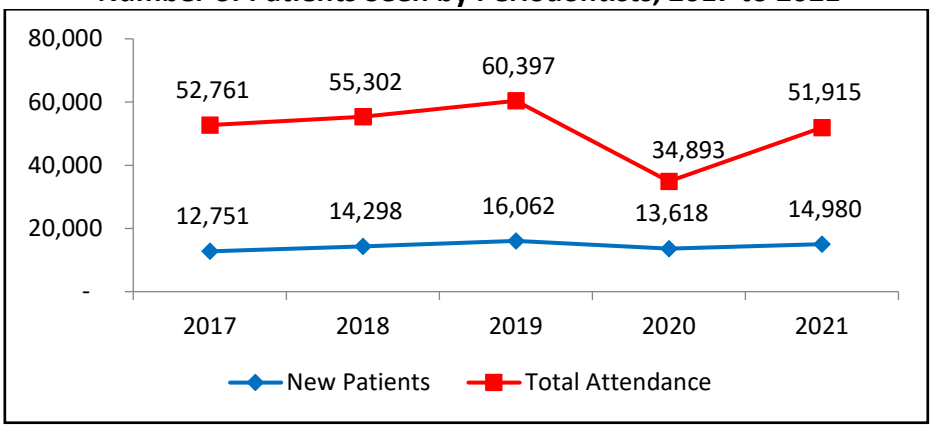
Source: Health Informatics Centre, MOH 2021

The most used fixed appliances in 2021 is band and bond (12,256), followed by anchorage (2,116), fixed retainers (315) and expanders/ traction devices (290) **(Figure 38)**.

- **Periodontics**

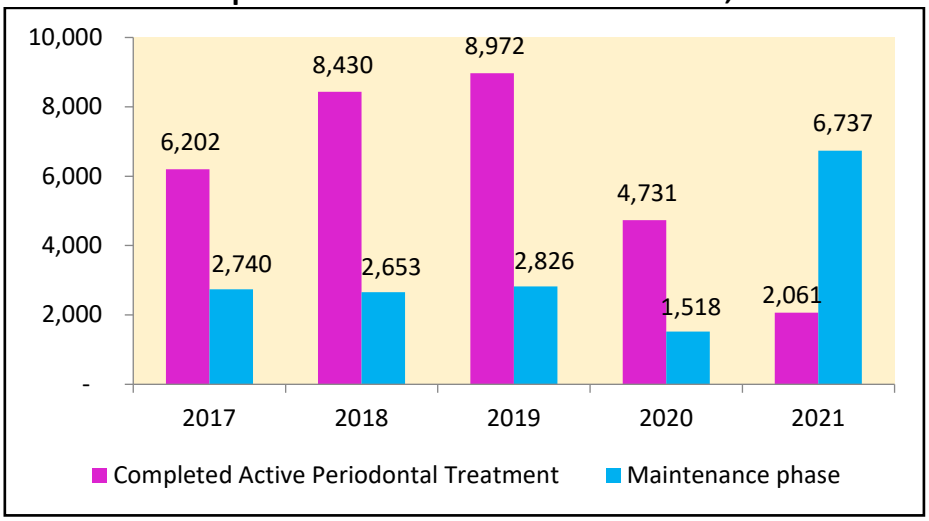
In 2021, total attendance (51,915) of periodontic patients increased 48.8 percent compared to 2020 (34,893) **(Figure 39)**. Number of patients in maintenance phase (6,737) increased by 343.8 percent in comparison to 2020 (1,518). Relatively, in 2021 patients who completed active periodontal treatment decreased by 56.4 percent (2,061) when compared to 2020 (4,731) **(Figure 40)**.

Figure 39:
Number of Patients Seen by Periodontists, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

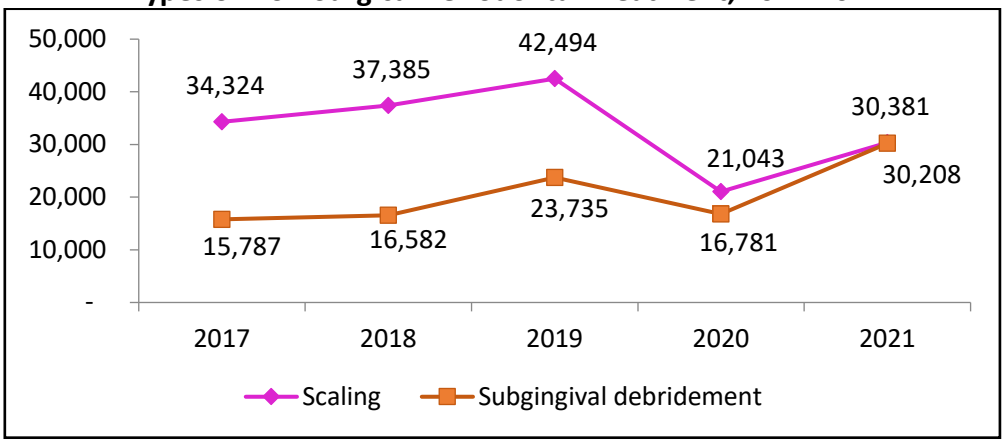
Figure 40:
Number of Completed Cases and Maintenance Phase, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

Non-surgical treatments like scaling and subgingival debridement increased by 44.4 and 80.0 percent respectively in the year 2021 as compared to 2020 **(Figure 41).**

Figure 41:
Types of Non-Surgical Periodontal Treatment, 2017-2021



Source: Health Informatics Centre, MOH 2021

In 2021, surgical periodontal treatments increased within the range of 30.6 to 112.1 percent, when compared to year 2020. Relative to the statement, the three (3) commonest surgical treatment was flap surgery (2,126), followed by grafts (1,036) and regenerative therapy (844) **(Table 63)**.

Table 63:
Types of Surgical Periodontal Treatments, 2017 to 2021

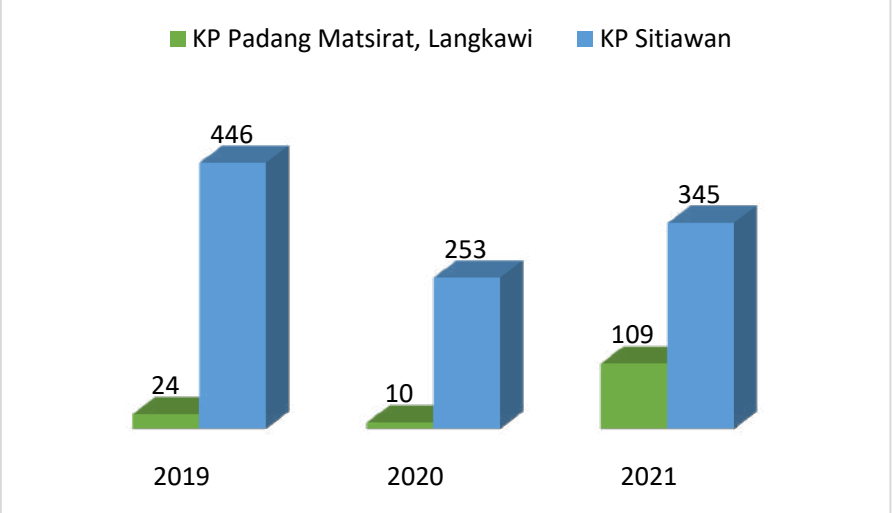
Procedures	Flap	Gingivectomy	Graft	Frenectomy	Amputation/ hemi section	Regenerative Therapy	Crown lengthening	Dental Implant
2017	1,421	586	519	162	58	307	293	240
2018	1,601	754	676	198	49	411	356	244
2019	2,259	1,015	966	208	65	586	427	349
2020	1,241	507	557	121	34	398	166	175
2021	2,126	815	1,036	189	49	844	241	310

Source: Health Informatics Centre, MOH 2021

Periodontic Cluster Services

In 2021, attendance of patients from Periodontics cluster service increased 990.0 and 36.4 percent at *Klinik Pergigian Padang Matsirat Langkawi, Kedah* and *Klinik Pergigian Sitiawan, Perak* respectively as compared to 2020 **(Figure 42)**.

Figure 42:
Number of Patients Seen from Periodontics Cluster Service, 2019 to 2021

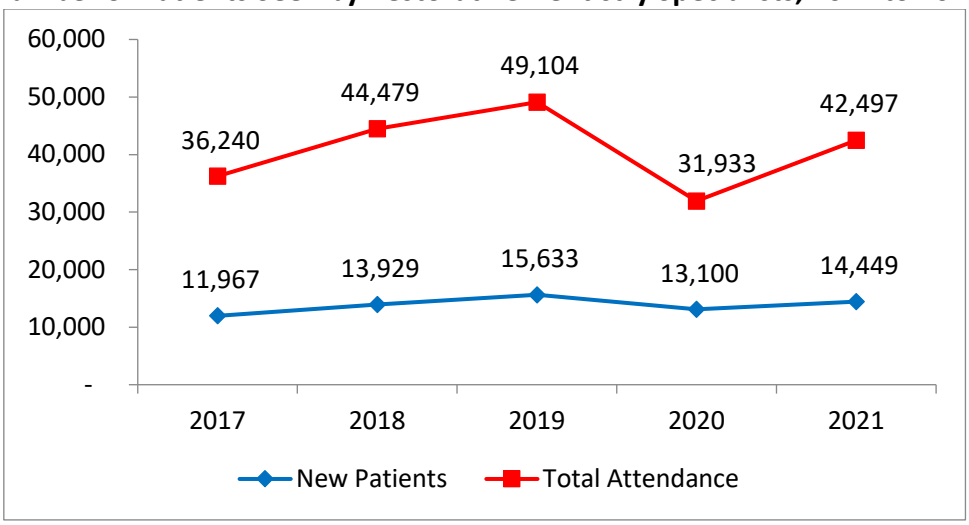


Source: Health Informatics Centre, MOH 2021

- **Restorative Dentistry**

In 2021, total attendance in Restorative Dentistry Specialist clinics increased 33.1 percent in 2021 (42,497) as compared to 2020 (31,933) **(Figure 43)**.

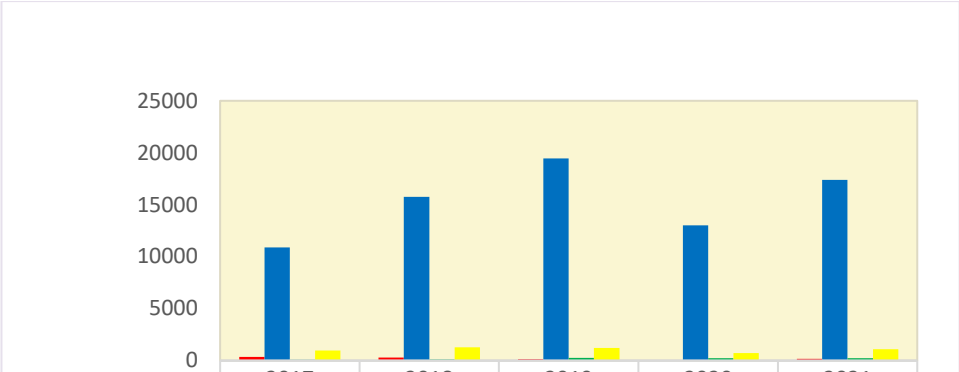
Figure 43:
Number of Patients Seen by Restorative Dentistry Specialists, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

In 2021, there was an overall increase in intra-coronal restorations done compared to year 2020. Tooth-coloured restoration was the most used restorative material in 2021 (17,389) as compared to 2020 (13,024) **(Figure 44).** The most common extra-oral restoration done was full ceramic crown (1,370), which saw an increase of 84.9 percent as compared to 2020 (741) **(Figure 45)**.

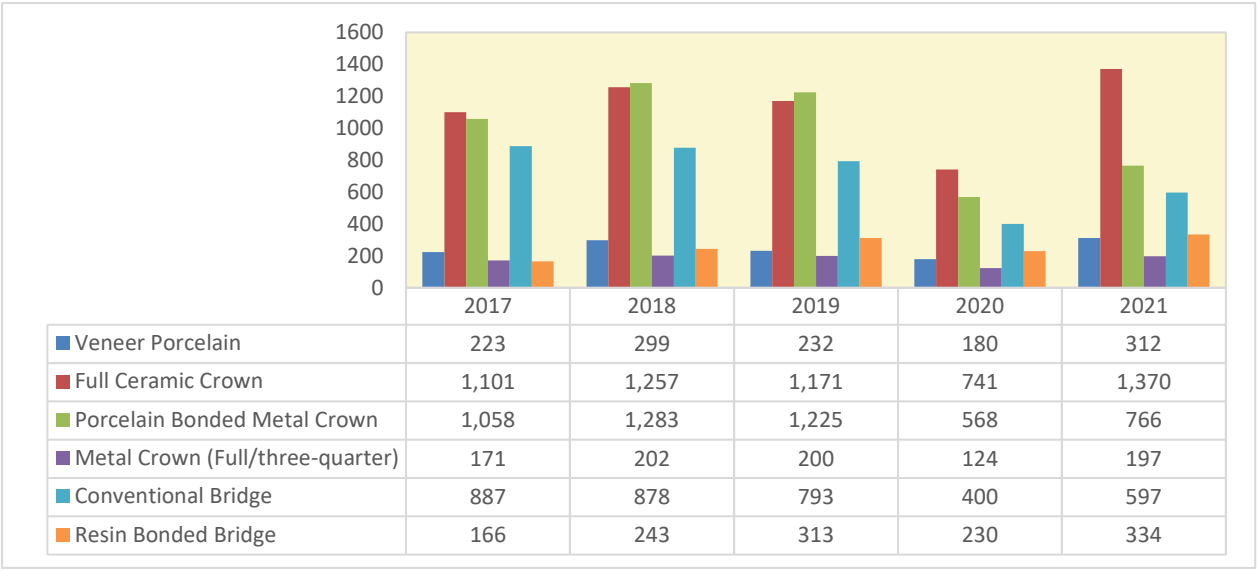
Figure 44:
Type of Intra-coronal Restorations, 2017-2021



	2017	2018	2019	2020	2021
Amalgam	354	302	155	64	161
Tooth Coloured	10,882	15,746	19,452	13,024	17,389
Inlay/Onlay	91	114	268	231	233
Post & Core	967	1,268	1,205	742	1,099

Source: Health Informatics Centre MOH, 2021

Figure 45:
Types of Extra-coronal Restorations 2017 to 2021

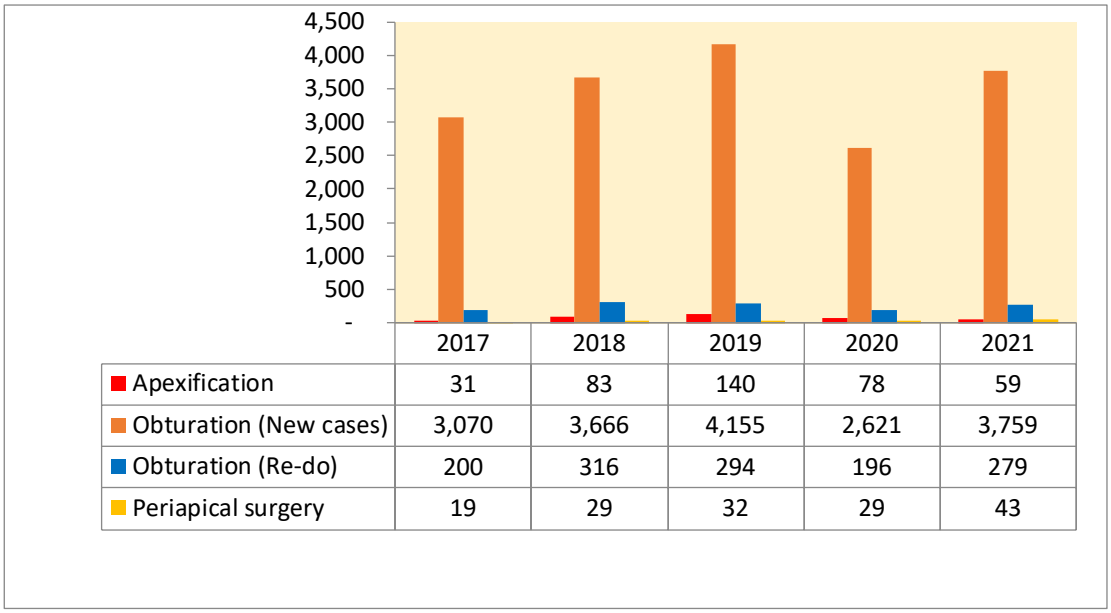


	2017	2018	2019	2020	2021
Veneer Porcelain	223	299	232	180	312
Full Ceramic Crown	1,101	1,257	1,171	741	1,370
Porcelain Bonded Metal Crown	1,058	1,283	1,225	568	766
Metal Crown (Full/three-quarter)	171	202	200	124	197
Conventional Bridge	887	878	793	400	597
Resin Bonded Bridge	166	243	313	230	334

Source: Health Informatics Centre, MOH 2021

In 2021, the highest number of endodontic treatments done was new case of anterior and posterior tooth obturation (3,759) which was a 43.4 percent increase compared to 2020 (2,621) **(Figure 46)**.

Figure 46:
Types of Endodontic Treatments, 2017-2020

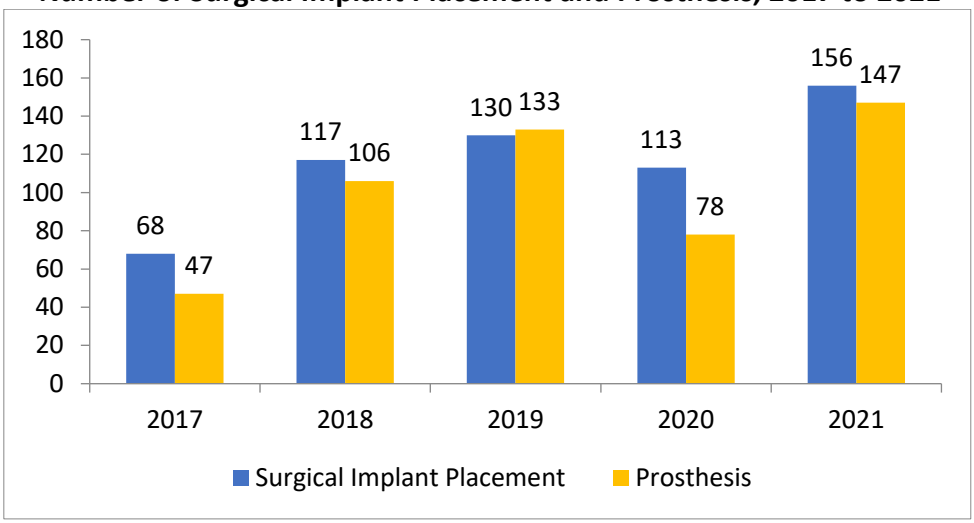


	2017	2018	2019	2020	2021
Apexification	31	83	140	78	59
Obturation (New cases)	3,070	3,666	4,155	2,621	3,759
Obturation (Re-do)	200	316	294	196	279
Periapical surgery	19	29	32	29	43

Source: Health Informatics Centre, MOH 2021

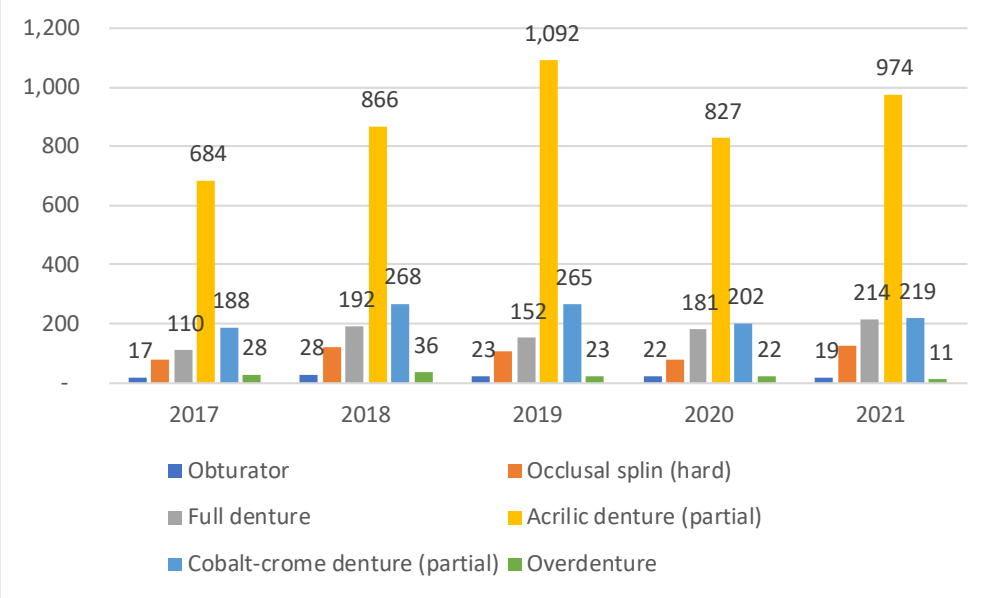
In 2021, surgical implant placement (156) and the number of prosthesis (147) increased by 38.1 and 88.5 percent respectively as compared to year 2020 **(Figure 47)**. The highest number of prostheses done by the Restorative Specialty was acrylic dentures (974). Overall, there was an increase in all types of prosthesis made except for obturators and overdentures that decreased by 13.6 percent and 50.0 percent respectively as compared to year 2020 **(Figure 48)**.

Figure 47:
Number of Surgical Implant Placement and Prosthesis, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

Figure 48:
Types of Prosthesis Made by Restorative Dentistry Specialists, 2017 to 2021



Source: Health Informatics Centre, MOH 2021

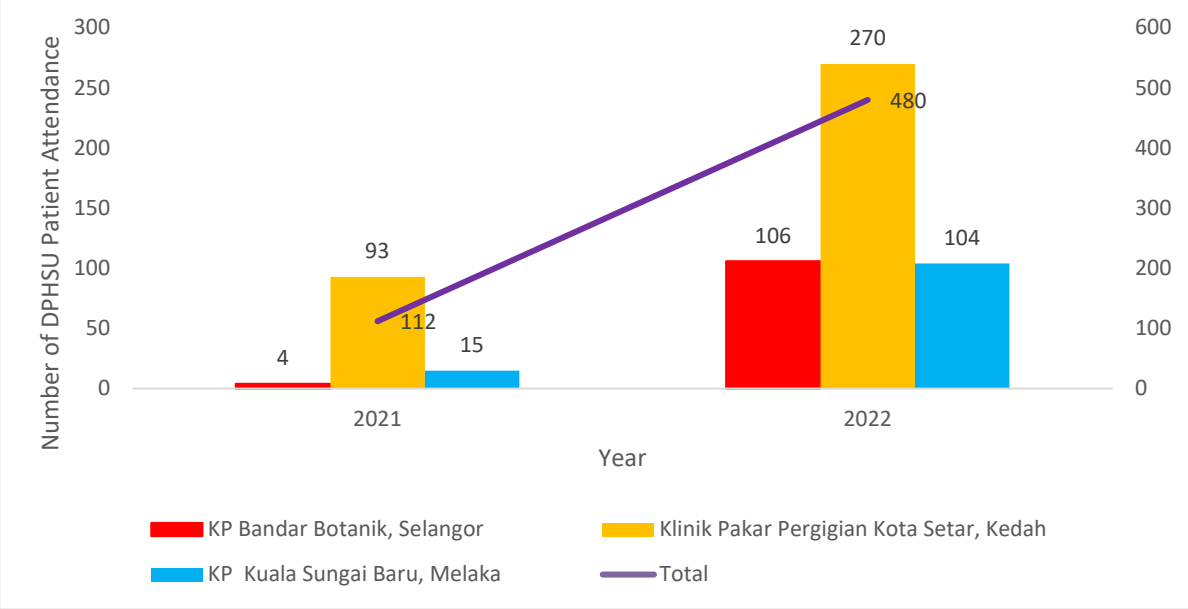
- **Dental Public Health**

The Dental Public Health Specialist (DPHS), MOH Malaysia seek to improve the oral health status of populations in Malaysia as a whole through partnership working with various stakeholders at national, state, district up to local level using public health approach, developing appropriate policies and evidence-based strategies. These include management of activities, human resource and funding issues, legislation and enforcement, clinical affairs, research and epidemiology, inter-sectoral collaboration as well as managing challenges that face the dental profession, within and outside of the country among others. Dental Public Health Specialists also play a pivotal role in decisions made through the Malaysian Dental Council and matters pertaining to professional associations. Hence, the majority of activities undertaken under the role and function of the DPHS are being covered throughout this report.

A newly developed clinical prevention and oral health promotion components of the DPHS role is reflected in the Dental Public Health Specialist Unit which commenced in 2021. The Dental Public Health Specialist Unit continued as pilot project at three (3) facilities namely Klinik Pakar Pergigian Kota Setar, Kedah, Klinik Pergigian Bandar Botanik, Klang, Selangor and Klinik Pergigian Kuala Sungai Baru, Melaka.

The total number of patients seen in year 2022 (480 patients) had increased by 328.6% as compared to year 2021 (112 patients) as shown in **Figure 49.** The increase in patient is contributed by proper infection control during the pandemic and increase in awareness among dental personals on the importance of preventive dental treatment. The significant increase in patients was mainly contributed by the Klinik Pakar Pergigian Kota Setar which is a Specialist Dental Clinic with complete dental facilities and a permanent Dental Public Health Specialist which aids in the continuous DPHSU service throughout the year as compared to KP Bandar Botanik, Selangor and KP Kuala Sungai Baru, Malacca where only a visiting Dental Public Health Specialist is available.

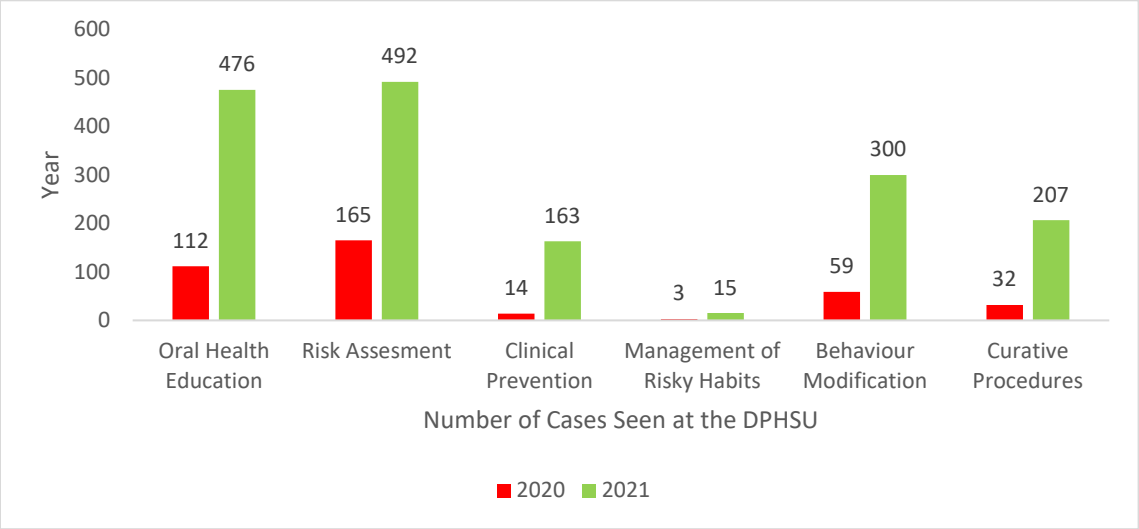
Figure 49:
Total Number of Patient Attendance at the Dental Public Health Specialist Unit in Selangor, Melaka and Kedah, 2020 to 2021



Source: Health Informatics Centre, MOH 2021

Overall, there was an increase in types of cases seen at the DPHSU in 2021 within the range of 198.2% to 1064.3% when compared to 2020 **(Figure 50)** Among the highest type of treatment given were for risk assessment that encompasses plaque score, saliva test, caries, smoking habit, carbon monoxide analysis, dental anxiety and oral health literacy. This is than followed by oral health education and behaviour modification, both which play a crucial part in combating oral diseases and creating oral health awareness among dental patients.

Figure 50:
Type of Treatments Done at the Dental Public Health Specialist Unit in Selangor, Melaka and Kedah, 2020 to 2021



Source: Health Informatics Centre, MOH 2021

COMMUNITY ORAL HEALTHCARE

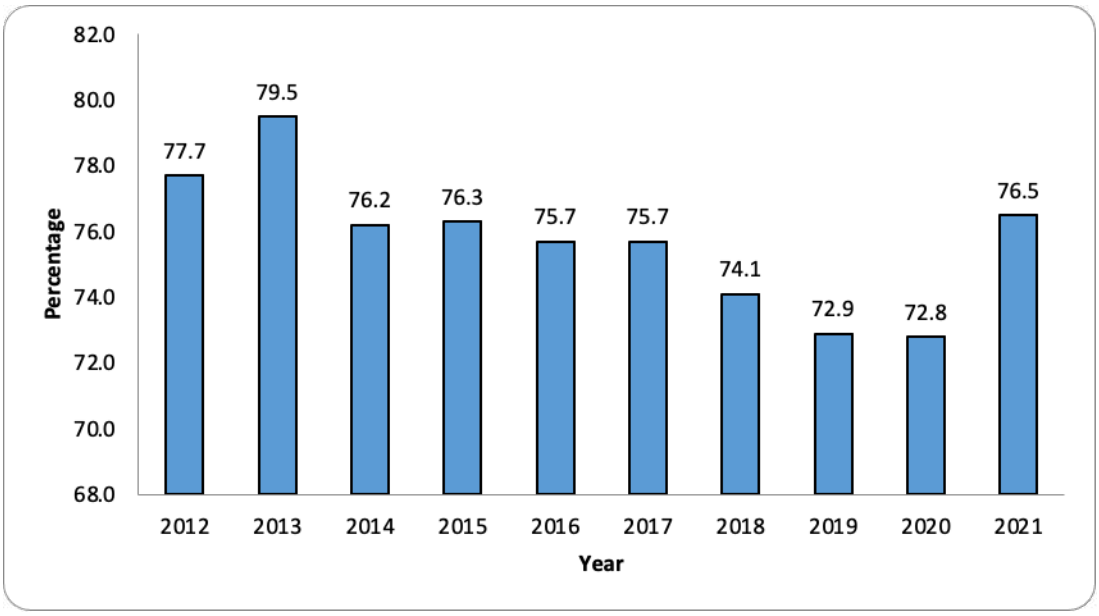
Fluoridation of Public Water Supply

- **Population Coverage**

The fluoridation of public water supplies is a safe, effective, economical, practical and socially equitable public health measure for prevention and control of dental caries for people of all age groups, ethnicity, income and educational levels. However, the coverage and maintenance of optimum levels of fluoride at water treatment plants and reticulation points remained a challenge for some states, in particular, Sabah, Sarawak, Kelantan and Pahang.

The trend on the estimated population receiving fluoridated water was generally on the increase from 2011 to 2013. However, there was a decreasing trend for population coverage in 2014 (from 79.5 percent to 76.2 percent), 2016 (from 76.3 percent to 75.7 percent), 2018 (from 75.7 percent to 74.1 percent), and in 2020 (from 72.9 percent to 72.8 percent) **(Figure 51)**. However, collaborative efforts had been made at various levels to ensure increase of population coverage for fluoridated water. This improvement can be seen from the increase of 2021 population coverage (76.5 percent). Sarawak contributes to the increase of population coverage due to full fluoridation in Sibu.

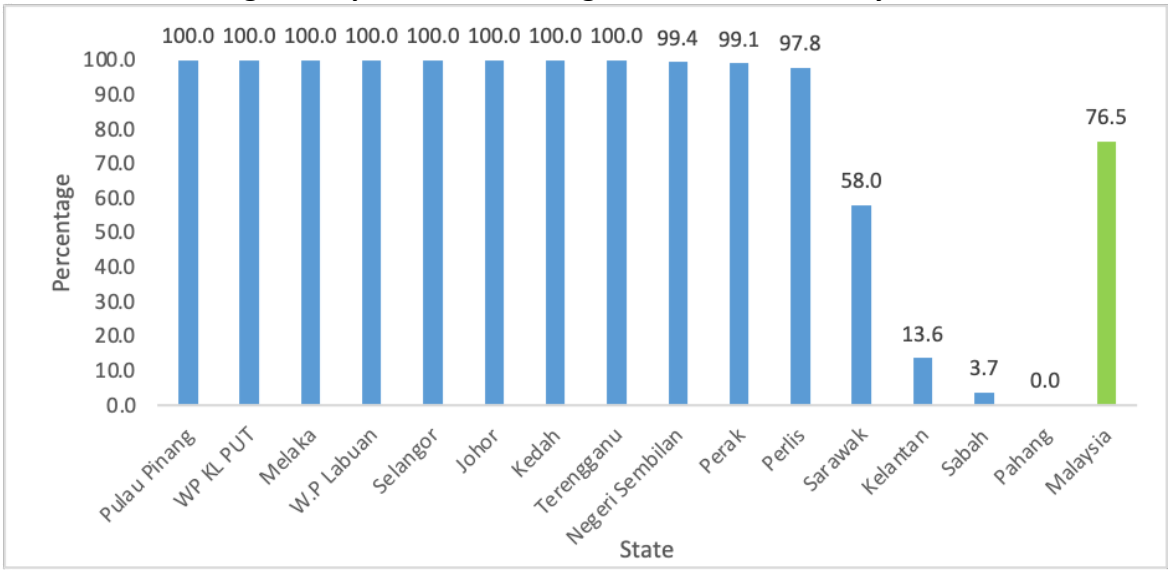
Figure 51:
Percentage of Population Coverage for Water Fluoridation Programme, 2012 to 2021



Source: Oral Health Programme MOH, 2021

Three (3) states achieved less than 15 percent population coverage of fluoridated water – Kelantan, Sabah and Pahang, with Pahang being the lowest at 0.0 percent **(Figure 52).** Kelantan and Sabah achieved a population coverage of 13.6 percent and 3.7 percent respectively.

Figure 52:
Percentage of Population Receiving Fluoridated Water by State, 2021



Source: Oral Health Programme MOH, 2021

The Sabah State Cabinet Committee approved the re-activation of water fluoridation programme on 6 October 2010. However, the implementation of the programme remains a continuing challenge due to funding and technical issues in the state, rendering Sabah with the second lowest population coverage of 3.7 percent in 2021.

- **Water Treatment Plants (WTP)**

In 2021, there were 494 Water Treatment Plants (WTPs) in Malaysia **(Table 64).** More than half (289) have been privatised.

Table 64:
Water Treatment Plant by Sector, 2021

State	Government	Board	Private	Total WTP
Perlis	0	0	3	3
Kedah	0	0	37	37
Pulau Pinang	0	0	8	8
Perak	0	38	5	43
Selangor	0	0	30	30
FT Kuala Lumpur & Putrajaya	0	0	3	3
Negeri Sembilan	0	0	22	22
Melaka	0	9	0	9
Johor	0	0	47	46
Pahang	0	0	68	68
Terengganu	0	0	12	12
Kelantan	0	0	35	35
Sabah	70	0	14	84
FT Labuan	4	0	1	5
Sarawak	73	11	4	92
MALAYSIA	**147 (29.8%)**	**58 (11.7%)**	**289 (58.5%)**	**494**

Source: Oral Health Programme MOH, 2021

A total of 318 (64.4 percent) WTPs had fluoride feeders installed **(Table 65).** Among those with feeders, 263 (82.7 percent) were active while 55 (17.3 percent) were inactive due to lack of resources to purchase fluoride compound or technical problems such as fluoride feeders that require repairs or replacement. In 2021, all WTPs in Perlis, Penang, Selangor, Federal Territory Kuala Lumpur and Putrajaya, Melaka, Johor and Terengganu produced fluoridated water. However, less than 50 percent of water treatment plants in Sarawak, Kelantan, Sabah and Pahang produce fluoridated water.

Table 65:
WTP with Fluoride Feeders by State, 2021

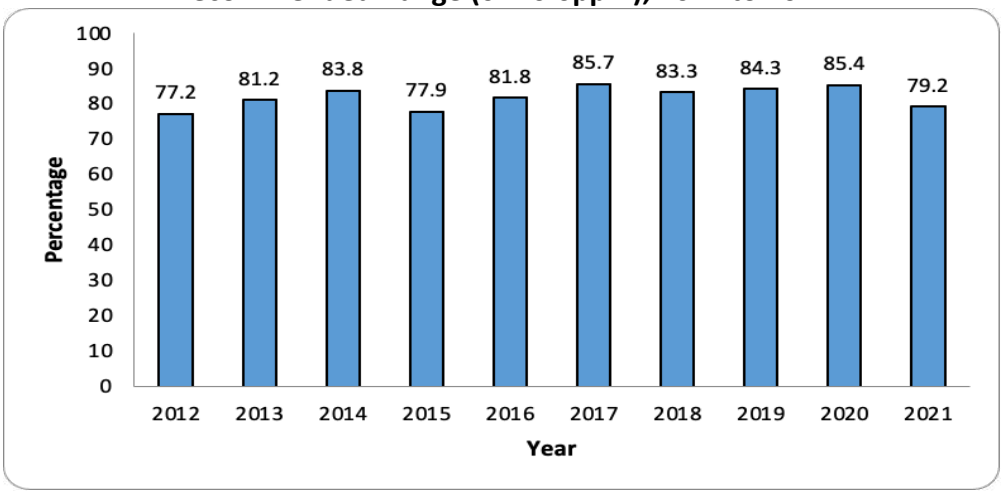
State	No. of WTP	WTP with fluoride feeder		WTP with active fluoride feeder		WTP producing fluoridated water (%)
		Bil.	%	Bil.	%	%
Perlis	3	3	100.0	3	100.0	100.0
Kedah	37	35	94.6	35	100.0	94.6
Pulau Pinang	8	8	100.0	8	100.0	100.0
Perak	43	42	97.7	40	95.2	93.0
Selangor	30	30	100.0	30	100.0	100.0
FT Kuala Lumpur & Putrajaya	3	3	100.0	3	100.0	100.0
Negeri Sembilan	22	20	90.9	19	95.0	86.4
Melaka	9	9	100.0	9	100.0	100.0
Johor	47	47	100.0	47	100.0	100.0
Pahang	68	48	70.6	0	0.0	0.0
Terengganu	12	12	100.0	12	100.0	100.0
Kelantan	35	5	14.3	2	40.0	5.7
Sabah	84	12	14.3	12	100.0	14.3
FT Labuan	5	4	80.0	3	75.0	60.0
Sarawak	88	40	45.4	40	100.0	45.4
MALAYSIA	**494**	**318**	**64.4**	**263**	**82.7**	**53.2**

Source: Oral Health Programme MOH, 2021

- **Maintaining Fluoride Levels in Public Water Supply**

Maintenance of fluoride levels within the recommended range of 0.4 – 0.6 ppm is important to achieve maximum benefit for control and prevention of dental caries while ensuring health and safety. In general, there was an upward trend generally in conformance of readings to the recommended range for the year 2012 to 2021 **(Figure 53)**. In 2021, 79.2 percent of readings at reticulation points conformed to the recommended range.

Figure 53:
Percentage of Conformance of Fluoride Level in Public Water Supplies to the Recommended Range (0.4-0.6ppm), 2012 to 2021



Source: Oral Health Programme, MOH

Ten (10) out of 15 states, namely Kedah, Penang, Perak, Selangor, FT Kuala Lumpur & Putrajaya, Negeri Sembilan, Melaka, Johor, Sabah and FT Labuan, complied with the National Indicator Approach (NIA) standards for the lower limit (not more than 25 percent of the readings below 0.4 ppm) and the upper limit [not more than seven (7) percent of readings exceeding 0.6 ppm] of fluoride level in public water supplies **(Table 66).**

Table 66:
Fluoride Level at Reticulation Points by State, 2021

State	*Retikulasi* (Reticulation Points)						
	Total of Readings	Fluoride Readings					
		0.4 – 0.6 ppm		< 0.4 ppm		> 0.6 ppm	
		No	%	No	%	No	%
Perlis	154	63	40.9	91	59.1	0	0.0
Kedah	789	783	99.2	5	0.6	1	0.1
Pulau Pinang	384	384	100.0	0	0.0	0	0.0
Perak	932	882	94.6	47	5.0	3	0.3
Selangor	1325	1325	100.0	0	0.0	0	0.0
WPKL & Putrajaya	144	144	100.0	0	0.0	0	0.0
Negeri Sembilan	456	455	99.8	1	0.2	0	0.0
Melaka	432	432	100.0	0	0.0	0	0.0
Johor	2234	2229	99.8	4	0.2	1	0.04
Pahang	663	11	1.7	650	98.0	2	0.3
Terengganu	553	298	53.9	249	45.0	6	1.1
Kelantan	72	0	0.0	72	100.0	0	0.0
Sabah	450	373	82.9	77	17.1	0	0.0
Labuan	88	79	89.8	9	10.2	0	0.0
Sarawak	944	156	16.5	778	82.4	10	1.1
Malaysia	**9620**	**7614**	**79.2**	**1983**	**20.6**	**23**	**0.2**

Source: Oral Health Programme (Quality Assurance Programme), MOH

Five (5) states did not comply with the standard for the lower limit (not more than 25 percent of the readings below 0.4 ppm) of fluoride level, highest in Kelantan with 100.0 percent non-compliance of reticulation readings.

- **Inter-agency Collaboration for Water Fluoridation**

The Oral Health Programme continues to collaborate with various agencies to strengthen and expand community water fluoridation in the country. Visits to WTPs and meetings were conducted with relevant agencies at national and state level in 2021. Various implementation issues were discussed and these included fluoride levels in public water supplies, conformance of fluoride levels to the recommended range, and the supply and storage of fluoride compounds.

- **Training and Public Awareness**

Recognizing that knowledge and understanding about the benefits of water fluoridation is crucial, training is conducted each year for the health personnel as well as personnel from WTPs. Nationwide, 75 training sessions were conducted in 2021, including hands-on training on the use of colorimeters.

Clinical Prevention for Caries

- **Fluoride Varnish Programme for Toddlers**

Fluoride Varnish (FV) Programme for Toddlers was introduced to further strengthen the Early Childhood Oral Healthcare Programme. However, in the year 2021 this programme was affected as there was reduced in attendance of the toddlers at designated premise (MCH clinic and kindergarten).

The programme was introduced and has been piloted in Sabah, Kelantan, and Terengganu since 2011. FV is applied four (4) times with interval of six (6) months for each application. Thus, the identified toddler will complete this programme in a period of two (2) years. In 2021, a total of 38,753 (97.5 percent) identified toddlers were rendered fluoride varnish in Kelantan, Terengganu and Sabah **(Table 67).** The caries free status among six (6) years old for all those states improved since 2012 until 2019, before the COVID-19 pandemic. Unfortunately, with the restriction to continue oral health services for toddlers, preschool and schoolchildren during the pandemic, their oral health status was deprived to some extent **(Figure 54)**.

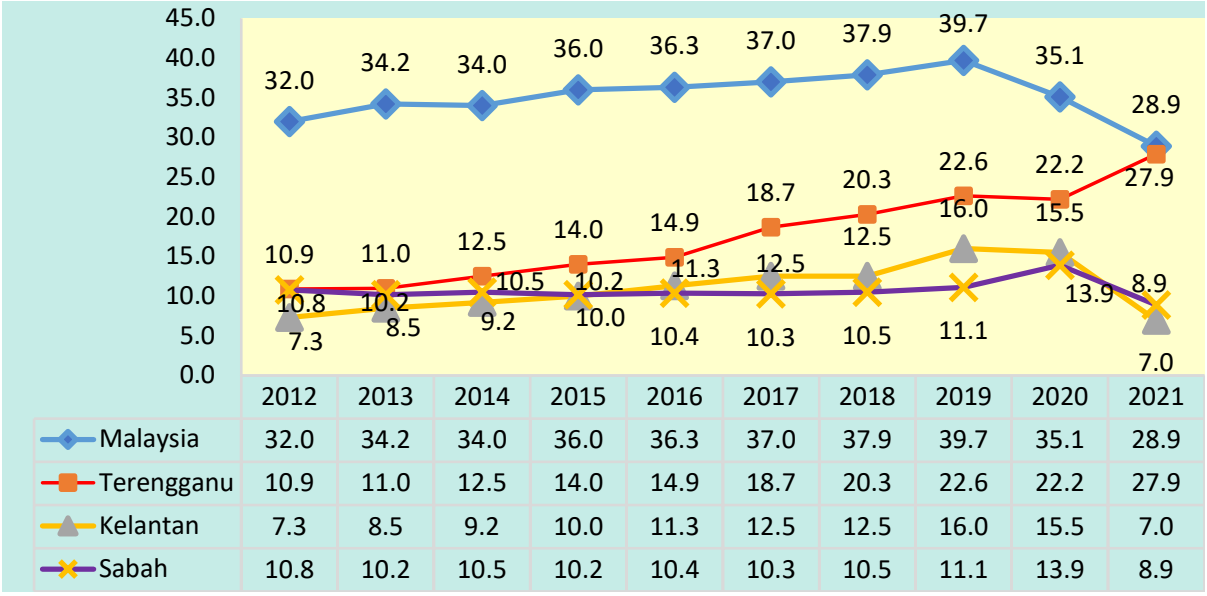
Table 67:
Fluoride Varnish Application, 2011 to 2021

Year	Kelantan			Terengganu			Sabah			TOTAL		
	Need FV	FV Applied		Need FV	FV Applied		Need FV	FV Applied		Need FV	FV Applied	
	No.	No.	%	No.	No.	%	No.	No.	%	No.	No.	%
2012	5,530	2,616	47.3	7,742	7,004	90.5	6,408	6,232	97.3	19,680	15,852	80.6
2013	5,816	2,875	49.4	11,269	10,333	91.7	12,147	11,380	93.7	29,232	24,588	84.1
2014	8,037	3,656	45.5	14,720	13,659	92.8	11,018	10,245	93.0	33,775	27,560	81.6
2015	33,596	5,496	16.4	13,004	11,981	92.1	9,676	7,764	80.2	56,276	25,241	44.9
2016	9,506	7,032	74.0	16,704	15,662	93.8	10,101	9,509	94.1	36,311	32,203	88.7

Year	Kelantan			Terengganu			Sabah			TOTAL		
	Need FV	FV Applied		Need FV	FV Applied		Need FV	FV Applied		Need FV	FV Applied	
	No.	No.	%	No.	No.	%	No.	No.	%	No.	No.	%
2017	15,918	10,600	66.6	22,579	20,222	89.6	8,909	8,805	98.8	47,406	39,627	83.6
2018	16,909	12,971	76.7	21,191	21,191	100.0	9,727	9,315	95.8	47,827	43,477	90.9
2019	9,971	9,665	96.9	19,893	19,893	100.0	10,694	9,785	91.3	40,558	39,343	97.0
2020	9,313	7,569	81.3	10,522	10,522	100.0	5,939	5,936	99.9	25,774	24,027	93.2
2021	11,980	11,108	92.7	11,854	11,854	100.0	15,900	15,791	99.3	39,734	38,753	97.5

Source: Oral Health Programme MOH, 2021

Figure 54:
Caries Free Status among 6 Years Old (Standard 1) in Kelantan, Terengganu & Sabah, 2012 to 2021



	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Malaysia	32.0	34.2	34.0	36.0	36.3	37.0	37.9	39.7	35.1	28.9
Terengganu	10.9	11.0	12.5	14.0	14.9	18.7	20.3	22.6	22.2	27.9
Kelantan	7.3	8.5	9.2	10.0	11.3	12.5	12.5	16.0	15.5	7.0
Sabah	10.8	10.2	10.5	10.2	10.4	10.3	10.5	11.1	13.9	8.9

Source: Oral Health Programme MOH, 2021

Based on findings from the pilot states, the programme was expanded to all states since 2019. However, data from 2019 cohort showed that toddlers completed four (4) times application for all states are still very low **(Table 68).** A lot more should be done to improve the programme and indirectly improve the oral health status of the toddlers.

Table 68:
FV Aplication and Compliance Rate for 2019 Cohort

State	Need FV	Rendered FV		With 2 times application		With 3 times application		With 4 times application		Compliance to six-monthly application (±1mth)	
	No.	No.	%	No.	%	No.	%	No.	%	No.	%
Perlis	2,360	2,311	97.9	860	37.2	314	13.6	194	8.4	132	5.7

State	Need FV	Rendered FV		With 2 times application		With 3 times application		With 4 times application		Compliance to six-monthly application (±1mth)	
	No.	No.	%	No.	%	No.	%	No.	%	No.	%
Kedah	5,744	5,477	95.4	1,915	35.0	629	11.5	164	3.0	2	0.04
Pulau Pinang	4,521	4,506	99.7	3,132	69.5	752	16.7	266	5.9	226	5.0
Perak	6,058	5,979	98.7	2,565	42.9	655	11.0	188	3.1	116	1.9
Selangor	2,550	2,550	100.0	1,570	61.6	649	25.5	358	14.0	144	5.7
FT Kuala Lumpur & Putrajaya	2,489	2,140	86.0	741	34.6	16	0.8	0	0.0	0	0.0
Negeri Sembilan	5,625	5,625	100.0	2,270	40.4	579	10.3	225	4.0	32	0.6
Melaka	8,691	8,393	96.6	3,844	45.8	1,499	17.9	661	7.9	70	0.8
Johor	10,080	10,080	100.0	4,112	40.8	1,090	10.8	674	6.7	0	0.0
Pahang	8,708	7,913	90.9	4,194	53.0	2,098	26.5	1,150	14.5	475	6.0
Terengganu	19,916	19,916	100.0	7,193	36.1	2,320	11.7	527	2.7	224	1.1
Labuan	109	109	100.0	60	55.1	26	23.9	4	3.7	4	3.7
Kelantan	9,971	9,665	96.9	4,407	45.6	1,669	17.3	686	7.1	319	3.3
Sabah	9,631	9,494	98.6	4,526	47.7	1,841	19.4	873	9.2	551	5.8
Sarawak	178	169	94.9	0	0.0	0	0.0	0	0.0	0	0.0
MALAYSIA	**96,631**	**94,327**	**97.6**	**41,389**	**43.9**	**14,137**	**15.0**	**5,970**	**6.3**	**2,295**	**2.4**

Source: Oral Health Programme MOH, 2021

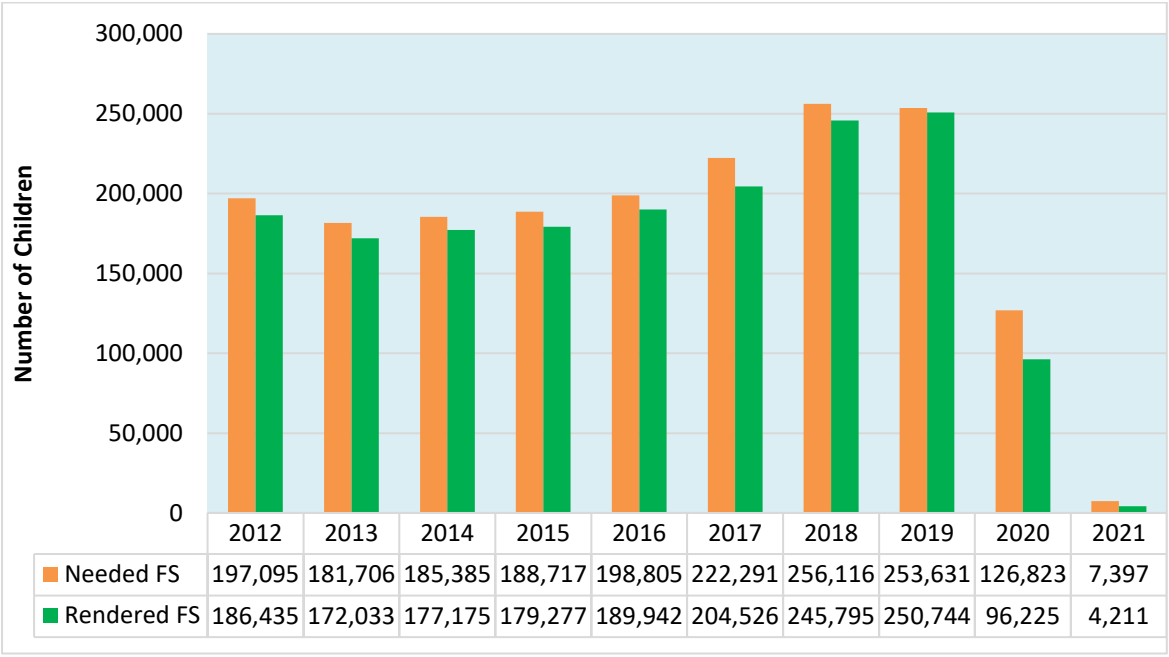
Clinical Prevention Programme for Caries (CPPC) consists of the School-based Programme for Fissure Sealant, Fluoride Varnish and Fluoride Mouth Rinsing Programmes. In 2021, the decreasing trend of children receiving services from the School-based Fissure Sealant Programme and Fluoride Mouth Rinsing Programme were observed due to restriction of providing the services in the schools during COVID-19 pandemic.

- **Fissure Sealant Programme**

The school-based fissure sealant programme started in 1999, is part of a comprehensive approach to caries prevention which focuses on primary schoolchildren. A sealant is a professionally applied material to occlude the pits and fissures on occlusal, buccal and lingual surfaces of posterior teeth to prevent caries initiation and to arrest caries progression by providing a physical barrier that inhibits microorganisms and food particles from collecting in pits and fissures. In 2021, 56.9 percent of the schoolchildren were rendered fissure sealants

under the School-based Fissure Sealant Programme. Overall, there is an increasing trend of subjects and teeth provided with fissure sealants from 2012 to 2019. However, decreasing pattern was observed since 2020 and even worse in 2021 **(Figure 55).**

Figure 55:
Treatment Need and Fissure Sealants Rendered, 2012 to 2021

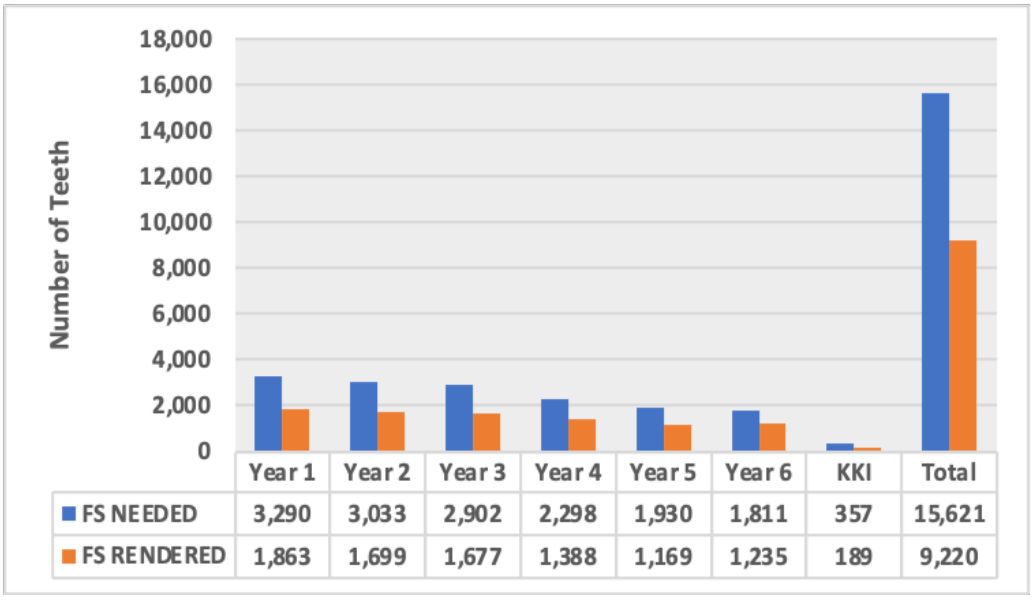


	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Needed FS	197,095	181,706	185,385	188,717	198,805	222,291	256,116	253,631	126,823	7,397
Rendered FS	186,435	172,033	177,175	179,277	189,942	204,526	245,795	250,744	96,225	4,211

Source: Oral Health Programme MOH, 2021

In 2021, 15,621 teeth required fissure sealants. Of these, 59.0 percent were fissure-sealed **(Figure 56).**

Figure 56:
Teeth Needed and Rendered Fissure Sealants among Year 1 to Year 6 Primary Schoolchildren, 2021



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	KKI	Total
FS NEEDED	3,290	3,033	2,902	2,298	1,930	1,811	357	15,621
FS RENDERED	1,863	1,699	1,677	1,388	1,169	1,235	189	9,220

Source: Oral Health Programme MOH, 2021

In 2021, the restriction to provide oral health services at school lead to the lower achievement for percentage of rendered fissure sealants in all states as compared to previous year **(Table 69).**

Table 69:
Provision of Fissure Sealants by States, 2021

State	No. of Children			No. of Teeth		
	Needed FS	Rendered FS		Needed FS	Rendered FS	
	n	n	%	n	n	%
Perlis	124	49	39.5	186	75	40.3
Kedah	160	77	48.1	324	171	52.8
Penang & ILKKM	194	134	69.1	383	285	74.4
Perak	843	756	89.7	1620	1459	90.1
Selangor	197	74	37.6	360	131	36.4
FT Kuala Lumpur & Putrajaya	248	133	53.6	419	257	61.3
N. Sembilan	281	146	52.0	575	297	51.7
Melaka	276	154	55.8	620	342	55.2
Johor	397	278	70.0	928	649	69.9
Pahang	1655	1021	61.7	3725	2386	64.1
Terengganu	1006	311	30.9	2162	634	29.3
Kelantan	976	560	57.4	2099	1280	61.0
ILKKM	6357	3693	58.1	13401	7966	59.4
Peninsular Malaysia	197	74	37.6	360	131	36.4
Sabah	736	436	59.2	1684	1075	63.8
Sarawak	84	42	50.0	163	114	69.9
FT Labuan	220	40	18.2	373	65	17.4
MALAYSIA	**7,397**	**4211**	**56.9**	**15,621**	**9220**	**59.0**

Source: Oral Health Programme MOH, 2021

- **School-Based Fluoride Mouth Rinsing Programme**

School-based fluoride mouth rinsing (FMR) programme has been carried out at schools for Year One to Year Six schoolchildren in the selected schools in low or non-fluoridated area in Sabah, Sarawak, and Kelantan. In 2021, due to the new norms of learning in schools, it was observed that there were limited days of physical schooling for those selected children **(Table 70)**. Thus, it restricted the conduct of FMR programme. Therefore, the states were unable to carry out this programme for that year. The states are planning to continue the programme once the schools have started their physical schooling.

Table 70:
Schools and Students Participating in Fluoride Mouth Rinsing Programme, 2017 to 2021

State	No of Schools participated			Total	No of student involved			Total
	Kelantan	Sabah	Sarawak		Kelantan	Sabah	Sarawak	
2017	4	48	22	74	446	16,035	4,227	20,708
2018	4	37	23	64	415	14,386	3,839	18,640
2019	24	54	23	101	1,293	21,771	3,929	26,993
2020	32	44	20	96	2,682	18,250	2,807	23,739
2021	0	0	0	0	0	0	0	0

Source: Oral Health Programme MOH, 2021

Community Oral Health Services

Community oral health services included dental services conducted at Urban Transformation Centre (UTC), Rural Transformation Centre (RTC) and institutions for the elderly and the individuals with special needs. Dental outreach services are also provided to the remote population in Sabah and Sarawak, namely "Organize Health Fairs for Sabah and Sarawak". Community oral health services also include outreach services providing promotive, preventive and curative care held at People's Housing Project (PPR) for the B40 communities.

All of these activities utilised mobile dental clinic/mobile dental lab/mobile dental team. Overall, decreasing pattern was observed in the community oral health services for the year 2021 due to COVID-19 pandemic. The Standard Operating Procedures (SOPs) enforced during the pandemic limited the community activities/ gatherings.

- **Mobile Dental Clinic**

The Mobile Dental Clinic (MDC) is a vehicle converted into a dental clinic equipped with static dental equipment to provide outreach dental services. Among the existing MDC are buses, trailers, coasters and caravans. The information on MDC is as listed in **Table 71**.

Table 71:
Information on Mobile Dental Clinic (MDC), 2021

State	Total MDC	Location in State	Total Dental Chair	No. of Days Operated	Attendance	
					New	Repeat
Perlis	1	Kangar	2	152	241	18
Kedah	3	Kota Setar	2	39	92	2
		Baling	2	63	126	904
		Kulim	2	151	218	186
Penang	3	Timur Laut	1	3	632	36
		Seberang Perai Utara	2	32		
		Barat Daya	0	48		
Perak	3	Kinta	2	5	12	
		Hilir Perak	2	111	175	1081
		Larut Matang	2	20	778	0
Selangor	3	Gombak	2	4	0	0
		Petaling	2	34	84	21
		Klang	2	21	649	0
FT Kuala Lumpur & Putrajaya	2	Kepong	2	144	679	0
		Titiwangsa	2	2	157	0
Negeri Sembilan	1	Kuala Pilah	2	101	19	0
Melaka	1	Melaka Tengah	2	40	31	120
Johor	4	Johor Bahru	2	0	0	0
		Muar	1	1	5	0
		Kluang	1	127	434	84
		Batu Pahat	1	103	167	256
Pahang	3	Kuantan	1	10	149	29
		Maran	2	63	194	205
		Kuala Lipis	1	7	48	0

State	Total MDC	Location in State	Total Dental Chair	No. of Days Operated	Attendance	
					New	Repeat
Terengganu	2	KP Jalan Air Jernih	2	0	0	0
		KP Batu Rakit,	2	0	0	0
Kelantan	3	Tanah Merah	1	7	82	13
		Kuala Krai	1	37	106	11
		Kota Bharu	2	18	107	50
FT Labuan	0	Nil	Nil	-	-	-
Sabah	2	Kota Kinabalu	2	15	216	4
		Tawau	2	24		
Sarawak	4	Kuching	1	0	0	0
		Miri	1	0	0	0
		Samarahan	1	0	0	0
		Sibu	1	0	0	0
MALAYSIA	**35**		**56**	**1,382**	**5,401**	**3,020**

Source: Oral Health Programme MOH, 2021

- **Mobile Dental Laboratory**

A Mobile Dental Laboratory (MDL) is a vehicle converted into a dental laboratory equipped with laboratory equipment to provide outreach denture manufacturing and repair services. MDL operates together with mobile dental clinic or mobile dental team in providing services to the community including movement across state borders where appropriate. MDL consists of one (1) or two (2) workstation units. Currently, there are only four (4) MDL available for the whole Malaysia and located in Perak (1 MDL), Kelantan (2 MDL) and Negeri Sembilan (1 MDL). In 2021, only one (1) district in Kelantan managed to provide services and utilised MDL **(Table 72).**

Table 72:
Information on Mobile Dental Laboratory (MDL), 2021

State	Total MDL	Location in State	No of Days Operated	Attendance		Denture	
				New	Repeat	Full	Partial
Perak	1	Larut Matang & Selama	1	4	0	6	2
Kelantan	2	Gua Musang	182	59	0	68	35
		Tanah Merah	162	197	0	65	8
Negeri Sembilan	1	Seremban	86	13	0	16	26
TOTAL	**4**		**431**	**273**	**0**	**155**	**71**

Source: Oral Health Programme MOH, 2021

- **Urban Transformation Centre (UTC)**

In 2021, there were 23 dental clinics operating at UTCs in the country as listed in **Table 73**. A total of 120,946 patients attended the dental clinics in UTCs in 2021 compared to 161,184 in 2020.

Table 73:
Oral Health Services in Urban Transformation Centres (UTCs), 2017 to 2021

Year	Dental clinics at UTCs		Patient Attendances
	No.	Location	
2017	20	Ayer Keroh Melaka, Pudu Sentral, Kompleks MBAS, Ipoh, Mini Sentul, Kuantan, Kota Kinabalu, Galeria Johor, Kuching Sarawak, Sungai Petani Kedah, Labuan, Sibu Sarawak, Miri Sarawak, Terengganu, Tawau Sabah, Kota Bharu Kelantan, Keningau Sabah, Kangar Perlis, Seremban Negeri Sembilan, Pasir Gudang Johor	287,640
2018	21	Ayer Keroh Melaka, Pudu Sentral, Kompleks MBAS, Ipoh, Mini Sentul, Kuantan, Kota Kinabalu, Galeria Johor, Kuching Sarawak, Sungai Petani Kedah, Labuan, Sibu Sarawak, Miri Sarawak, Terengganu, Tawau Sabah, Kota Bharu Kelantan, Keningau Sabah, Kangar Perlis, Seremban Negeri Sembilan, Pasir Gudang Johor, UTC Shah Alam Selangor	355,670
2019	22	Ayer Keroh Melaka, Pudu Sentral, Kompleks MBAS, Ipoh, Mini Sentul, Kuantan, Kota Kinabalu, Galeria Johor, Kuching Sarawak, Sungai Petani Kedah, Labuan, Sibu Sarawak, Miri Sarawak, Terengganu, Tawau Sabah, Kota Bharu Kelantan, Keningau Sabah, Kangar Perlis, Seremban Negeri Sembilan, Pasir Gudang Johor, UTC Shah Alam Selangor, UTC Keramat	378,929
2020	23	Ayer Keroh Melaka, Pudu Sentral, Kompleks MBAS, Ipoh, Mini Sentul, Kuantan, Kota Kinabalu, Galeria Johor, Kuching Sarawak, Sungai Petani Kedah, Labuan, Sibu Sarawak, Miri Sarawak, Terengganu, Tawau Sabah, Kota Bharu Kelantan, Keningau Sabah, Kangar Perlis, Seremban Negeri Sembilan, Pasir Gudang Johor, UTC Shah Alam Selangor, UTC Keramat, UTC Komtar	161,184
2021	23	Ayer Keroh Melaka, Pudu Sentral, Kompleks MBAS, Ipoh, Mini Sentul, Kuantan, Kota Kinabalu, Galeria Johor, Kuching Sarawak, Sungai Petani Kedah, Labuan, Sibu Sarawak, Miri Sarawak, Terengganu, Tawau Sabah, Kota Bharu Kelantan, Keningau Sabah, Kangar Perlis, Seremban Negeri Sembilan, Pasir Gudang Johor, UTC Shah Alam Selangor, UTC Keramat, UTC Komtar	120,946

Source: Oral Health Programme MOH, 2021

- **Rural Transformation Centre (RTC)**

RTC serves as a one-stop centre to facilitate access by the rural population to services provided by various government and non-governmental agencies. Dental clinic is among the services available in RTC. It is implemented to deliver outpatient dental care and at the same time develop optimum oral healthcare for the rural population. In 2021, there were five (5) RTCs in the country, namely RTC Wakaf Che Yeh (Kelantan), RTC Sungai Rambai (Melaka), RTC Kuala Pahang, Pekan (Pahang), RTC Sibuti (Sarawak), and RTC Mid Layar, Betong (Sarawak). Services provided at the RTCs are dental examination and basic dental treatment such as dental extraction, filling and scaling. A total of 8,060 patients visited dental clinics in RTCs in 2021 **(Table 74)**.

Table 74:
Oral Health Services in Rural Transformation Centres (RTCs), 2017 to 2021

Year	Dental clinics at RTCs		Patient Attendances
	No.	Location	
2017	8	Gopeng, Wakaf Che Yeh, Pekan, Jitra, Kulaijaya, Sibuti, Mid Layar, Sungai Rambai	11,338
2018	8	Gopeng, Wakaf Che Yeh, Pekan, Jitra, Kulaijaya, Sibuti, Mid Layar, Sungai Rambai	13,059
2019	7	Gopeng, Wakaf Che Yeh, Pekan, Jitra, Sibuti, Mid Layar, Sungai Rambai	14,171
2020	6	Wakaf Che Yeh, Pekan, Jitra, Sibuti, Mid Layar, Sungai Rambai	8,777
2021	5	Wakaf Che Yeh, Sungai Rambai, Pekan, Sibuti, Mid Layar	8,060

Source: Oral Health Programme MOH, 2021

- **Oral Health Services at Elderly and Special Needs Institutions**

Outreach oral healthcare at elderly and special needs (PDK, *Pusat Pemulihan Dalam Komuniti* and non-PDK) institutions through mobile dental teams/clinics aims to provide holistic support in terms of health and social to these identified groups with collaboration between government and non-government agencies. A total of 106 institutions for the elderly were visited and 2,083 patients were seen in 2021. The highest number of patients seen and institutions visited was in Johor, 689 patients at 32 institutions **(Table 75).** There were 102 institutions for the special needs visited in 2021, with highest coverage in Negeri Sembilan (20). A total of 1,360 patients were seen in 2021, the highest seen was in Negeri Sembilan (240) **(Table 76)**.

Table 75:
Number of Elderly Patients Seen in Institution, 2021

State	Government Institution		Private Institution		Total Patients Seen
	No. of Institution	No. of Institution Visited	No. of Institution	No. of Institution Visited	
Perlis	1	0	3	0	0
Kedah	2	0	19	1	147
Penang	2	0	38	1	34
Perak	5	2	69	29	621
Selangor	5	2	56	27	388
FT Kuala Lumpur & Putrajaya	2	0	7	0	0
N. Sembilan	0	0	2	2	11
Melaka	4	0	10	1	10
Johor	16	2	77	32	689
Pahang	10	3	18	1	63
Terengganu	6	0	1	1	35
Kelantan	1	1	15	0	25
Sabah	3	1	7	0	60
Sarawak	21	0	12	0	0
FT Labuan	0	0	0	0	0
MALAYSIA	**78**	**11**	**334**	**95**	**2,083**

Source: Oral Health Programme MOH, 2021

Table 76:
Number of Special Needs Patients Seen in Institution, 2021

State	PDK		Non PDK		Total Patients Seen
	No. of Institution	No. of Institution Visited	No. of Institution	No. of Institution Visited	
Perlis	9	0	1	0	0
Kedah	43	11	5	0	76
Penang	24	0	8	0	0
Perak	41	10	22	9	215
Selangor	51	12	4	0	177
FT Kuala Lumpur & Putrajaya	14	4	3	3	77
N. Sembilan	46	20	2	0	240
Melaka	18	5	8	0	86
Johor	73	4	15	1	145
Pahang	53	13	6	2	168
Terengganu	47	3	1	0	34
Kelantan	44	1	1	0	23
Sabah	34	1	24	0	46
Sarawak	50	0	14	2	39
FT Labuan	2	0	1	1	34
MALAYSIA	**549**	**84**	**115**	**18**	**1,360**

Source: Oral Health Programme MOH, 2021

- **Outreach Services at People's Housing Project (PPR)**

This initiative started in 2018, targeting the marginalised population of the lower socio-economic status. Thus, outreach services providing promotive, preventive and curative care utilising mobile dental clinic/mobile dental lab/mobile dental team were held at PPRs for the B40 communities. In 2021, a total of 21 PPRs were visited and 1,082 patients received oral healthcare services. Oral health talk was delivered to 4,039 residents **(Table 77)**.

Table 77:
Outreach Services at People's Housing Projects (PPRs), 2021

States	No. of PPRs visited	No. of Patients Seen	No. of Residents Received Oral Health Talk
Perlis	2	0	75
Kedah	0	0	0
Pulau Pinang	0	0	0
Perak	3	476	147
Selangor	4	0	3,236
FT Kuala Lumpur & Putrajaya	2	38	58
Negeri Sembilan	1	19	25
Melaka	1	81	10
Johor	2	35	86
Pahang	2	80	103
Terengganu	1	40	57
Kelantan	1	93	55
Labuan	0	0	0

States	No. of PPRs visited	No. of Patients Seen	No. of Residents Received Oral Health Talk
Sabah	2	110	187
Sarawak	0	110	0
Total	**21**	**1,082**	**4,039**

Source: Oral Health Programme MOH, 2021

- **Kampung Angkat Programme**

In 2021, *Kampung Angkat* programme was initiated with the concept of bringing the oral health services to the community. It was targeted at the marginalised population of the lower socio-economic status in urban or rural area. This programme provides promotive, preventive and curative care, utilising mobile dental clinic/mobile dental lab/mobile dental team. In this programme, 118 *kampung angkat* were visited and 5,346 patients received dental checkup or treatment. Furthermore, oral health talk and tooth brushing drills were provided to 5,226 and 1,665 residents, respectively **(Table 78).**

Table 78:
Kampung Angkat by State, 2021

States	No. of Kampung Angkat Visited	No. of Patients Seen
Perlis	2	0
Kedah	7	379
Pulau Pinang	4	131
Perak	7	824
Selangor	13	75
FT Kuala Lumpur & Putrajaya	2	38
Negeri Sembilan	43	551
Melaka	1	81
Johor	6	317
Pahang	10	1,020
Terengganu	8	734
Kelantan	8	466
Labuan	0	0
Sabah	7	730
Sarawak	0	0
Total	**118**	**5,346**

Source: Oral Health Programme MOH, 2021

Primary Prevention & Early Detection of Oral Potentially Malignant Disorders (OPMDSs) & Oral Cancers

Oral cancer remains a major health concern in Malaysia. The Oral Health Programme in the MOH Malaysia continues its emphasis on Primary Prevention and Early Detection of Oral Potentially Malignant Diseases (OPMDs) and Oral Cancers Programme since 1997 in collaboration with relevant agencies.

- **High Risk Community**

In 2021, 119 high-risk communities were visited and 1,877 residents aged 18 years and above were screened for oral lesions **(Table 79).**

Table 79:
OPMDs & Oral Cancer Screening and Prevention Programme (High Risk Community Screening), 2021

No. of High Risk Community Visited		No. of Patients Screened
New	Repeat	
79	40	1,877

Source: Oral Health Programme, MOH 2021

Among the screened patients, only four (4) were seen with lesions. Three (3) patients were referred to Oral and Maxillofacial Surgery (OMFS)/Oral Pathology and Oral Medicine (OPOM) specialists for further investigation and management **(Table 80 & 81).** Of the malignant cases detected with TNM staging reported from 2011 to 2021 in community/high risk community screening, 50.0 percent were detected at stage 1 and 40.0 percent were detected at later stages, stage 3 and 4 **(Table 82).** Thus, there is a need to improve patient's compliance for referral to prevent delayed treatment.

Table 80:
Patients Screened and Referred by State (High Risk Community Screening), 2021

State	No. of Patients Screened	No. of Patients with Lesion		No. of Patients Referred
		n	%	
Perlis	0	0	0.0	0
Kedah	46	2	4.3	2
Penang	34	0	0.0	0
Perak	899	1	0.1	0
Selangor	0	0	0.0	0
FT Kuala Lumpur & Putrajaya	0	0	0.0	0
N. Sembilan	64	0	0.0	0
Melaka	0	0	0.0	0
Johor	12	0	0.0	0
Pahang	291	0	0.0	0
Terengganu	56	0	0.0	0
Kelantan	65	1	1.5	1
Pen. Malaysia	1,467	4	0.3	3
Sabah	310	0	0.0	0
Sarawak	100	0	0.0	0
FT Labuan	0	0	0.0	0
MALAYSIA	**1,877**	**4**	**0.2**	**3**

Source: Oral Health Programme, MOH 2021

Table 81:
Patients Screened and Referred (Community/High Risk Community Screening), 2011 to 2021

Year	No. of Patients Screened	No. With Lesion		No. of Patients Referred	No. Seen by Surgeons	
		n	%		n	%
2011	7,055	55	0.8	16	5	31.3
2012	16,043	37	0.2	29	15	51.7
2013	10,581	51	0.5	33	2	6.1
2014	10,994	59	0.5	39	17	43.6
2015	13,901	46	0.3	31	8	25.8
2016	15,350	28	0.2	15	9	60.0
2017	14,293	12	0.1	4	0	0.0
2018	2,972	5	0.2	3	2	66.7
2019	2,888	12	0.4	3	0	0.0
2020	1,475	3	0.2	0	0	0.0
2021	1,877	4	0.2	3	3	100.0
TOTAL	**97,429**	**312**	**0.3**	**176**	**61**	**34.7**

Source: Oral Health Programme, MOH 2021

Table 82:
Clinical and Histological Diagnosis of Referred Cases (Community/High Risk Community Screening), 2011 to 2021

Year	No. of Cases Seen by Specialists	Clinical Diagnosis						Histological Diagnosis*								Staging			
		Leukoplakia	Erythroplakia	Lichen Planus	Submucous Fibrosis	Suspicious of Oral Cancer	Other Pathology	Hyperkeratosis	Epithelial Dysplasia	Carcinoma In-situ	Invasive Squamous Cell Carcinoma	Oral Lichen Planus	Oral Submucous Fibrosis	Other Malignancy	Benign Pathologies	Stage 1	Stage 2	Stage 3	Stage 4
2011	5	1	0	0	1	3	0	1	0	0	2	0	0	0	0	0	1	0	1
2012	16	3	2	1	2	6	2	0	0	0	2	0	0	1	3	0	0	0	2
2013	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
2014	17	3	1	1	0	1	11	0	0	0	0	0	0	0	0	0	0	0	0
2015	8	0	4	1	1	0	2	0	0	0	0	0	0	0	1	0	0	0	0
2016	9	1	1	4	0	2	1	0	0	0	1	2	0	1	0	5	0	0	0
2017	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2018	2	0	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	1
2019	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2021	3	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	**62**	**10**	**8**	**7**	**4**	**13**	**20**	**1**	**0**	**0**	**6**	**2**	**0**	**2**	**4**	**5**	**1**	**0**	**4**

Source: Oral Health Programme, MOH 2021
**Histological diagnosis only available for cases with biopsy done*

- **Opportunistic Screening for Walk-in Patients and Other Communities**

In 2021, a total of 1,206,365 patients were screened in the dental clinics and other communities, 819 patients were found with lesions and 636 were referred to OMFS/OPOM specialists for further investigation and management. Of these, 553 (86.9 percent) complied with referral to specialists **(Table 83 & 84)**. A higher number of malignant cases were detected among patients screened in the opportunistic screening compared to screening at high risk communities **(Table 85)**.

Table 83:
Patients Screened and Referred by State (Opportunistic Screening), 2021

State	No. of New Attendees	No. of Patients Screened	No. With Lesion		No. of Patients Referred	No. Seen by Surgeons	
			n	%		n	%
Perlis	23,038	21,898	13	0.1	12	11	91.7
Kedah	102,215	102,215	49	0.0	47	45	95.7
Penang	145,258	84,418	50	0.1	47	43	91.5
ILKKM	1,148	863	0	0.0	0	0	0.0
Perak	151,879	148,865	78	0.1	68	61	89.7
Selangor	164,395	148,417	150	0.1	112	98	87.5
FT Kuala Lumpur & Putrajaya	99,455	71,317	61	0.1	51	45	88.2
N. Sembilan	85,253	69,562	42	0.1	35	28	80.0
Melaka	75,485	67,013	45	0.1	27	21	77.8
Johor	200,229	157,019	51	0.0	51	46	90.2
Pahang	108,470	69,405	55	0.1	46	46	100.0
Terengganu	80,587	69,358	7	0.0	7	6	85.7
Kelantan	107,995	100,159	82	0.1	62	52	83.9
Pen. Malaysia	1,345,407	1,110,509	683	0.1	565	502	88.8
Sabah	103,960	70,507	91	0.1	47	35	74.5
Sarawak	119,512	17,640	42	0.2	23	15	65.2
FT Labuan	9,289	7,979	3	0.0	1	1	100.0
MALAYSIA	**1,578,168**	**1,206,635**	**819**	**0.1**	**636**	**553**	**86.9**

Source: Oral Health Programme, MOH 2021

Table 84:
Patients Screened and Referred (Opportunistic Screening), 2014 to 2021

Year	No. of New Attendees	No of Patients Screened	No. With Lesion		No. of Patients Referred	No. Seen by Surgeons	
			n	%		n	%
2014	1,711,097	55,871	349	0.6	189	93	49.2
2015	2,036,106	61,109	464	0.8	282	139	49.3
2016	2,178,330	88,947	309	0.3	214	129	60.3
2017	2,325,005	107,582	367	0.3	328	200	61.0
2018	2,468,360	113,650	969	0.9	478	348	72.8
2019	2,387,229	112,748	949	0.8	496	406	81.9
2020	1,615,758	601,075	917	0.2	579	485	83.8
2021	1,578,168	1,206,635	819	0.1	636	553	86.9
TOTAL	**16,300,053**	**2,347,617**	**5,143**	**0.2**	**3,202**	**2,353**	**73.5**

Source: Oral Health Programme, MOH 2021

Table 85:
Clinical and Histological Diagnosis of Referred Cases (Opportunistic Screening), 2021

State	No. of Cases Seen by Specialists	Clinical Diagnosis						Histological diagnosis*								Staging			
		Leukoplakia	Erythroplakia	Lichen Planus	Submucous Fibrosis	Suspicious of Oral Cancer	Other Pathology	Hyperkeratosis	Epithelial Dysplasia	Carcinoma In-situ	Invasive Squamous Cell Carcinoma	Oral Lichen Planus	Oral Submucous Fibrosis	Other Malignancy	Benign Pathologies	Stage 1	Stage 2	Stage 3	Stage 4
Perlis	11	0	0	4	0	1	6	0	0	0	1	3	0	0	1	1	0	0	0
Kedah	45	2	1	4	1	8	28	0	0	0	6	0	0	1	3	0	2	0	5
Penang	43	3	0	11	1	4	27	3	1	0	2	3	0	1	6	0	0	1	2
Perak	61	6	0	9	2	15	27	0	2	0	14	4	1	1	14	2	5	4	2
Selangor	98	8	1	23	1	10	59	6	3	0	9	11	0	1	25	0	3	4	2
FT Kuala Lumpur & Putrajaya	45	2	0	5	0	4	32	2	1	0	5	1	0	0	13	1	1	0	2
Negeri Sembilan	28	2	1	5	1	6	13	1	0	0	7	0	0	0	2	2	1	2	2
Melaka	21	2	0	3	0	3	14	2	0	0	2	0	0	0	8	0	0	1	1
Johor	46	3	1	6	0	11	27	3	4	0	3	3	0	1	16	1	1	1	2
Pahang	46	1	0	6	0	14	26	0	0	0	10	3	0	3	15	2	1	3	7
Terengganu	6	0	0	1	0	2	1	0	0	0	2	0	0	0	0	0	0	1	1
Kelantan	52	1	0	2	0	6	42	1	0	0	4	1	0	1	30	1	1	0	3
Pen. M'sia	502	30	4	79	6	84	302	18	11	0	65	29	1	9	133	10	15	17	29
Sabah	35	6	2	1	1	21	4	2	2	1	20	1	0	1	4	2	3	2	13
Sarawak	15	0	0	3	0	5	7	3	1	0	3	2	0	1	3	0	2	0	1
FT Labuan	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0
MALAYSIA	**553**	**36**	**6**	**83**	**7**	**110**	**314**	**23**	**14**	**1**	**88**	**32**	**1**	**11**	**141**	**12**	**20**	**19**	**43**

Source: Oral Health Programme, MOH 2021
**Histological diagnosis only available for cases with biopsy done*

Opportunistic screening data is available starting 2014. Among the malignant cases with TNM staging reported from 2014 to 2021, 14.7 percent were detected at stage one (1) and 67.9 percent were detected at later stages, stage three (3) and four (4) **(Table 86).**

Table 86:
Clinical and Histological Diagnosis of Referred Cases (Opportunistic Screening), 2014 to 2021

Year	No. of Cases Seen by Specialists	Clinical Diagnosis						Histological Diagnosis*								Staging			
		Leukoplakia	Erythroplakia	Lichen Planus	Submucous Fibrosis	Suspicious of Oral Cancer	Other Pathology	Hyperkeratosis	Epithelial Dysplasia	Carcinoma In-situ	Invasive Squamous Cell Carcinoma	Oral Lichen Planus	Oral Submucous Fibrosis	Other Malignancy	Benign Pathologies	Stage 1	Stage 2	Stage 3	Stage 4
2014	93	3	0	5	2	32	51	2	2	1	26	4	0	1	17	4	2	0	9
2015	139	4	0	14	5	45	74	0	0	4	33	7	3	13	7	6	9	7	6
2016	129	8	1	8	2	56	48	6	4	5	36	7	0	8	17	17	9	8	12
2017	200	13	3	22	5	67	71	4	4	3	51	8	1	3	18	7	10	6	23
2018	348	40	3	53	4	90	158	14	20	13	55	16	0	7	58	8	6	15	36
2019	406	11	0	29	1	54	92	10	10	0	36	14	0	11	37	3	9	11	48
2020	485	7	1	24	4	68	140	8	6	1	57	10	2	11	65	12	16	14	61
2021	553	36	6	83	7	110	314	23	14	1	88	32	1	11	141	12	20	19	43
TOTAL	**2,353**	**122**	**14**	**238**	**30**	**522**	**948**	**67**	**60**	**28**	**382**	**98**	**7**	**65**	**360**	**69**	**81**	**80**	**238**

Source: Oral Health Programme, MOH 2021
**Histological diagnosis only available for cases with biopsy done*

Combined data of community and opportunistic screening from 2011 to 2021 showed 15.5 percent were detected at stage 1 and 67.4 percent were detected at later stages, stage 3 and 4 **(Table 87).** This achievement is still below the National Oral Health Plan for Malaysia 2021 to 2030 goal of 30 percent of oral cancers detected at stage 1.

Table 87:
Clinical and Histological Diagnosis of Referred Cases (High Risk Community and Opportunistic Screening), 2011 to 2021

Year	No. of Cases Seen by Oral Surgeon	Clinical Diagnosis						Histological Diagnosis*								Staging			
		Leukoplakia	Erythroplakia	Lichen Planus	Submucous Fibrosis	Suspicious of oral cancer	Other Pathology	Hyperkeratosis	Epithelial Dysplasia	Carcinoma In-situ	Invasive Squamous Cell Carcinoma	Oral Lichen Planus	Oral Submucous Fibrosis	Other Malignancy	Benign Patholog	Stage 1	Stage 2	Stage 3	Stage 4
2011	5	1	0	0	1	3	0	1	0	0	2	0	0	0	0	0	1	0	1
2012	15	3	2	1	2	6	2	0	0	0	2	0	0	1	3	0	0	0	2
2013	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
2014	110	6	1	6	2	33	62	2	2	1	26	4	0	1	17	4	2	0	9
2015	147	4	4	15	6	45	76	0	0	4	33	7	3	13	8	6	9	7	6
2016	138	9	2	12	2	58	49	6	4	5	37	9	0	9	17	22	9	8	12
2017	200	13	3	22	5	67	71	4	4	3	51	8	1	3	18	7	10	6	23
2018	350	40	3	53	4	91	159	14	20	13	56	16	0	7	58	8	6	15	37
2019	406	11	0	29	1	54	92	10	10	0	36	14	0	11	37	3	9	11	48
2020	485	7	1	24	4	68	140	8	6	1	52	10	2	11	65	12	16	14	61
2021	556	38	6	83	7	110	315	23	14	1	88	32	1	11	141	12	20	19	43
TOTAL	**2,414**	**132**	**22**	**245**	**34**	**535**	**968**	**68**	**60**	**28**	**383**	**100**	**7**	**67**	**364**	**74**	**82**	**80**	**242**

Source: Oral Health Programme, MOH 2021
**Histological diagnosis only available for cases with biopsy done*

In year 2021, oral health promotion for oral cancer was undertaken through 491 exhibitions and 67,613 chair side education/talks involving 354,224 participants **(Table 88).**

Table 88:
Promotion Activities for Oral Cancer, 2021

No. of Exhibitions Held	Dental Health Talks	
	No. of Talks Given	No. of Participants
491	67,613	354,224

Source: Oral Health Programme, MOH 2021

- **Mouth Cancer Awareness Week (MCAW)**

Mouth Cancer Awareness Week 2021 (MCAW 2021) was held from 7 - 13 November 2021 with the theme #*JomCheckMulut*. This event was a collaboration of Oral Health Programme and main organizer, Oral Cancer Research & Coordinating Centre (OCRCC), Faculty of Dentistry, University of Malaya along with another 20 agencies.

At the national level, MCAW 2021 was launched by the Principal Director of Oral Health, YBrs. Dr. Noormi binti Othman on 7 November 2021. The launching event was done virtually to adhere to the Standard of Operational Procedures (SOPs) of COVID-19 pandemic. MCAW 2021 Virtual Run/Walk, TikTok/InstaReels video competition and colouring competition were among the highlights in conjunction with the launch.

At state level, launching ceremony, oral cancer screening and various promotional activities were successfully conducted. Promotional activities using Facebook Live platform were shared nationally along the week. A total of 1,368 awareness exhibitions, attended by 37,270 participants and 2,697 talks to 31,832 individuals were successfully conducted.

- **Training**

In 2021, there were 25 calibration sessions done on Primary Prevention and Early Detection of Oral Potentially Malignant Diseases (OPMDs) and Oral Cancers Programme conducted by the states involving 954 dental officers. The highest number of officers trained was in Johor **(Table 89)**. A total of 2,023 dental and non-dental staffs had participated in 225 sessions of oral cancer awareness & Mouth Self Examination **(Table 90)**.

Table 89:
Oral Cancer Calibration Session Conducted by States, 2021

States	Oral Cancer Calibration	
	No. of Sessions Conducted	No. of Dental Officers Trained
Perlis	2	33
Kedah	1	45
Penang	2	66
ILKKM	1	31
Perak	1	86
Selangor	1	88
FT Kuala Lumpur & Putrajaya	1	60
N. Sembilan	1	76
Melaka	2	89
Johor	4	165
Pahang	2	95
Terengganu	0	0
Kelantan	2	45
Pen. Malaysia	20	879
Sabah	4	66
Sarawak	0	0
FT Labuan	1	9
MALAYSIA	**25**	**954**

Source: Oral Health Programme, MOH 2021

Table 90:
Awareness & Mouth Self Examination Session Conducted by States, 2021

State	Awareness & Mouth Self Examination Session			
	No. of Sessions Conducted	No. of Participants		
		Dental Officers	Dental Supporting Staffs	Non-Dental Staffs
Perlis	2	5	0	730
Kedah	12	160	196	2
Penang	7	60	14	0
ILKKM	1	30	40	48
Perak	8	139	55	65
Selangor	14	145	149	130
FT Kuala Lumpur & Putrajaya	23	230	405	0
Negeri Sembilan	15	157	187	59
Melaka	16	265	197	81
Johor	36	259	125	178
Pahang	33	172	195	67
Terengganu	24	222	270	0
Kelantan	9	93	80	30
FT Labuan	0	0	0	0
Sabah	22	120	199	681
Sarawak	3	24	36	0
MALAYSIA	**225**	**2,081**	**2,148**	**2,071**

Source: Oral Health Programme, MOH 2021

ORAL HEALTH PROMOTION

Oral Health Programme (OHP) focuses on oral health promotion activities that aim to enable *rakyat* to increase control over the determinants of oral health. Activities are mainly directed to increase knowledge and awareness, strengthen the skills and capabilities of individuals and also change social and environmental conditions to improve the oral health status of the population. The main oral health promotion initiatives in OHP are as follows:

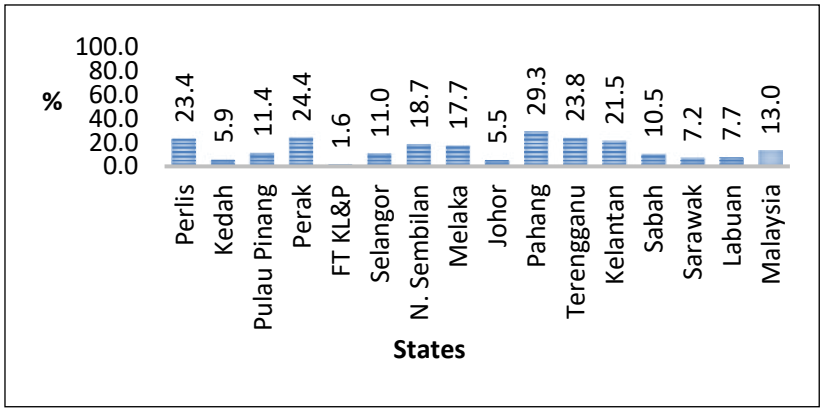
1. Tooth Brushing Drills and Oral Health Education Talk
2. *Kesihatan Oral Tanpa Amalan Merokok (KOTAK)*
3. *Ikon Gigi (iGG)*
4. *Memberus Gigi Berkesan (BEGIN)*
5. *Kesihatan Oral dan Agama (KOA)*
6. Oral Health Programme for Trainee Teachers
7. Transformation With One Smile Together (TW1ST)
8. The National-Level Campaign on Dental Check-Ups at Least Once a Year Through the Oral Health Promotion Week Platform
9. *Pendidikan Kesihatan Pergigian Dalam Talian (PKPDT)*
10. *Klinik Pergigian Mesra Promosi (KPMP)*
11. Oral Health Promotion Activities in Social Media
12. Oral Health Promotion Activities at Wellness Hub
13. Production of Oral Health Education Materials

Tooth Brushing Drills (TBD) and Oral Health Education

Dental plaque is a one of the main risk factors of dental caries and periodontal diseases. Therefore, it is crucial to inculcate dental plaque control as early age as possible to achieve optimal oral health status.

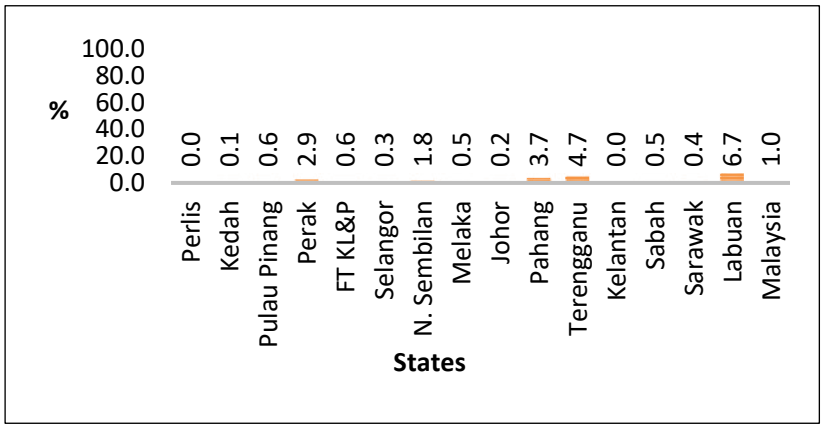
In 2021, only 13.0 percent of pre-school children **(Figure 57)** and 1.0 percent of primary schoolchildren **(Figure 58)** participated in tooth brushing drills (TBD). The very low participation in TBD is due to "no physical" school operation due to the COVID-19 pandemic.

Figure 57:
TBD Done on Pre-School Children by State, 2021



Source: Oral Health Programme MOH, 2021

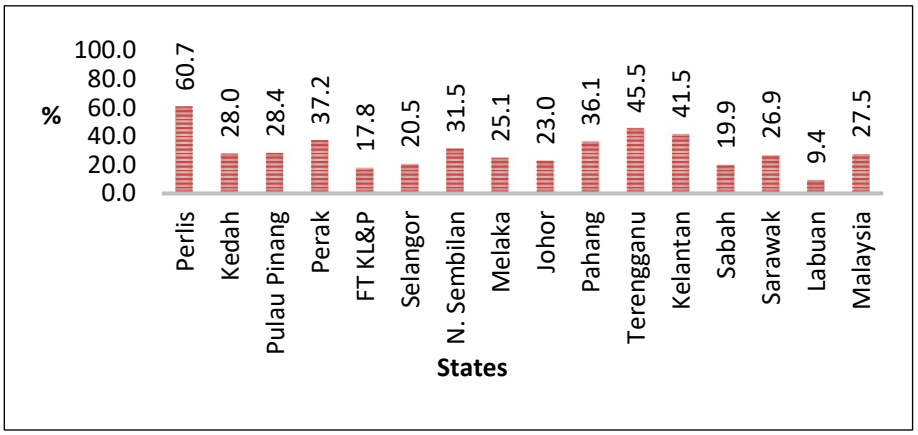
Figure 58:
TBD Done on Primary Schoolchildren by State, 2021



Source: Oral Health Programme MOH, 2021

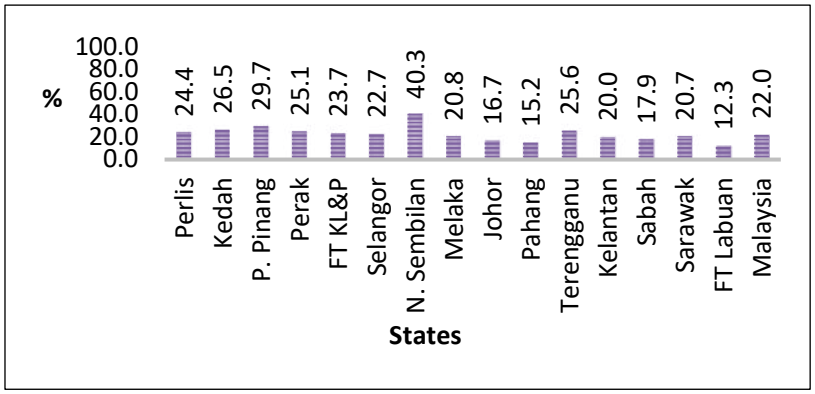
In addition to TBD, oral health education (OHE) talks were also given to increase knowledge and awareness to schoolchildren. In 2021, 27.5 percent of pre-school children **(Figure 59)** and 22.0 percent of primary schoolchildren **(Figure 60)** has participated in (OHE) sessions.

Figure 59:
OHE to Pre-School children by State, 2021



Source: Oral Health Programme MOH, 2021

Figure 60:
OHE to Primary Schoolchildren by State, 2021



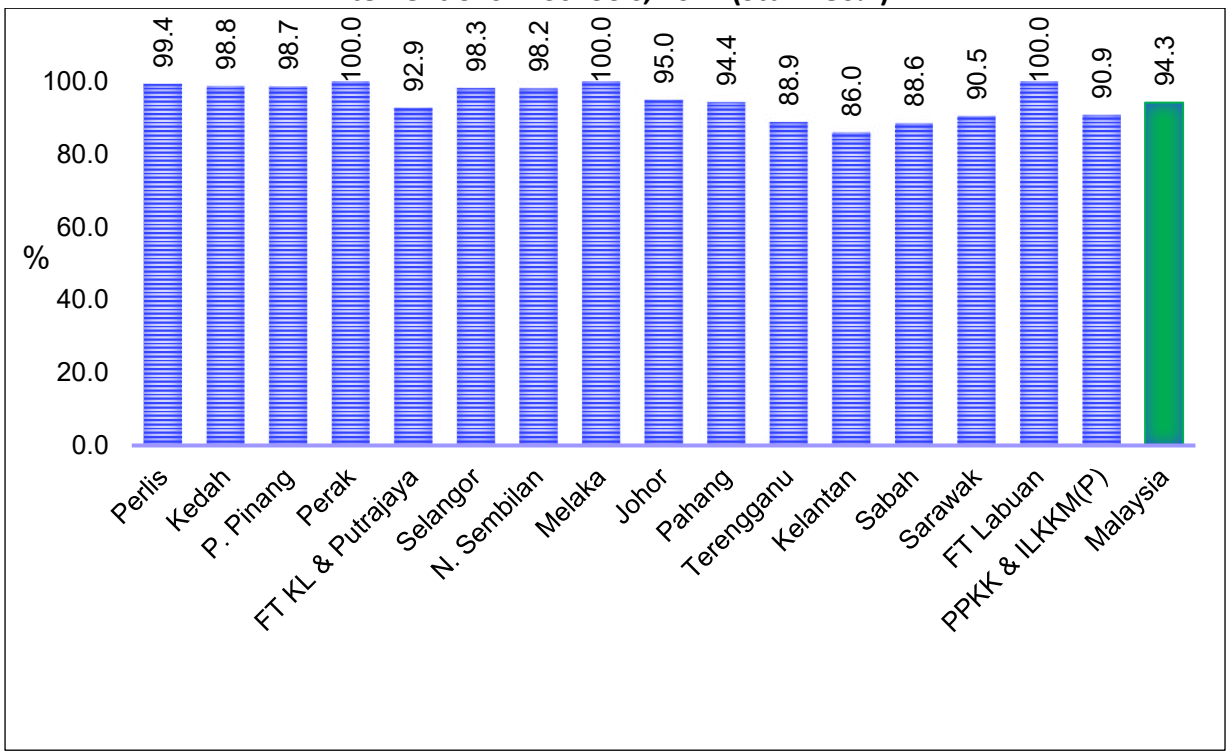
Source: Oral Health Programme MOH, 2021

Kesihatan Oral Tanpa Amalan Rokok (KOTAK)

The OHP collaborated with the Disease Control Division and School Education Division of the Ministry of Education Malaysia in the implementation of KOTAK programme. This programme is part of the School Dental Service programme where all primary and secondary schoolchildren are screened for their smoking status. Identified smokers will undergo Smoking Intervention session to help them quit smoking.

Training of clinical staff is an important activity of the KOTAK programme. Thus, percentage of trained staff was selected as the Key Performance Indicator (KPI) in 2021. Overall, the achievement was high and has reached the target (94.3 percent). The states that achieved 100 percent of the clinical staff trained were the Federal Territory of Labuan, Melaka and Perak. **(Figure 61)**

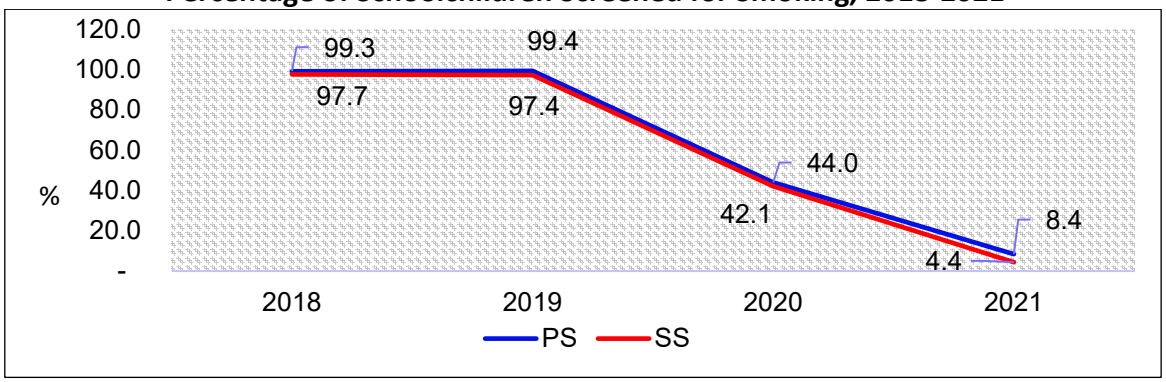
Figure 61:
KPI: Percentage of Clinical Staff Trained for Screening and Smoking Cessation Interventions in Schools, 2021 (Std: ≥ 80%)



Source: Oral Health Programme MOH, 2021

As in previous year, 2021 showed a continuous decline in screening for smoking both for primary and secondary schoolchildren **(Figure 62).** Screening activities could not be performed as in the previous years due to the COVID-19 pandemic.

Figure 62:
Percentage of Schoolchildren Screened for Smoking, 2018-2021

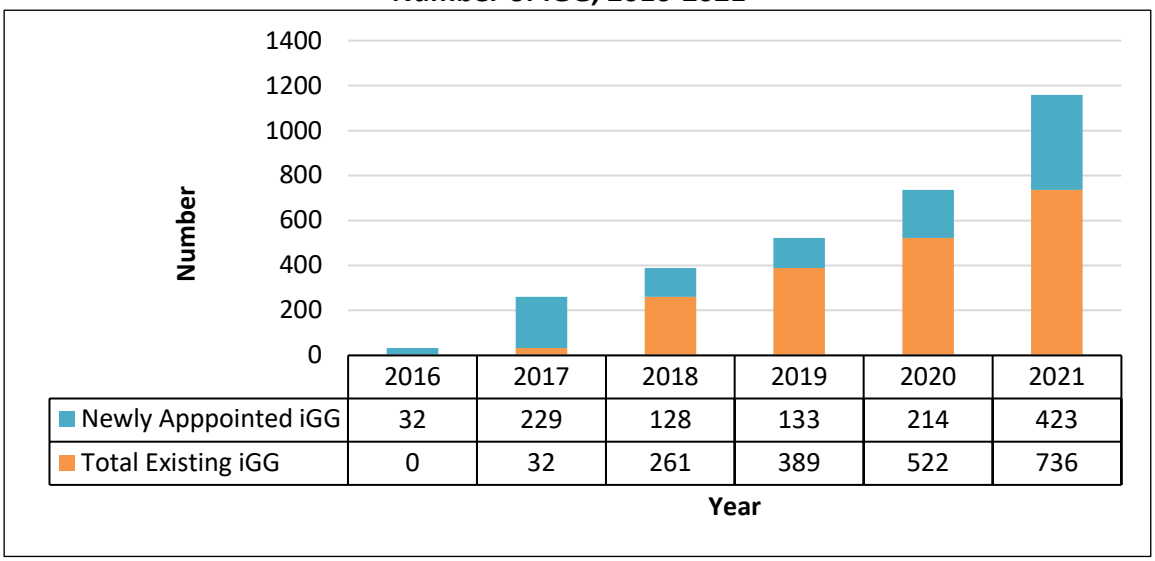


PS: Primary schoolchildren *SS: Secondary schoolchildren*
Source: Oral Health Programme MOH, 2021

Ikon Gigi Programme (iGG)

Dental icon is a special programme where it targeted influential individuals in the community to be trained in oral health education modules. The main objective of this initiative is to disseminate oral health information more widely and to empower the community to take action and improve their oral health status. From 2016 to 2021, a total of 1,159 Ikon Gigi (iGG) was appointed throughout the country **(Figure 63)**. However, in 2021, only 694 iGG were found actively delivering oral health promotion activities **(Figure 64)**.

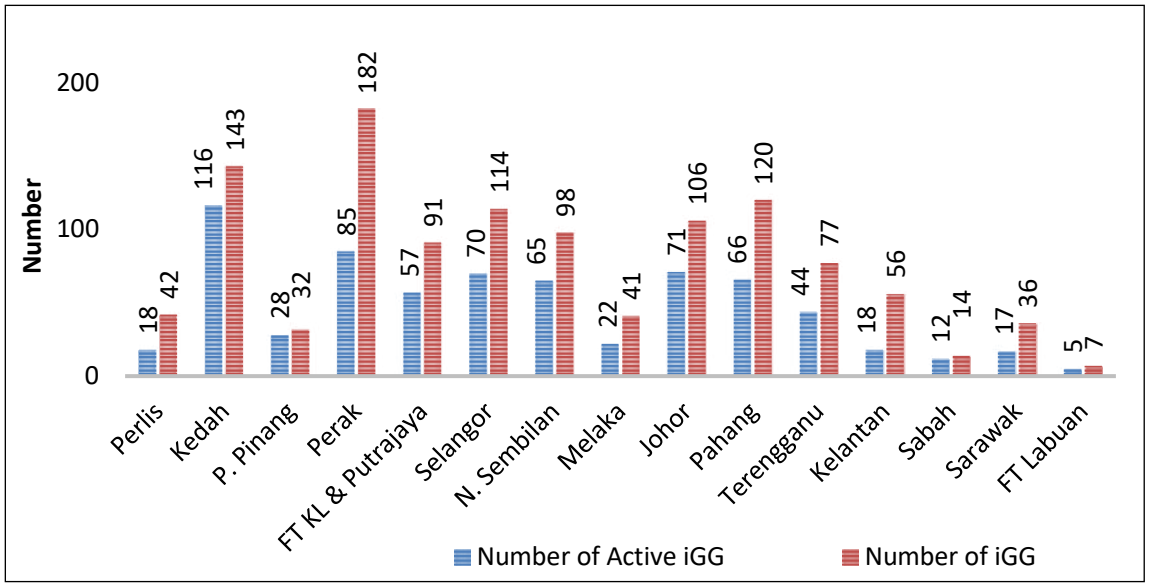
Figure 63:
Number of iGG, 2016-2021



	2016	2017	2018	2019	2020	2021
Newly Apppointed iGG	32	229	128	133	214	423
Total Existing iGG	0	32	261	389	522	736

Source: Oral Health Programme MOH, 2021

Figure 64:
Number of Active iGG by States, 2021



Malaysia: Total number of active iGG = 694
Source: Oral Health Programme MOH, 2021

Facilitators play an important role in the sustainability of iGG programme. In 2021, percentage of Active iGG Facilitators has been selected as one of the KPI of the Oral Health Promotion Section. The overall achievement of the KPI was 98.0 percent. Of all states, Sarawak was the only state that does not meet the standard **(Figure 65)**.

Figure 65:
Percentage of Active iGG Facilitators by State, 2021 (Std. ≥ 75%)

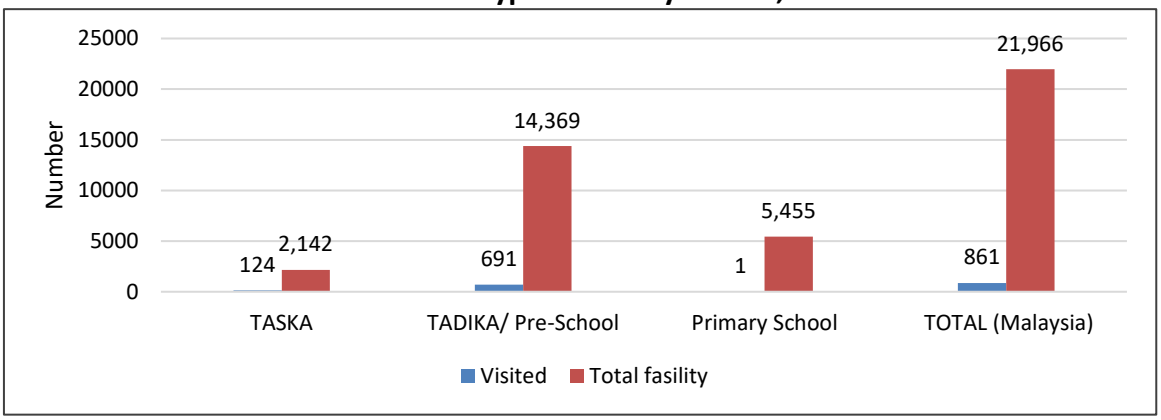
Source: Oral Health Programme MOH, 2021

Memberus Gigi Berkesan (BEGIN)

BEGIN is an oral health promotion activity that promotes and instills effective tooth brushing habits among children. The aim of BEGIN programme is to control dental plaque and inculcate a positive behaviour towards oral health. One (1) of the indicator for BEGIN programme is the

number of facilities visited which consisted of TASKA, TADIKA/pre-schools and primary schools. **Figure 66** showed the breakdown of facilities visited from January to December 2021. Due to the COVID-19 pandemic and Movement Control Order, out of total 21,966 facilities, only 861 were visited throughout the country.

Figure 66:
Number and Type of Facility Visited, 2021



Malaysia: Total number of facility visited = 861
Source: Oral Health Programme, MOH 2021

Kesihatan Oral Dan Agama (KOA)

KOA is a collaborative effort between the OHP MOH and religious institutions in Malaysia. The objective is to deliver oral health messages through religious activities, increase awareness and inculcate good oral health practices among the believers. In 2021, most of the KOA activities were carried out virtually through social media platform such as Facebook, Instagram and Twitter, and chat application such as WhatsApp and Telegram. A total of 625 KOA activities were conducted in 2021 **(Table 91).**

Table 91:
Total Activities and Participants in KOA Programme, 2021

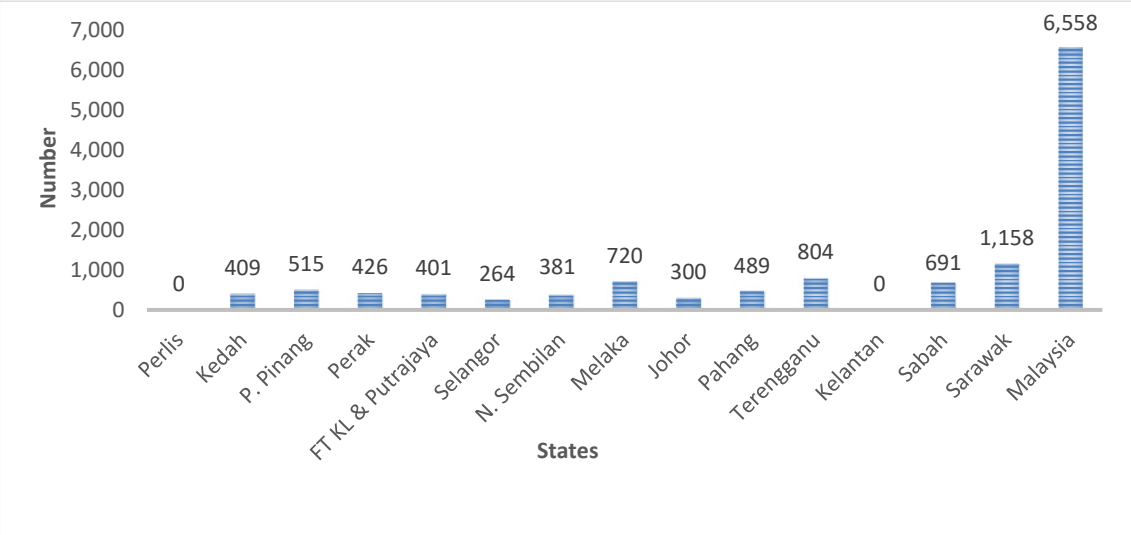
No.	Religion	Total Activities	Total Participants
1	Islam	299	29,742
2	Buddha	140	5,195
3	Hindu	77	2,584
4	Kristian	89	7,650
5	Others	20	500
TOTAL		**625**	**45,671**

Source: Oral Health Programme MOH, 2021

Oral Health Programme for Trainee Teachers

This oral health promotion initiative is designed for trainee teachers in Institut Pendidikan Guru Kampus (IPGK) with the objective to empower trainee teachers with good oral health practices so that they can be role models and help to improve student's oral health status. In 2021, as per government's directive to limit face-to-face and group activities, most of the states have implemented the activities virtually. In 2021, 6,558 trainee teachers from 19 IPGK, Ministry of Education Malaysia had participated in this programme **(Figure 67)**.

Figure 67:
Trainee Teachers Participated in Oral Health Programme by State, 2021



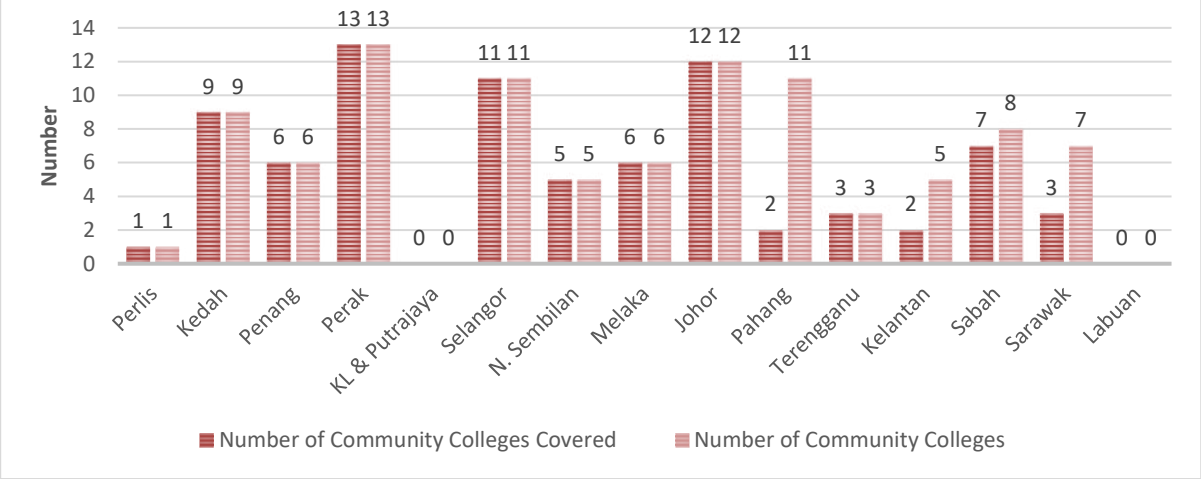
Source: Oral Health Programme MOH, 2021

Transformation with One Smile Together (TW1ST)

The Community College Oral Health Programme or known as Transformation with One Smile Together (TW1ST) aims to enhance knowledge and awareness on the importance of oral health among students and staff of Community Colleges throughout Malaysia. A 'Memorandum of Understanding' was signed in 2017 to symbolise the collaboration between the Oral Health Programme and the Community College Education Department of the Ministry of Higher Education, Malaysia.

Of all 97 community colleges in the country, 80 (82.5 percent) was covered in 2021. Oral health education activities mostly were held via online. It was noted that the Federal Territories of Kuala Lumpur & Putrajaya and Labuan did not have community colleges **(Figure 68).**

Figure 68:
Number of Community Colleges Covered by State, 2021



Malaysia: Total number of community college covered = 80
Source: Oral Health Programme, MOH 2021

The National-Level Campaign on Dental Check-Ups At Least Once a Year Through The Oral Health Promotion Week Platform

The virtual launching of the National-Level Campaign on Dental Check-ups at Least Once a Year [*Kempen Pemeriksaan Pergigian Sekurang-kurangnya Sekali* Setahun (PEPS1S)] was held on 8 July 2021 through the Oral Health Promotion Week platform. The grand virtual launching event using the Facebook Live platform, with the theme *"Ingat Hari Jadi, Ingat Doktor Gigi"* was officiated by *Kebawah Duli Yang Maha Mulia Seri Paduka Baginda Raja Permaisuri Agong Tunku Hajah Azizah Aminah Maimunah Iskandariah Binti Almarhum Al-Mutawakkil Alallah Sultan Iskandar Al-Haj.*

The PEPS1S campaign aims to increase the utilisation of oral health services especially by the target groups, namely young adults, adults and elderly. Pahang State Oral Health Division as the co-organiser for this year's event has contributed in technical aspect of the launching and organised a virtual run competition. At the national level, pre-launched activities such as IGTV and infographic competitions received a tremendous participations from all over the country. Meanwhile, at the state level, various promotional and educational activities continued after the launch.

Image 41:
The Launching of the PEPS1S Campaign by *Kebawah Duli Yang Maha Mulia Seri Paduka Baginda Raja Permaisuri Agong*

Image 42-45:
The Launching of PEPS1S Campaign Held Virtually at Oral Health Programme, Ministry of Health Malaysia

In total, 48,797 activities were carried out in all states, involving 345,562 participants during the 2021 Oral Health Promotion Week **(Table 92).**

Table 92:
Number of Activities and Participants in the Oral Health Promotion Week by States, 8-31 July 2021

No.	States	No. of Activities	No. of Participants
1	Perlis	317	3,803
2	Kedah	5,583	15,183
3	Pulau Pinang	7,437	38,440
4	PPKK & ILKKM (Pergigian)	4	3,791
5	Perak	3,601	23,497
6	Selangor	12,756	81,223
7	FT Kuala Lumpur & Putrajaya	450	11,579
8	Negeri Sembilan	2,876	10,723
9	Melaka	255	2,279
10	Johor	2,162	18,397
11	Pahang	2,911	15,245
12	Terengganu	1,132	7,909
13	Kelantan	1,944	51,390
14	Sabah	5,990	49,648
15	Sarawak	871	10,207
16	FT Labuan	508	2,248
TOTAL		**48,797**	**345,562**

Source: Oral Health Programme MOH, 2021

Activities for PEPS1S campaign were extended until December 2021 following the Oral Health Promotion Week. A total of 252,037 activities were carried out during the PEPS1S campaign which were held from August to December 2021 (duration of 5 months) involving 1,326,337 participants **(Table 93).**

Table 93:
Number of Activities and Participants in the PEPS1S Campaign by States, August to December 2021

No.	States	No. of Activities	No. of Participants
1	Perlis	4068	36,630
2	Kedah	28,846	69,287
3	Pulau Pinang	28,498	122,316
4	PPKK & ILKKM (Pergigian)	93	662
5	Perak	27,612	136,362
6	Selangor	31,418	198,120
7	FT Kuala Lumpur & Putrajaya	7,572	67,834
8	Negeri Sembilan	10,515	81,091
9	Melaka	38,485	186,506
10	Johor	10,218	27,159
11	Pahang	14,317	107,238
12	Terengganu	4028	47,279
13	Kelantan	10,853	89,694
14	Sabah	27,814	115,061
15	Sarawak	1,400	24,026
16	FT Labuan	6,300	17,072
TOTAL		**252,037**	**1,326,337**

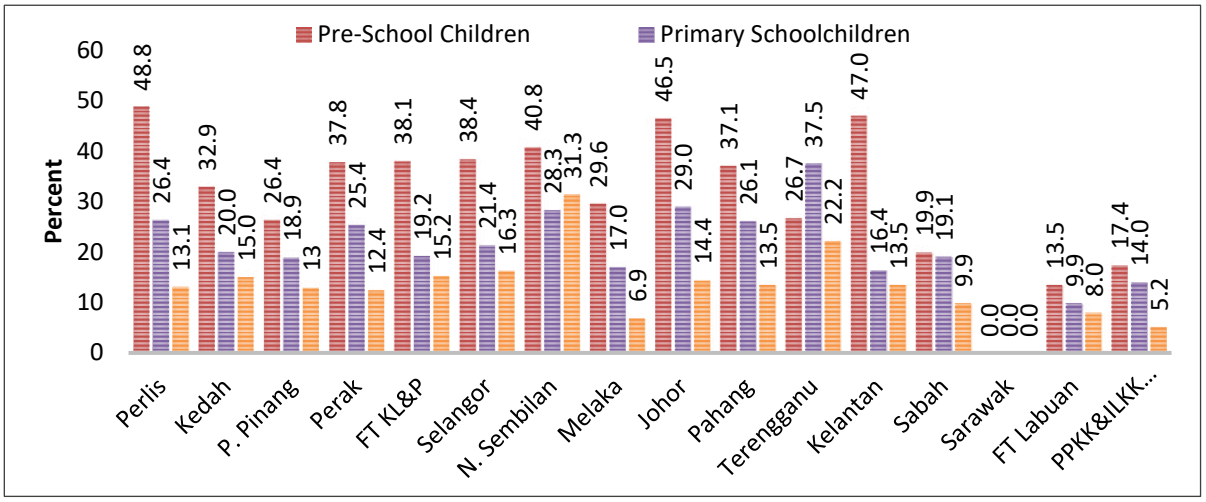
Source: Oral Health Programme MOH, 2021

Pendidikan Kesihatan Pergigian Dalam Talian (PKPDT)

PKPDT was first introduced in July 2021 and was carried out throughout the country as an alternative to oral health education in pre-schools and schools which was previously held face to face. For a start, the implementation focused on pre-school and schoolchildren aged 6, 9, 11, 14 and 16 years old.

Overall, from July to Disember 2021, 31.3 percent of pre-school children, 20.5 percent of primary schoolchildren and 13.1 percent of secondary schoolchildren had participated in the PKPDT. The state of Perlis, Terengganu and Negeri Sembilan had the highest percentage of pre-school, primary school, and secondary schoolchildren participated in the PKPDT at 48.8 percent, 37.5 percent and 31.3 percent respectively **(Figure 69)**.

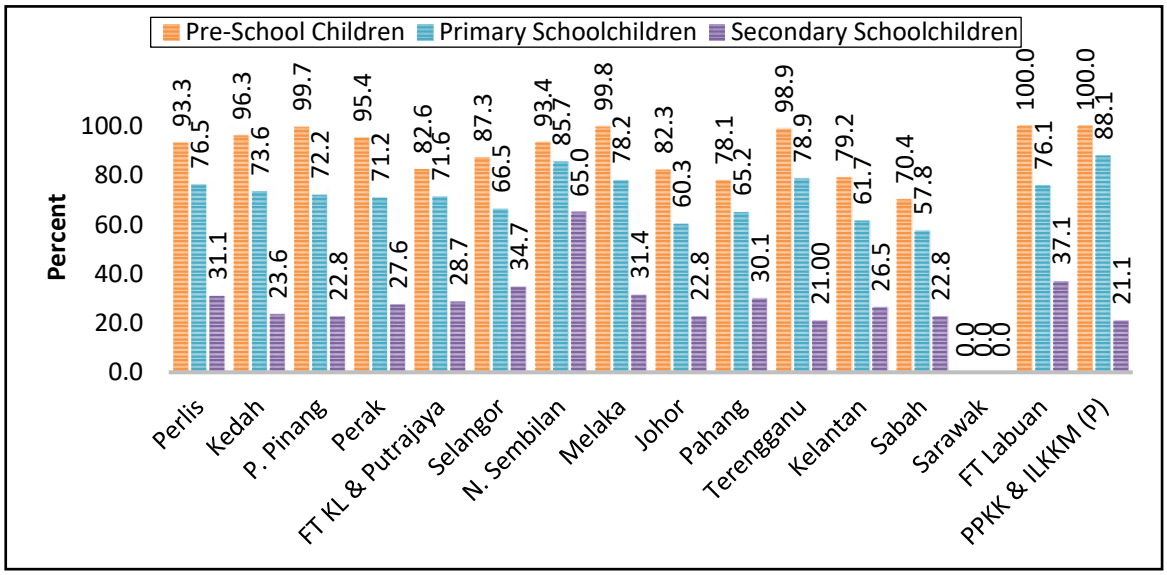
Figure 69:
Percentage of Schoolchildren Participated in *Pendidikan Kesihatan Pergigian Dalam Talian* by States, 2021



Malaysia: Pre-school children 31.3 percent; Primary schoolchildren 20.5 percent; Secondary schoolchildren 13.1 percent
Source: Oral Health Programme, MOH 2021

In addition, the schoolchildren were also tested on their level of understanding based on the specific PKPDT modules. Schoolchildren who scored 70 percent were considered to understand the modules. A total of 84.8 percent of pre-school children, 67.7 percent of primary schoolchildren and 27.9 percent of secondary schoolchildren understood the content of the modules provided **(Figure 70)**.

Figure 70:
Percentage of Schoolchildren Understood the Content of the Modules by States, 2021



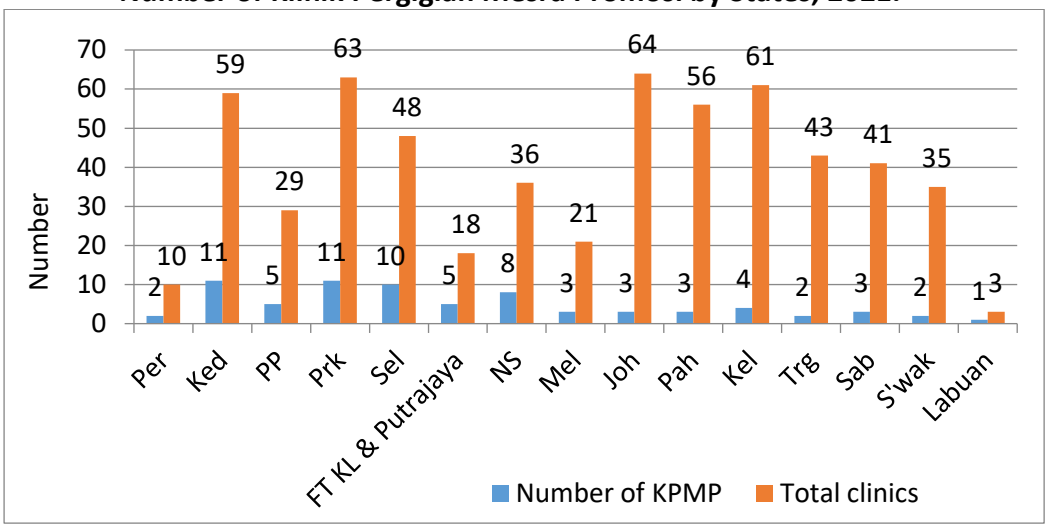
Malaysia: Pre-school children 84.8 percent; Primary schoolchildren 67.7 percent; Secondary schoolchildren 27.9 percent
Source: Oral Health Programme, MOH 2021

Klinik Pergigian Mesra Promosi (KPMP)

Klinik Pergigian Mesra Promosi is the dental clinic that actively carried out oral health promotion and education activities to improve patient's oral health status. KPMP aims to establish dental clinic as the centre for promotion, education and prevention of oral diseases.

As of December 2021, 73 KPMPs out of 587 dental clinics were established **(Figure 71)**.

Figure 71:
Number of Klinik Pergigian Mesra Promosi by States, 2021.



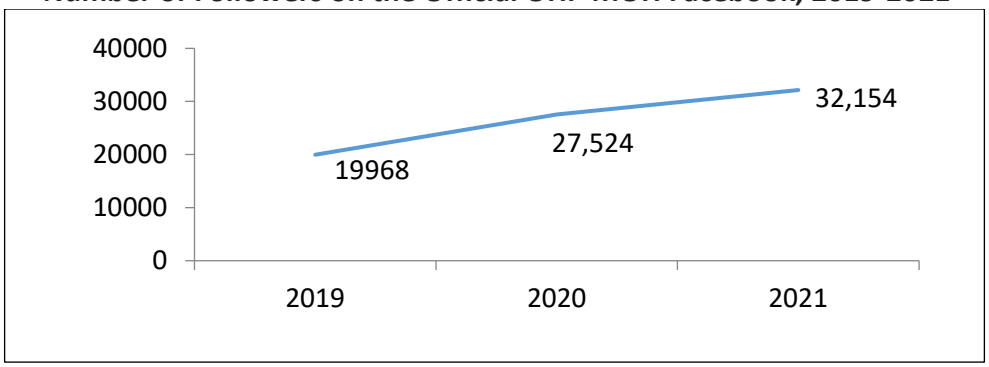
Malaysia: 73 KPMP
Source: Oral Health Programme, MOH

Oral Health Promotion Activities in Social Media

Since the COVID-19 pandemic outbreak in early 2020, social media has become one of the most important medium in delivering oral health education (OHE) to the public. Most of the OHE activities and launching ceremonies were no longer held face-to-face and was replaced virtually.

There was a significant increase in the number of followers on the official OHP MOH Facebook from 19,968 in 2019 to 32,154 in 2021 **(Figure 72)**. Among the factors that contributed to the increase in the number of followers were the regular publication of OHE materials and the launch of virtual events.

Figure 72:
Number of Followers on the Official OHP MOH Facebook, 2019-2021



Source: Oral Health Programme, MOH 2021

The same pattern in the number of followers can also be observed on social media at the state level. Not only the number of social media followers has increased, the number of uploaded OHE materials also had increased significantly from 2019-2021 **(Figure 73 and 74).**

Figure 73:
Number of Social Media Followers at State Level

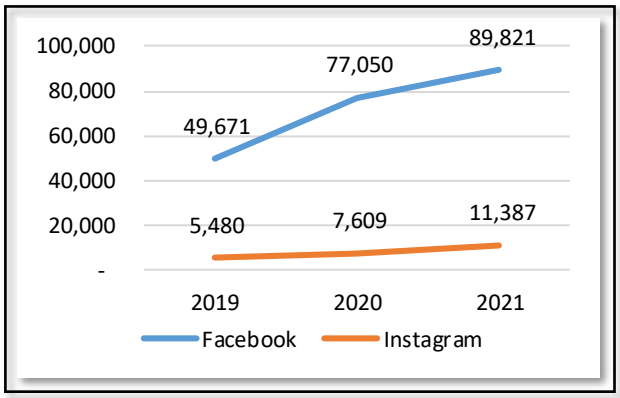
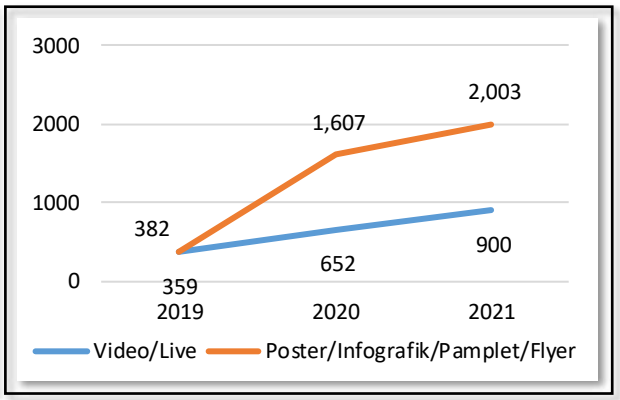


Figure 74:
Number of OHE Material Uploaded at State Level



Source: Oral Health Programme, MOH 2021

The OHE material produced by the social media team has garnered high views from the public. This may increase access to oral health information and education to the community. **Table 94** showed the total number of oral health education material produced and uploaded at national level in 2021.

Table 94:
Number of OHE Materials Produced and Uploaded, 2021

Type of OHE Material	Number of OHE Produced and Uploaded
1. Poster/ Infographic	23
2. Short Video	4
3. Festive Greetings	14
4. Announcement/ Notification	1
TOTAL	**42**

Source: Oral Health Programme, MOH 2021

Oral Health Promotion Activities at Wellness Hub

The *Agenda Nasional Malaysia Sihat* (ANMS) was launched in 2021 by YAB Dato' Sri Ismail Sabri bin Yaakob, the Honourable Prime Minister which aims to cultivate a healthy livestyle and promoting environmental sustainability to support the health and well-being of *Keluarga Malaysia*.

There are four (4) main thrusts in the ANMS and the Wellness Hub (WH) is an initiative under Thrust 2. The aim of WH is to increase access to wellness facilities and services to the public. WH is managed by the Health Education Division, MOH. Oral health promotion and education activities are encouraged to be held at WH. In 2021, a total of 31 activities were conducted at the WH with a total of 1,403 participants **(Table 95)**.

Table 95:
Number of Activities and Participants at The Wellness Hub by states, 2021

States	Number of Wellness Hub	No. of Activities	No. of Participants
Perlis	1	2	778
Kedah	2	0	0
Pulau Pinang	3	0	0
Perak	1	0	0
Selangor	3	9	24
FT Putrajaya	1	9	477
Negeri Sembilan	2	0	0
Melaka	2	4	40
Johor	1	0	0
Pahang	2	0	0
Terengganu	2	7	84
Kelantan	2	0	0
Sabah	4	0	0
Sarawak	1	0	0
TOTAL	**27**	**31**	**1,403**

Source: Oral Health Programme, MOH 2021

Production of Oral Health Education Materials

Although most activities are conducted virtually and OHE materials are published and uploaded in social media in softcopy format, the production of posters in hardcopy is still ongoing. In 2021, five (5) existing posters, sized 20" x 30", were redesigned, printed and distributed to the states as follows:

1. *Penjagaan Kesihatan Mulut di Rumah Sewaktu Wabak COVID-19*
2. *Norma Baharu, Senyuman Baharu*
3. *Fakta Cabutan Gigi Bongsu Terimpak*
4. *Ingat Hari Jadi, Ingat Doktor Gigi*
5. *Jumpa Doktor Gigi Anda Sekurang-kurangnya Sekali Setahun*

Evaluation of Oral Health Promotion Activities

Evaluation of oral health promotion activities is paramount to assess the current situation and to ensure they are effective. In addition, evaluation can help to identify areas for improvement and help to realise goals more efficiently. In 2021, 10 effectiveness studies have been initiated and will be continued in 2022 **(Table 96).**

Table 96:
List of Effectiveness Studies on Oral Health Promotion Activities

State	Research title	Principal Investigator
Johor, Labuan, PKPKKM	The Level of Knowledge, Attitude, Practice Among Dental Operators, Patients and Its Provider Cost Incurred of Providing Screening, Brief Advice, and SCC in KOTAK Programme Within Johor Government School Oral Health Services	Dr Siti Aisyah binti Mohd Taha
Sarawak, PKPKKM	Assessment of Knowledge, Awareness, Practice, Acceptance and Barriers Of Facilitators, 'Ikon Gigi' (iGG) And Community Towards 'Ikon Gigi' (iGG) Programme In Malaysia	Dr Bibiana Yong Hui Ying
Kedah, Sabah	Short-term Evaluation Of The Oral Health Training Programme For Trainee Teachers At Institut Pendidikan Guru Kampus Sultan Abdul Halim And Institut Pendidikan Guru Kampus Kent: Before And After Study	Dr Ruhaini binti Sabron
Perak, Melaka	Relationship Between Oral Health-Related Knowledge, Attitudes, Practice, Self-Rated Oral Health and Oral Health-Related Quality of Life Among Malaysian Community College Alumni	Dr Muhammad Firdaus bin Mokhtar
Pahang	Process Evaluation on Collaboration of Oral Health Programme with Religious Organisations (KOA) Initiatives in Pahang, Malaysia: A Qualitative Study	Dr Kurudeven a/l Tamil Chelvan
Terengganu	Exploring the Experiences in Conducting Minggu Promosi Kesihatan Pergigian (MPKP) Programme amongst Dental Staff in Terengganu: A Qualitative Study	Dr. Nur Athirah binti Abdul Aziz
Negeri Sembilan, Pulau Pinang	The Changes in Oral Health Knowledge, Attitide, Practices and Perception of Patients in Klinik Pergigian Mesra Promosi (KPMP) and Involvement of the Implementers.	Dr. Nurain binti Abdul Samat
Kelantan, Perlis	Effectiveness of BEGIN Programme in Malaysia.	Dr Nurhidayah binti Zahrulsham
Selangor	Assessing Knowledge, Attitude, Strengths and Weaknesses of Dedicated Promotion Team-from Members' Point of View	Dr Hamizah binti Masrom
KL, ILKKM, PKPKKM	Facebook Posts by the Oral Health Division, Federal Territory of Kuala Lumpur & Putrajaya, Ministry of Health : A Content Analysis	Dr Maisara binti Mohd Zain

Source: Oral Health Programme, MOH

Issues and Strategies to Overcome

Oral health promotion activities need to be strengthened even though the COVID-19 pandemic has not completely subsided. Social media platform such as Facebook, Instagram and Twitter can serve as an alternative medium. In view of the pandemic COVID-19 effect on services delivery, below are a few strategies that have been initiated to overcome several issues **(Table 97)**.

Table 97:
Issues and Strategies to Overcome

No.	Issues	Strategies to Overcome
1.	COVID-19 pandemic & its impact on oral health promotion	• Online OHE e.g. Facebook live platform • Increase the use of social and conventional media
2.	Errors in data reporting	• Data verification • Automated reporting system
3.	Lack of motivation and skill in managing social media KOTAK, iGG, BEGIN programmes	• Staff training • Monitoring of KPIs related to training
4.	Lack of knowledge and skills in programme evaluation	• Training/courses/workshops/CPD
5.	School closure – low screening rate for KOTAK and BEGIN programme	• Make an appointment for school children to come to the dental clinic
6.	Sustainability of the iGG Programme	• Increase number of activities with iGG that can increase the spirit of togetherness (KPI Programme)

Source: Oral Health Programme, MOH

ACTIVITIES AND ACHIEVEMENTS: ORAL HEALTH PRACTICE AND DEVELOPMENT DIVISION

ORAL HEALTH ACCREDITATION AND GLOBALISATION

This section is mainly responsible over matters related to the accreditation of Undergraduate Dental Degree Programme offered by local Higher Education Providers (HEP). For this function, the section serves as the secretariat of the Dental Accreditation Technical Committee (JTAC) set up under the purview of the Malaysian Dental Council as stated in the Malaysian Qualification Agency (MQA) Act (Act 679).

This section also represents the Oral Health Programme in the committee that manages the applications from HEP to use Ministry of Health (MOH) facilities for the training of their students. In addition, this section is also accountable to provide input on matters related to the implementation of the liberalisation of the oral health services sector by representing the Oral Health Programme, MOH in the ASEAN Joint Coordinating Committee on Dental Practitioner (AJCCD). This committee comprises of ten (10) ASEAN countries under the Healthcare Services Sectoral Working Group (HSSWG) that discusses matters pertaining to the facilitation of cooperation on Mutual Recognition Agreement (MRA) on Dental Practitioners.

The three (3) main functions of this section are:
1. Accreditation of Undergraduate Dental Degree Programme
2. Attachment (clinical/community) at Ministry of Health Facilities for dental undergraduate/postgraduate students
3. Globalization and Liberalization of Oral Health Services

Accreditation of Undergraduate Dental Degree Programme

- **Technical evaluation**

In the face of the COVID-19 pandemic, three (3) accreditation evaluations [one (1) renewal and two (2) monitoring] which were scheduled in 2020 had to be postponed to the year 2021. The three (3) rescheduled accreditation visits were for the International Islamic University (IIUM), Universiti Sains Malaysia (USM) and SEGi University.

Five (5) evaluation visits [four (4) renewal and one (1) monitoring] were due and scheduled in the year 2021. These were for Melaka Manipal University College (MUCM), Penang International Dental College (PIDC), Universiti Kebangsaan Malaysia (UKM), AIMST University and Universiti Malaya (UM).

With the restriction for physical evaluation visits by the Malaysia Qualifying Agency (MQA), the Joint Technical Accreditation Committee (JTAC) with the approval of the Malaysian Dental Council (MDC) agreed to adopt and adapt the MQA Virtual Audit (MQAVA) method in an effort to ensure that accreditation evaluation of local Undergraduate Dental Degree Programmes remains smooth.

Hence in 2021, eight (8) accreditation evaluation visits were successfully carried out using the MQA virtual audit approach. Nevertheless, the shortcomings in the MQAVA were identified and addressed. The JTAC agreed that the MQAVA or a hybrid version will only be used in situations that does not permit a physical visit/presence of the evaluation team at the HEP.

- **Full Accreditation (Renewal)**

Five (5) full accreditation evaluations were carried out for Dental Degree Programmes that had accreditation status expiring in 2021:

1. International Islamic University Malaysia (IIUM)
2. Penang International Dental College (PIDC)
3. Manipal University College Malaysia (MUCM)
4. Universiti Kebangsaan Malaysia (UKM)
5. AIMST University

IIUM's accreditation status expired in April 2021 whilst MUCM had her accreditation status expiring in July 2021. For both programmes, extension of their accreditation status were given by the MDC to allocate preparation time for evaluation using the MQA Virtual Audit approach. IIUM was given an extension of six (6) months while MUCM was awarded three (3) months.

- **Accreditation Compliance Monitoring Visits**

Three (3) compliance monitoring evaluations were completed for the following Higher Education Providers (HPE):

1. Universiti Sains Malaysia (USM) in June 2021
2. SEGi University in August 2021
3. University Malaya (UM) in September 2021

- **Applications for Amendment to Intake Quota**

There was one (1) application to increase intake quota which is still pending decision linking to the status of the Moratorium on Dental Degree Programme. One application for a one-off change to the intake quota due to circumstances surrounding the pandemic was processed.

- **Credit Transfers**

Throughout the year JTAC received and deliberated on applications from four (4) HEP for credit transfers for a total of seven (7) students.

- **Curriculum Review**

The curriculum of each Dental Degree Programme must be reviewed every five (5) years. Universiti Sains Malaysia (USM) carried out its curriculum review in 2021.

- **Joint Technical Accreditation Committee (JTAC)**

Six (6) JTAC meetings were scheduled and held virtually **(Table 98)**. A total of 26 recommendations were sent to the Malaysian Dental Council (MDC) for decision and later extended to the Malaysian Qualifications Agency (MQA) from the six (6) meetings held.

Table 98:
Virtual JTAC Meetings, 2021

JTAC MEETINGS	DATE RECOMMENDATION	PROPOSAL PAPER
No 1 / 2021	14.01.2021	2
No 2 / 2021	18.03.2021	1
No 3 / 2021	10.05.2021	6
No 4 / 2021	15.07.2021	9
No 5 / 2021	09.09.2021	5
No 6 / 2021	11.11.2021	3

Source: Oral Health Programme, MOH

- **Moratorium on Bachelor of Dental Degree Programme**

The moratorium on the establishment of new dental faculty, offering bachelor of dental surgery programme or equivalent and limitation to the number of intake of local students to a total of 800 students a year was enforced from 1 March 2013 to 28 February 2018. The Oral Health Programme is of the view that the moratorium needs to be extended. However, in an effort to get the moratorium extended, during a meeting chaired by the Secretary General of the Ministry of Health Malaysia, Ministry of Higher Education (MOHE) reiterated the decision that the moratorium will not be continued as stated in the MOHE letter dated 11 June 2021. Both parties agreed to form a joint technical committee to identify control mechanisms and ensure the continuity of dental studies in the country.

- **Rubric Assessment System for Accreditation of Undergraduate Dental Degree Programme Rubric System**

MDC at its 134 MDC meeting on 22 January 2021 agreed with JTAC's recommendation that the Rubric Assessment System will be used for the evaluation of accreditation renewal in 2021 on a trial basis. Following that, the system was explained to all 13 dental deans on 24 February 2021 through a virtual session. Feedbacks from Panel of Assessors using the Rubric system were noted and further improvement of the rubric was done.

Utilization of Ministry of Health (MOH) Facility for Training of Undergraduates And Postgraduate Dental Students

The attachments at the MOH's facilities are part of the training of both undergraduate and postgraduate students. All applications from the universities were presented to the *Jawatankuasa Penggunaan Fasiliti (JKPF) KKM* chaired by the Deputy Director General (Medical). All attachment applications were discussed with the committee to ensure that all attachments will not cause congestion at the MOH facilities involved. This is because apart from attachment of dental students, MOH facilities are also used for training of medical, pharmacy, nurses and allied health students. In ensuring MOH's interest, Memorandum of Agreements were signed with the HEP requesting the use of MOH facilities for training. Three (3) meetings were held in the year 2021. A total of seven (7) applications to use the MOH facilities for training of undergraduate dental students were received and processed.

Applications from various local universities for attachment of postgraduate students at Oral Health Specialist Clinics / department involving the areas of specialty in Oral and Maxillofacial

Surgery, Orthodontics, Pediatric Dentistry, Oral Pathology and Oral Medicine and Public Health Dentistry were also processed. These are considered as the mandatory training for the postgraduates. We received applications from dental faculties and medical namely Otorhinolaryngology Department. There had been a number of postponements and change of placement location due to the COVID-19 pandemic.

- **Signing / Renewing Memorandum of Agreement (MOA) for Dental Undergraduate Programme**

A total of five (5) MOAs had been successfully renewed with Universiti Teknologi MARA (UiTM), Universiti Sains Islam Malaysia (USIM), International Medical University (IMU), AIMST University and Lincoln University College (LUC). Two (2) MOAs, Manipal University College Malaysia (MUCM) and International Islamic University Malaysia (IIUM) are still in process and expected to settle in 2022.

Globalisation and Liberalization of Oral Health Services

- **Asean Joint Coordinating Committee on Dental Practitioner (AJCCD):**

The ASEAN Joint Coordinating Committee on Dental Practitioners (AJCCD) is the committee under the Healthcare Services Sectoral Working Group (HSSWG) that discusses matters pertaining to facilitation of cooperation on Mutual Recognition Agreement (MRA) on Dental Practitioners.

The Deputy Director of the section together with the Secretary of the Malaysian Dental Council (MDC) represented Malaysia in the ASEAN Joint Technical Committee (AJCCD) and attended two (2) virtual AJCCD meetings in 2021.

The 27 AJCCD was held on 9 June 2021 and the 28 AJCCD on 6 October 2021. During the AJCCD meetings, key items discussed include:

1. ASEAN Minimum Common Competency Standards for Dental Undergraduate Education (2020) AMCCSDUE
2. ASEAN Dental Practice Standards (2020)
3. Mechanism of Mobility for ASEAN Dentists (2017)
4. Comparison Matrices on Important Elements of the Implementation Plans
5. National PDRA (Professional Dental Regulatory Authority) Website

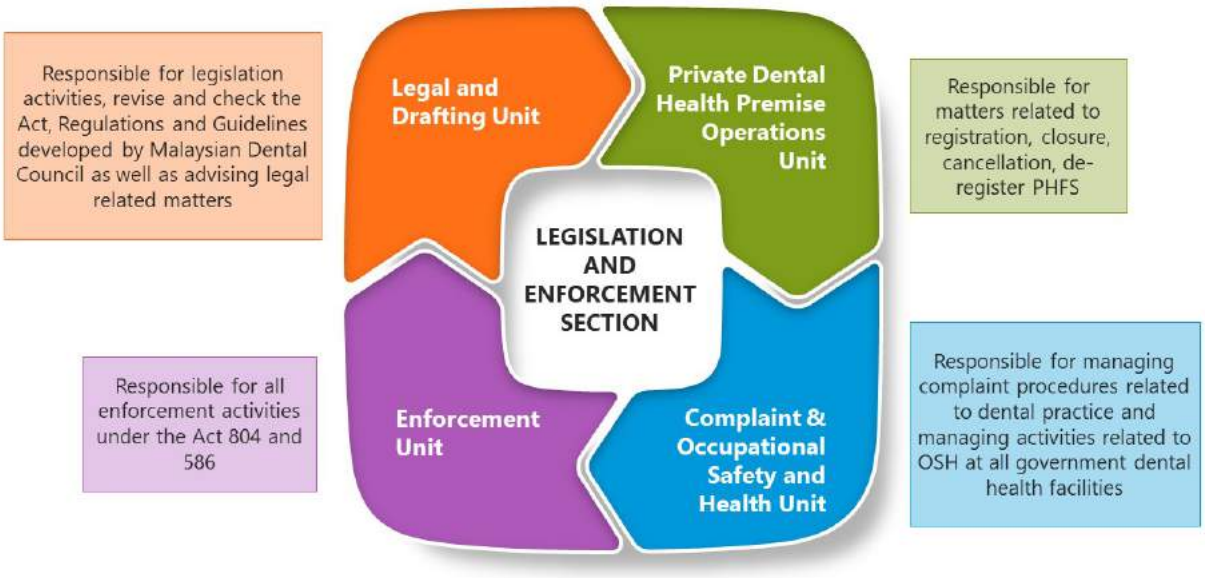
Provide feedback on matters related to the liberalization of dental services as follows:

1. Bilateral Agreement
   a. Australia – Malaysia – February 2021
   b. United Kingdom – Malaysia – March 2021
   c. Philippines – Malaysia – May 2021
   d. United Arab Emirates – Malaysia – July 2021
2. Trade In Services and Malaysian Market Access Offer Under Malaysia-Efta Economic Partnership Agreement (MEEPA) – Dec 2021
3. ERIA - Inception Report - ERIA Study on Supply and Demand of Professional Services in ASEAN
4. Workshop on the ASEAN Trade in Services Agreement (ATISA) – Negative List Approach

ORAL HEALTH LEGISLATION AND ENFORCEMENT

The Oral Health Legislation and Enforcement Section is responsible for all activities pertaining to legislation, enforcement of the Private Healthcare Facilities and Services Act 1998 [*Act 586*] as well as occupational safety and health in dental facilities under the Ministry of Health (MOH) Malaysia. The Section consists of four (4) units which play an important role in different aspects but towards the same objectives to ensure safety and quality of dental services provided **(Figure 75)**.

Figure 75:
Units of Oral Health Legislation and Enforcement Section



Source: Oral Health Programme, MOH

The section's activities also supported by 49 Enforcement Officers appointed under Private Healthcare Facilities and Services Act 1998.

In 2021, the function of the division based on the following units:

Legal & Drafting Unit

The main function of this unit is to enact laws and regulations related to dental practice, besides providing input related to other laws that have an impact on dental practice. Scope of work of this unit is shown in **Figure 76**.

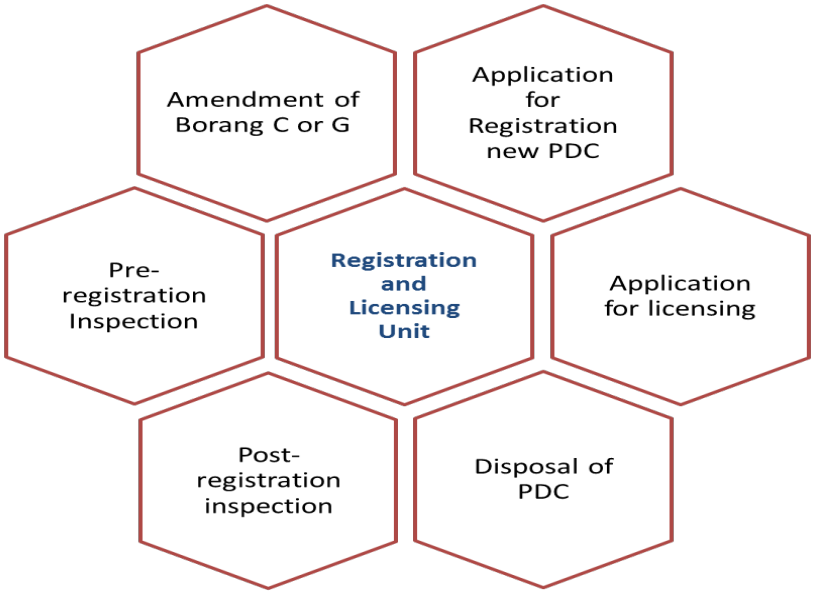
Figure 76:
Activities of Legal and Drafting Unit

Source: Oral Health Programme, MOH

Private Dental Health Premise Operations Unit

The main function of this unit is to review and verify application for registration of new private dental clinics (PDC), besides reviewing the floor plan for licensing application of private hospital and ambulatory centers with dental component. The activities are shown in **Figure 77**.

Figure 77:
Activities Under the Private Dental Health Premise Operations Unit



Source: Oral Health Programme, MOH

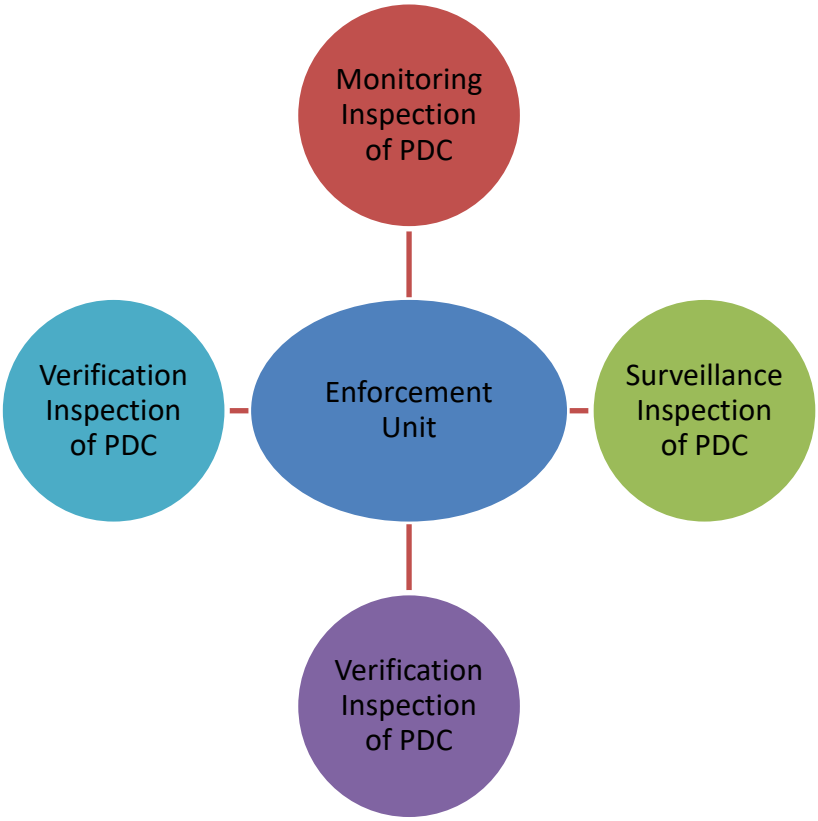
Enforcement Unit

The dental enforcement unit is responsible for ensuring the following:

1. All registered private dental clinics comply with Act 586 and its Regulations and guidelines issued by the Malaysian Dental Council; and
2. Take appropriate enforcement action on complaints related to illegal dental practices.

Activities conducted under this unit as shown in **Figure 78**.

Figure 78:
Activities Under the Enforcement Unit



Source: Oral Health Programme, MOH

In year 2021, in preparation for the enforcement of the Dental Act 2018 [*Act 804*], the enforcement unit has also been given responsibility in managing the appointment of authorized officers under Act 804.

Occupational Safety and Health Unit

This unit is responsible for:

1. monitoring and supervising occupational safety and health audits at government dental facilities throughout the states;
2. reviewing guidelines pertaining to Occupational Safety and Health;
3. reviewing the Occupational Safety and Health Audit Checklist as required;
4. monitoring the incidence of injuries due to sharp tools among dental staff at all government dental facilities;
5. monitoring prevalence of dental staff infected with (detected) infectious diseases; and
6. conducting training sessions for State/ Federal Territory Occupational Safety and Health Auditors

Dental Act 2018 [*ACT 804*] & Dental Regulation

On 26 June 2018, the Bill was enacted and named as Dental Act 2018 [*Act 804*]. The Dental Regulations 2021 were approved by the Minister of Health on 3 December 2021 and gazetted as P.U. (A) 443/2021 on December 7, 2021. Thus a media statement was made by the Minister of Health Malaysia to inform that Act 804 will be in force effective 1 January 2022 except for three (3) provisions which will only be enforced on 1 January 2025. This Act will replace the Dental Act 1971 [*Act 51*] which has successfully regulated the practice of dentistry for the past 50 years. The Act provides for the establishment of the Malaysian Dental Council and the Malaysian Dental Therapists Board, the registration of the dental surgeon and dental therapists and regulation of dental practice and other related matters **(Image 46)**.

Image 46:
Enforcement of Dental Act 2018

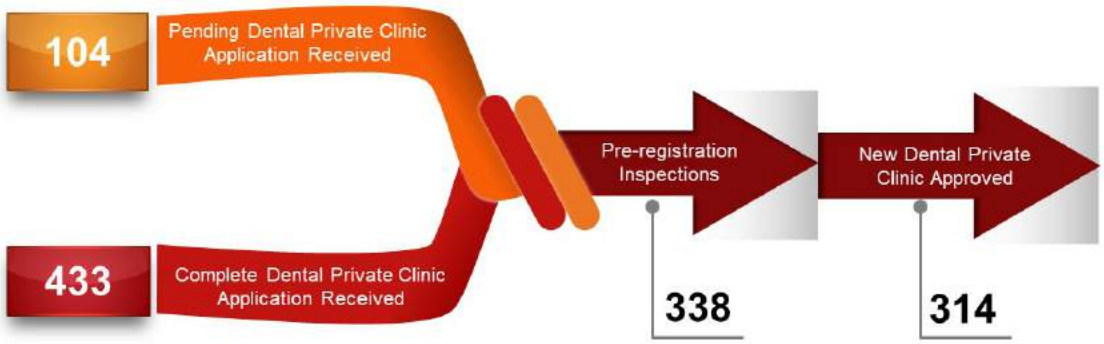
Source: Official Facebook of Oral Health Programme

New Registration of Private Dental Clinic (PDC)

The registration of PDC began in 1 May 2006 after the enforcement of Act 586. During that year, 809 applications were received and only 16.2 percent (131) dental clinics were successfully registered. By the year 2009, all PDC which had submitted complete applications had been registered with Ministry of Health.

The number of application for registration of new PDC increased to 433 in 2021 as compared to 277 in 2020. A total 338 pre-registrations inspections were carried out and 314 new PDC were approved in 2021 including applications received in 2020 **(Figure 79)**.

Figure 79:
New Private Dental Clinic Application Processed in 2021

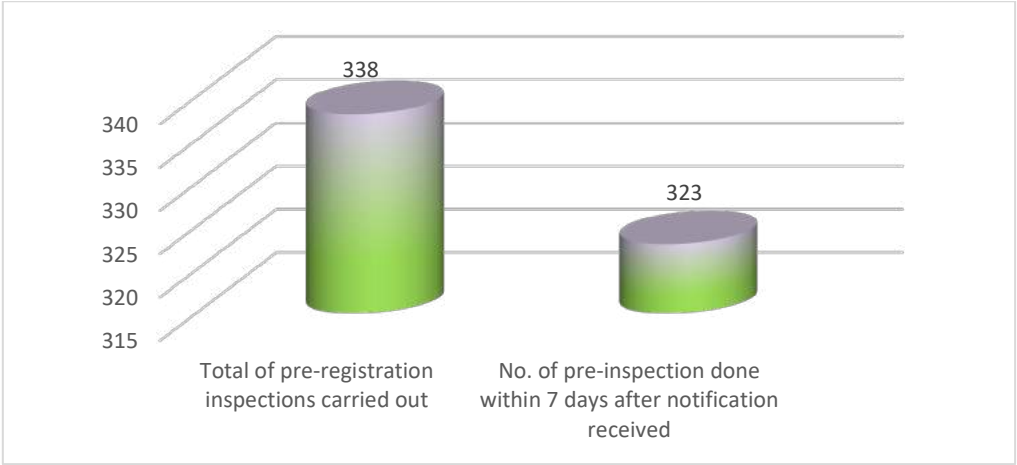


Source: Oral Health Programme, MOH 2021

- **Pre-registration within seven (7) days**

This inspection is carried out upon the receipt of notification of completion of the renovation from the owner of the registration certificate or the person in charge of the premises to be registered. Pre-registration inspection must be conducted within seven (7) working days after receiving the notification. **Figure 80** shown 323 (95.6 percent) pre-inspection registrations were carried out within seven (7) days upon receiving notification.

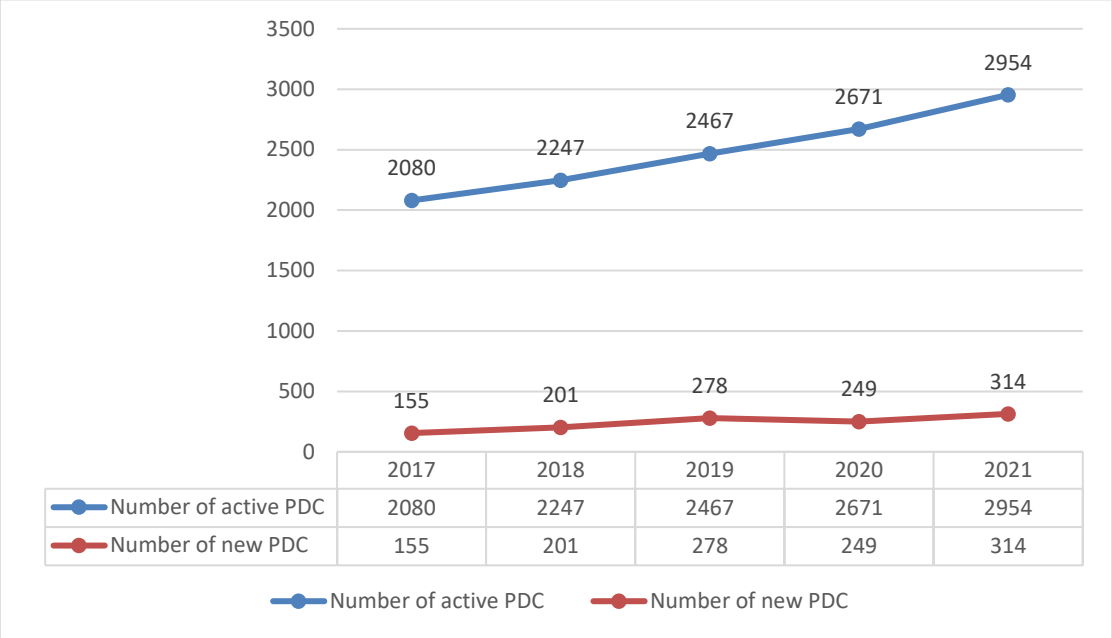
Figure 80:
Pre-registration within Seven (7) Days, 2021



Source: Oral Health Programme, MOH 2021

In the past 5 (five) years, the number of application for registration of new PDC and active PDC increasing every year **(Figure 81)**.

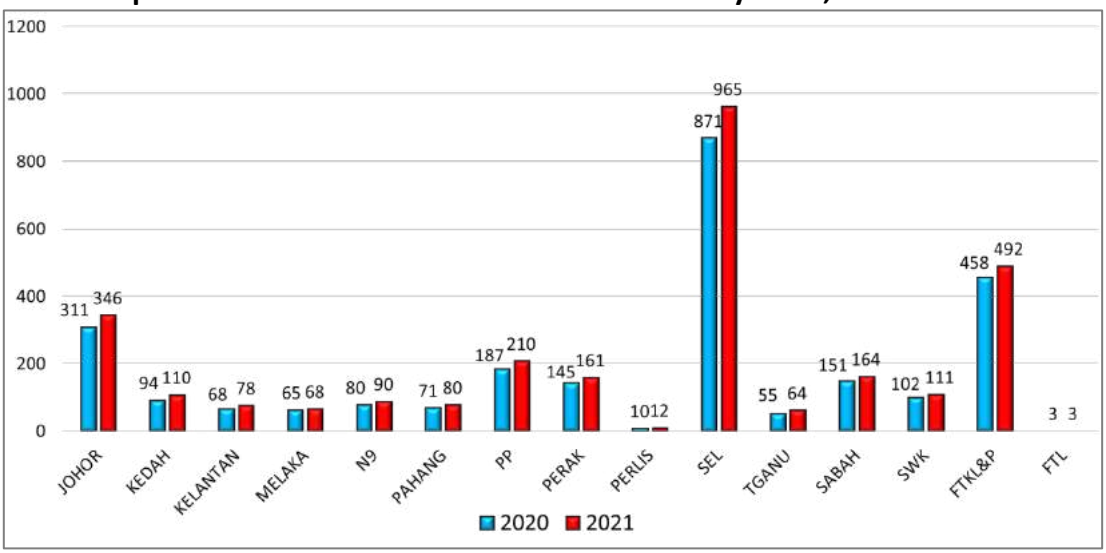
Figure 81:
Number of Private Dental Clinic Applications Approved for Registration and Active Private Dental Clinic



Source: Oral Health Programme, MOH

Figure 82 showed a distribution of PDC by state in 2020 and 2021. The Federal Territory of Labuan was the only state that did not received any application of new PDC in 2021. Other states shows and increasing trend of new PDC between 2020 and 2021.

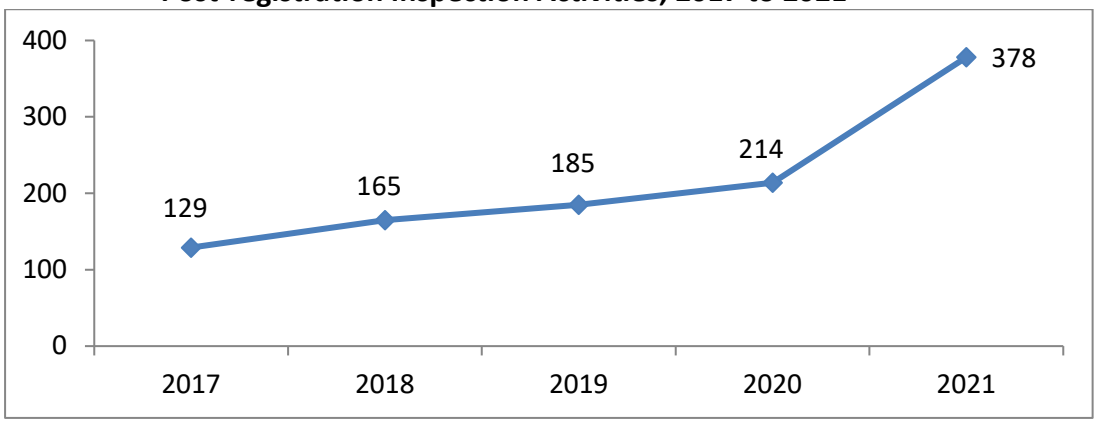
Figure 82:
Comparison Distribution of Private Dental Clinic by State, 2020 and 2021



Source: Oral Health Programme, MOH

Post-registration inspection activities were carried out after the person in charge (PIC) received the Certificate of Registration (Form C) as shown in **Figure 83**.

Figure 83:
Post-registration Inspection Activities, 2017 to 2021

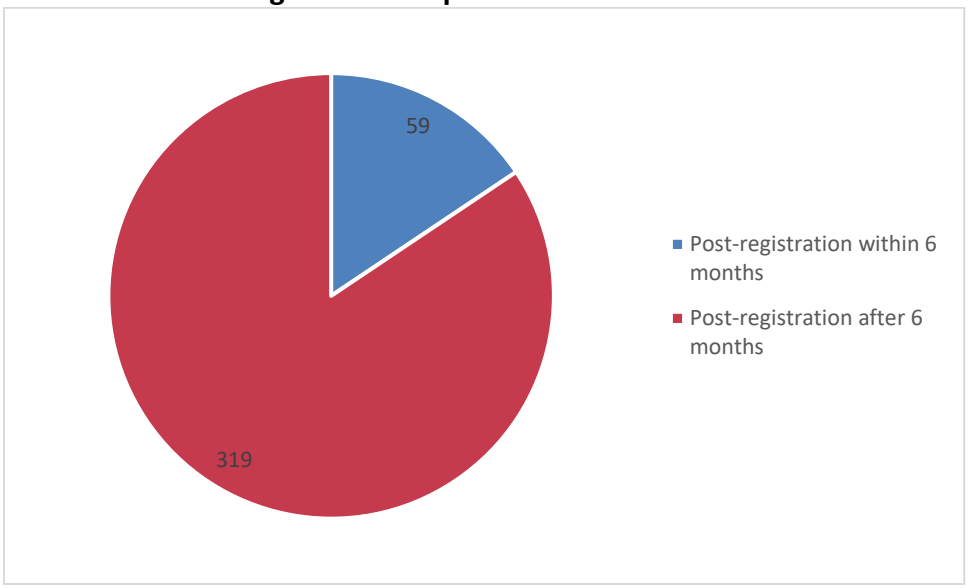


Source: Oral Health Programme, MOH

- **Post-registration inspections conducted within 6 months after receiving Certificate of Registration (COR)**

A new target has been set from 2021 which is the number of post-registration inspections conducted within six (6) months after receiving Certificate of Registration (COR). Only 15.6 percent of post-registration inspections were conducted within six (6) months after the PIC received the COR in 2021 **(Figure 84)**.

Figure 84:
Post-registration Inspections within 6 months

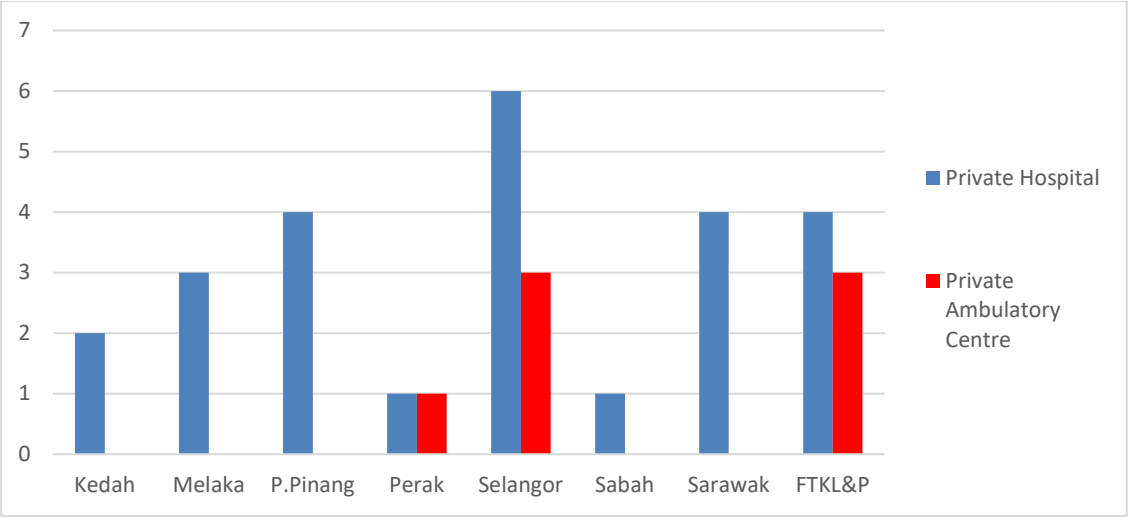


Source: Oral Health Programme, MOH, 2021

Licensing of Private Hospitals and Ambulatory Centers with Dental Components

Oral Health Legislation and Enforcement Section also assists in reviewing the floor plan of the hospital and private ambulatory center with dental components. As of 31 December 2021, there were 25 private hospitals and seven (7) private ambulatory centres with dental components which include one (1) new private ambulatory centre in Perak that has been approved in 2021 **(Figure 85)**.

Figure 85:
Private Hospitals and Private Ambulatory Centres at State

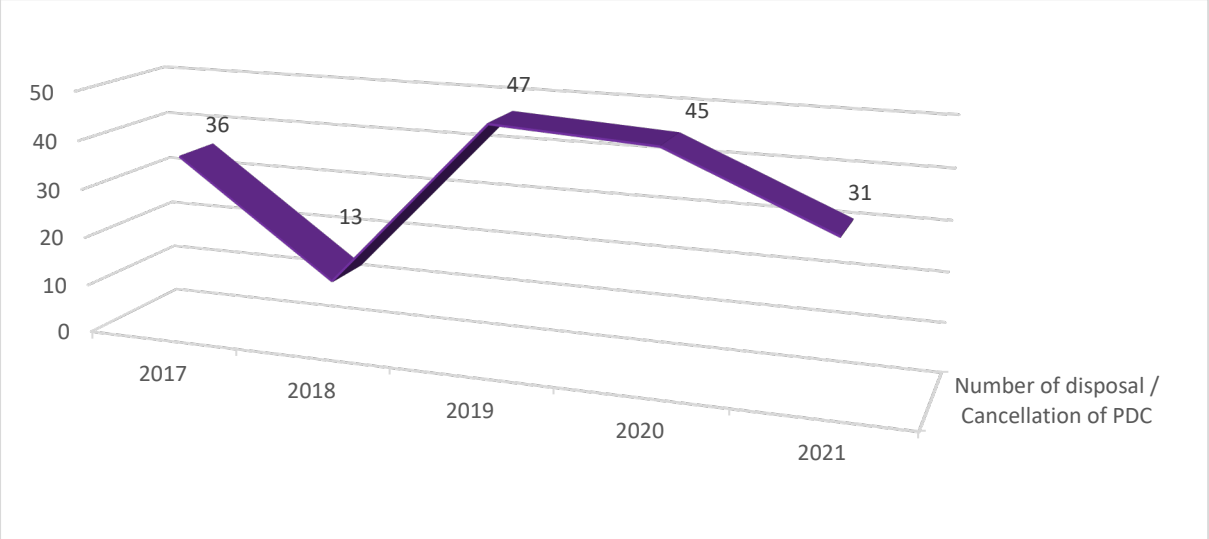


Source: Oral Health Programme, MOH 2021

Disposal / Cancellation / Withdrawal of Private Dental Clinic Registration

This section was also involve in managing the disposal process, closure of dental clinics and withdrawal of registration application by the person in charge (PIC) or registration applicant. The number of disposal / cancellation of PDC decreased from 45 PDC (45 percent) in 2020 to 31 PDC (31 percent) as shown in **Figure 86**.

Figure 86:
Trend of Disposal / Cancellation of Private Dental Clinic



Source: Oral Health Programme, MOH

Monitoring Inspection of Private Dental Clinic (PDC)

A periodical monitoring inspection was carried out to ensure a compliance to Act and Regulations in relation to clinic registration by the PDC was met. A set targets of monitoring for 2021 as illustrated in **Table 99**.

Table 99:
Monitoring Targets of Private Dental Clinic in 2021

Total of Private Dental Clinics	Targets of Monitoring (%)	States Involved
≤ 80	100	Kelantan, Melaka, Negeri Sembilan, Perlis, Pahang, Terengganu, Kelantan, FT Labuan
81-200	50	Kedah, Perak, Pulau Pinang, Sabah, Sarawak
201- 250	40	-
≥ 251	30	Johor, Selangor, FT Kuala Lumpur & Putrajaya

Source: Oral Health Programme,, MOH 2021

The performance of monitoring inspections by states is shown in **Table 100**.

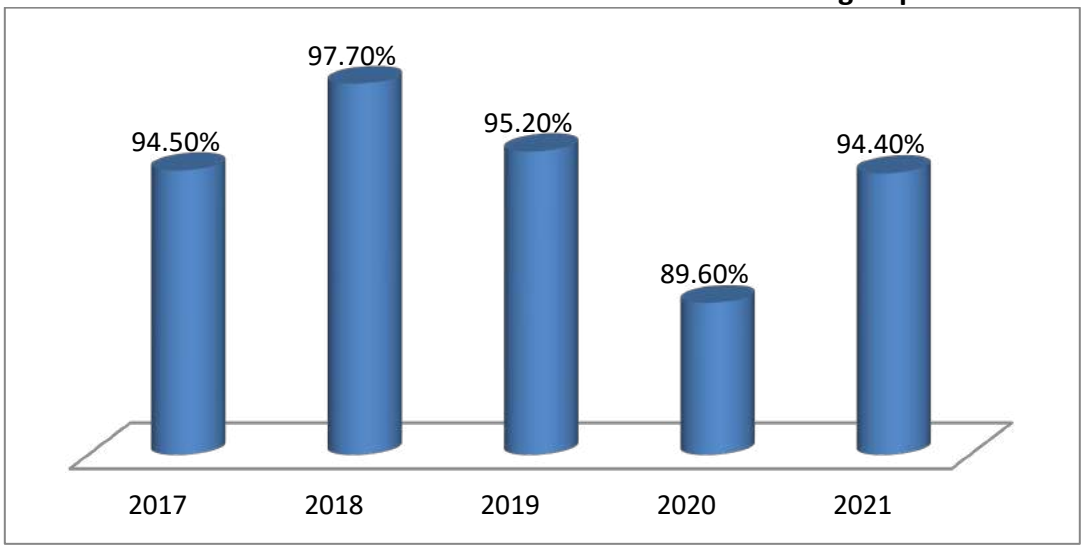
Table 100:
Monitoring Inspection Achievements by States for 2021

State	Number of Private Dental Clinics				
	No. on 1 Jan 2021	Target Monitoring Inspection (%)	Target Monitoring Inspection (No)	Achievement	Achievement (%)
Johor	311	30	94	94	100
Kedah	94	50	47	47	100
Kelantan	68	100	68	57	83.8
Melaka	65	100	65	64	98.5
Negeri Sembilan	80	100	80	80	100
Pahang	71	100	71	71	100
Perak	145	50	73	73	100
Perlis	10	100	10	10	100
Pulau Pinang	187	50	94	55	58.5
Sabah	151	50	76	76	100
Sarawak	102	50	51	48	94.1
Selangor	871	30	262	250	95.4
Terengganu	55	100	55	54	98.2
FT Kuala Lumpur & Putrajaya	458	30	138	138	100
FT Labuan	3	100	3	3	100
TOTAL	**2,671**	**-**	**1,187**	**1,120**	**94.4**

Source: Oral Health Programme, MOH 2021

There were six (6) states did not achieve a set target of 100 percent monitoring inspection, namely Kelantan, Melaka, Sarawak, Terengganu, Selangor and Pulau Pinang. Overall, a high majority of private dental clinics were inspected (94.4 percent, n=1,120) in 2021 which higher than in 2020 (89.6 percent). Nevertheless, the percentage achievement of year 2021 was slightly lower than the Key Performance Indicator (KPI) target, at 95 percent. **(Figure 87)**

Figure 87:
Trend of Achievement of Private Dental Clinic Monitoring Inspection

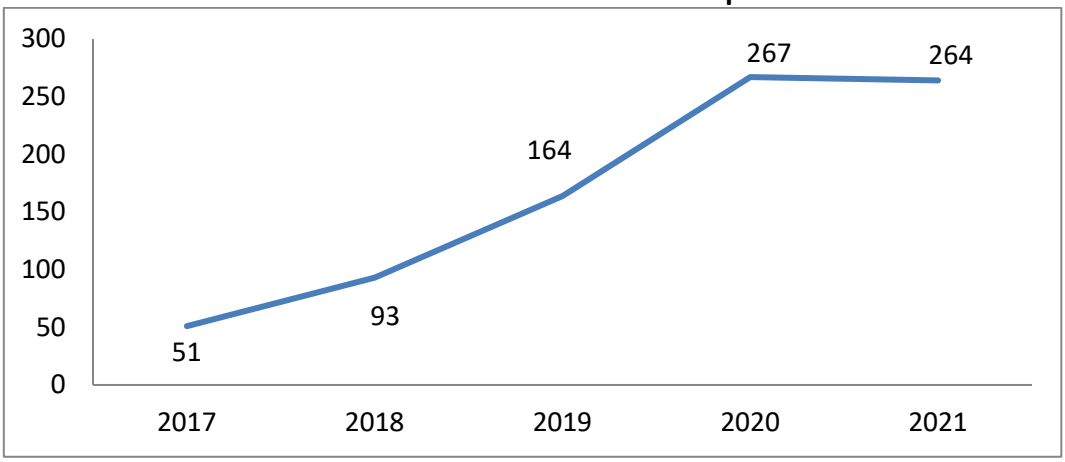


Source: Oral Health Programme, MOH

Surveillance Inspection of Private Dental Clinics (PDC)

Surveillance inspections were carried out on PDC which did not comply with Act 586 and its Regulations during pre-registration, post-registration and monitoring inspections, following an issuance of specified non-compliance notice period during the inspection. The trend of the surveillance inspections carried out in the past 5 (five) years is shown in **Figure 88**.

Figure 88:
Private Dental Clinic Surveillance Inspection



Source: Oral Health Programme, MOH

The number of surveillance inspections conducted in 2021 (264) was accounted 29.7 percent of the total number of non-compliance issued (889) , which decreased slightly as compared to 267 in 2020.

Verification Inspection of Private Dental Clinics (PDC)

Upon receiving notification or instruction letter from PMPCS HQ the retification in inspection is carried out for the following purposes:

1. Disposal / cancellation of PDC registration
2. Floor plan renovation

As compared to other states, FTKL/ Putrajaya reported a higher number of inspection conducted (6) for the disposal / cancellation of PDC registration verification purposes, while Kedah reported a higher number of inspection for verifying the floor plan modifications (16) as shown in **Table 101**.

Table 101:
Verification Inspection Conducted by State, 2021

No.	State	No. of Verification Inspection	
		Disposal of Private Dental Clinic	Floor Plan Renovation
1.	Johor	2	2
2.	Kedah	0	16
3.	Kelantan	0	0
4.	Melaka	3	0
5.	Negeri Sembilan	2	7
6.	Pahang	2	0
7.	Perak	1	8
8.	Perlis	0	2
9.	Pulau Pinang	1	3
10.	Sabah	1	5
12.	Sarawak	1	10
11.	Selangor	5	15
13.	Terengganu	1	6
14.	FT Kuala Lumpur & Putrajaya	6	8
15.	FT Labuan	0	0
TOTAL		**25**	**82**

Source: Oral Health Programme, MOH 2021

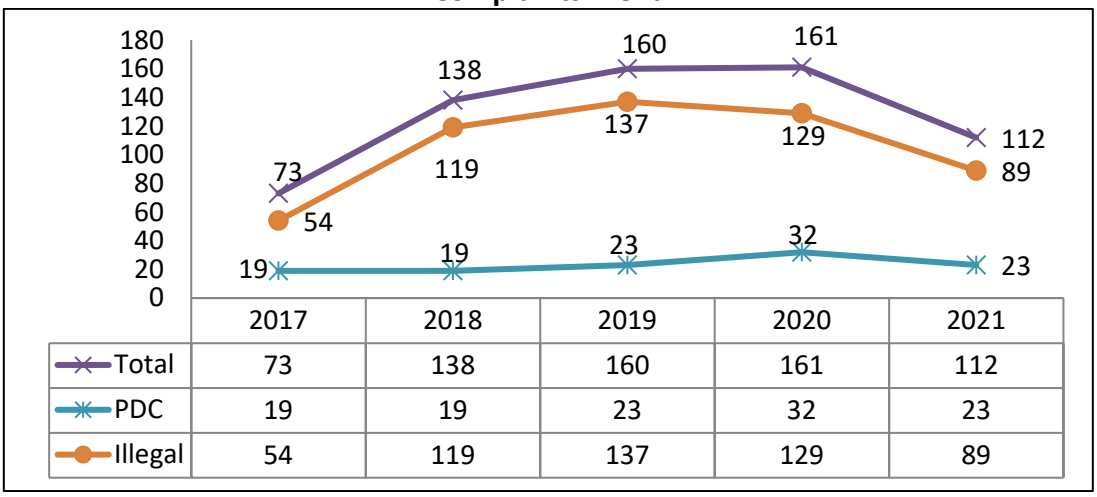
Complaint Management

All information and complaints regarding PDC and illegal practitioner was handled in accordance to the following acts:

1. The Standard Operating Procedures for Complaint Management under Act 586
2. The Standard Operating Procedures for Complaint Management under Act 804

All complaints received will be registered and preliminary information and report will be prepared within three (3) days. The number of complaints received decreased from 161 in 2020 to 112 in 2021. Complaints concerning illegal dental practice /unregistered premises markedly reduced from 129 in 2020 to 89 in 2021. **(Figure 89)**.

Figure 89:
Complaints Trend

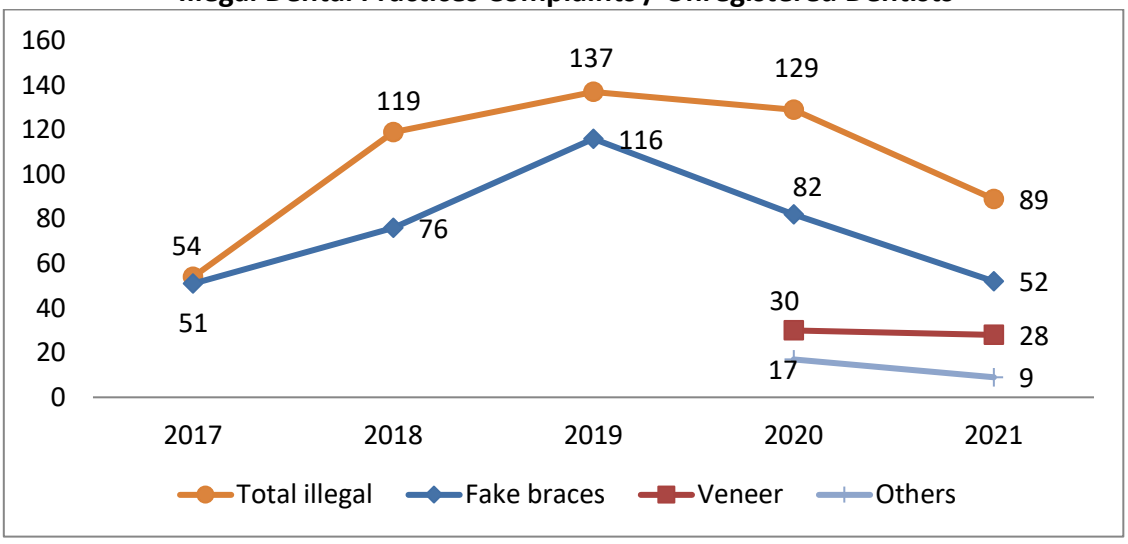


	2017	2018	2019	2020	2021
Total	73	138	160	161	112
PDC	19	19	23	32	23
Illegal	54	119	137	129	89

Source: Oral Health Programme, MOH

Of 89 illegal dental practices/unregistered premises related complaints received in year 2021, a high percentage (58.4 percent;52 complaints) concerned with fake braces, followed by complaints related to veneer installation (31.5 percent;28 complaints) and 9 complaints related to other services such as denture, whitening, extraction and others (0.1 percent) **(Figure 90)**.

Figure 90:
Illegal Dental Practices Complaints / Unregistered Dentists

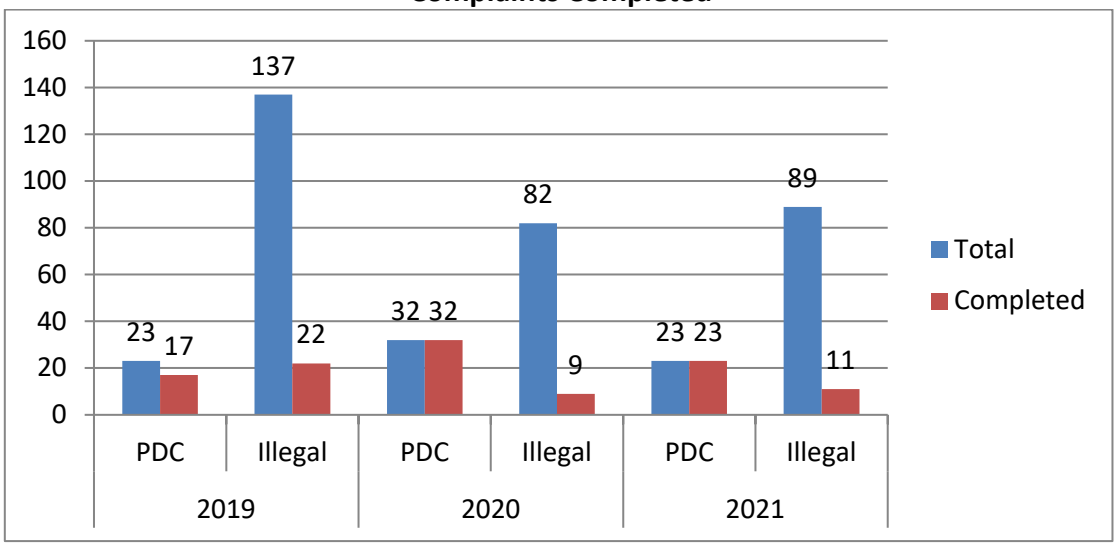


Source: Oral Health Programme, MOH

Complaints Completion

Complaints which considered to be related to PDC were fully resolved (23) in 2021. The outbreak of coronavirus disease 2019 (COVID-19) attributed to a low performance in resolving complaints of illegal dental practices in year 2020 and it continued in 2021 **(Figure 91)**.

Figure 91:
Complaints Completed



Source: Oral Health Programme, MOH

Raiding Activities

Since year 2020, raiding activities was conducted to monitor private dental clinics and public complaints/information as shown in **Table 102**. In 2021, five (5) raiding activities were carried out involving unregistered clinics and suspected of violation of Section 4 (1) of Act 586.

Table 102:
Raiding Activities

No.	States	Type of Premises	Reason of Enforcement Activities	Status
1.	Johor	Private Dental Clinic (PDC)	Did not register patients and failed to provide patient records	In process of preparing Investigation Paper (IP)
2.	Terengganu	Unregistered PDC	Provide unregistered PDC	In process of preparing IP
3.	Pulau Pinang	Unregistered PDC	Provide unregistered PDC	IP sent to PMPCS HQ
4.	Selangor	Unregistered PDC	Provide unregistered PDC	IP sent to PMPCS HQ
5.		Unregistered PDC	Provide unregistered PDC	IP sent to PMPCS HQ
6.		Registered PDC	Provide unregistered PDC	In process of preparing IP
7.	FT Kuala Lumpur & Putrajaya	Unregistered PDC	Provide unregistered PDC	IP sent to PMPCS HQ

Source: Oral Health Programme, MOH 2021

Prosecution and Compounding Activities

Prosecution and compounding activities based on raid activity carried out. Currently, all investigation papers under Act 586 will be submitted to PMPCS HQ for review and subsequently forwarded to the Office of the Legal Adviser, MOH to obtain permission to prosecute.

- **Prosecution**

In 2021 no prosecution activities were carried out. Numbers of pending IPs to be granted permission for prosecution is shown in **Table 103**.

Table 103:
Records of IPs Pending Due To Sanction from Deputy Public Prosecutor

Year	No. of Case	State	Total IPs
2018	9	Malaka	1
		Johor	1
		Kelantan	2
		Negeri Sembilan	1
		Sarawak	1
		Pulau Pinang	2
		Perlis	1
2019	2	Pahang	1
		Negeri Sembilan	1
2020	2	Kedah	1
		Negeri Sembilan	1
2021	4	Pulau Pinang	1
		Selangor	2
		FT Kuala Lumpur & Putrajaya	1
		TOTAL	**17**

Source: Oral Health Programme, MOH

- **Compoundable Offences**

Compounding offenses under Act 586 has been enforced since August 2017. Since then until 2021, four (4) compounding investigation papers had been prepared **(Table 104)**. There were two (2) cases (2018) in Melaka with pending payment compounding and have not obtained sanction to prosecute.

Table 104:
Compounding Under Act 586 on PDC

Year	Total Cases	States	Offences	Punishment
2018	3	Melaka FT Kuala Lumpur & Putrajaya	1. S 31(1)(c) Act 586 2. S 39(1) Act 586	Total compound is RM130,000. Two (2) cases payment pending
2019	1	Selangor	S 39(1) Act 586	Compound RM10,000
2020	0			
2021	0			
TOTAL	**4**			

Source: Oral Health Programme, MOH

Occupational Safety and Health (OSH) Audit

The 13 types of facilities identified for OSH audit implementation were as follow:

1. Dental clinic in health clinic
2. Standalone dental clinic
3. Dental clinic in the hospital
4. Dental specialist clinic in the hospital
5. Non hospital base dental specialist clinic in health clinic
6. Dental clinic at urban transformation centre (UTC)
7. Dental clinic at rural transformation centre (RTC)
8. Dental clinics at institutions
9. Dental clinic at at mother and child health clinic (KKIA)
10. Mobile / Boat Dental Clinic
11. Dental school clinic/ dental school centre
12. Mobile dental team
13. Mobile dental lab

The targeted percentage of dental facilities audited for OSH was increased from 33.3 percent in 2019 to 50.0 percent in 2020, with a targeted score of > 80.0 percent of facilities audited maintained at 95.0 percent.

Owing to COVID-19 pandemic, the KPI targeted in 2021 was lowered to 64.0 percent in which the audit or inspection mechanisms had also been changed. As for examples, the OSH audit would only be involved certain types of Ministry of Health facilities such as dental facilities in health clinics, mobile dental clinics and standalone dental clinics and other facilities that not affected by COVID-19 pandemic.

In 2021, there was 50.0 percent dental facilities of the total facilities throughout the state and the Federal Territory (1,154 out of 2,308) planned for OSH audits. PPKK & ILKKM and the state of Johor, Pahang, Terengganu and FT Labuan achieved a targeted number of facilities score more than 80 percent. Details of the audits achievement are shown in **Table 105**.

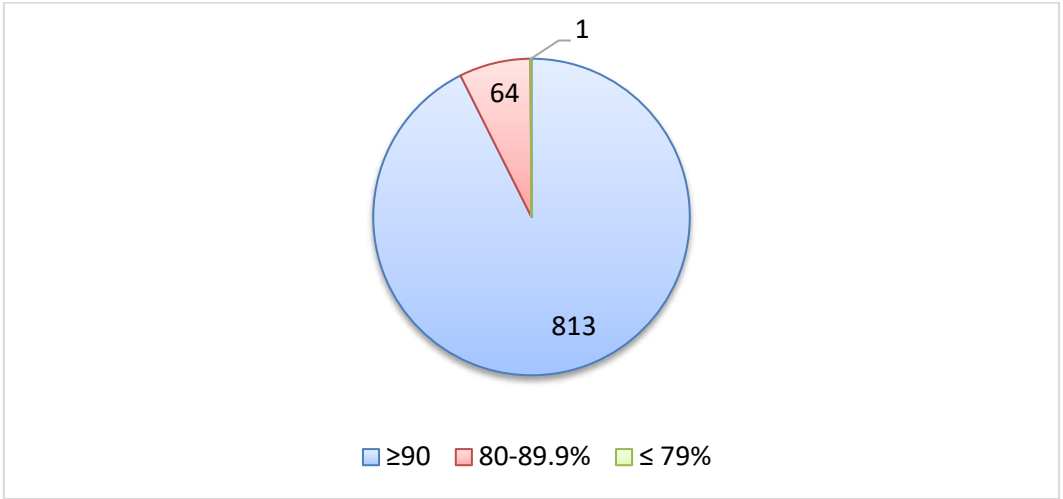
Table 105:
Number of Facilities Score More Than 80 Percent Comply to OSH Audit

No.	State	Numerator	Denominator	Percentage (%)
1	Perlis	9	25	36.0
2	Kedah	68	87	78.2
3	Pulau Pinang	55	78	70.5
4	Perak	88	99	88.9
5	FT Kuala Lumpur & Putrajaya	39	50	78.0
6	Selangor	70	88	79.5
7	Negeri Sembilan	46	60	76.7
8	Melaka	25	43	58.1
9	Johor	103	109	94.5
10	Pahang	85	93	91.4
11	Terengganu	57	63	90.5
12	Kelantan	70	104	67.3
13	Sarawak	108	145	74.5
14	Sabah	48	104	46.2
15	FT Labuan	5	5	100.0
16	PPKK & ILKKM	1	1	100.0
TOTAL		**877**	**1154**	**76.0**

Source: Oral Health Programme, MOH 2021

The number of facilities scored below than 79.0 percent, 80.0 to 89.9 percent and more than 90.0 percent as in **Figure 92**.

Figure 92:
OSH Audit Score by Number of Facilities

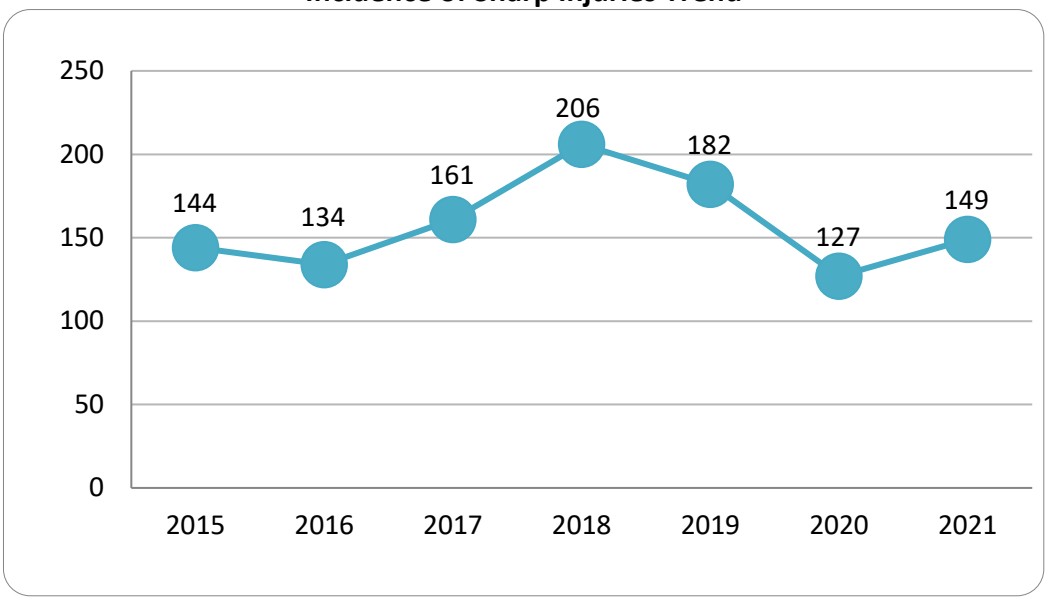


Source: Oral Health Programme, MOH 2021

Incidence of Sharp Injuries

The Occupational Safety and Health Unit also recorded incidents of injuries due to sharp equipment that occurred in the government dental facilities. The pattern of incidence of sharp injuries is shown in **Figure 93**.

Figure 93:
Incidence of Sharp Injuries Trend

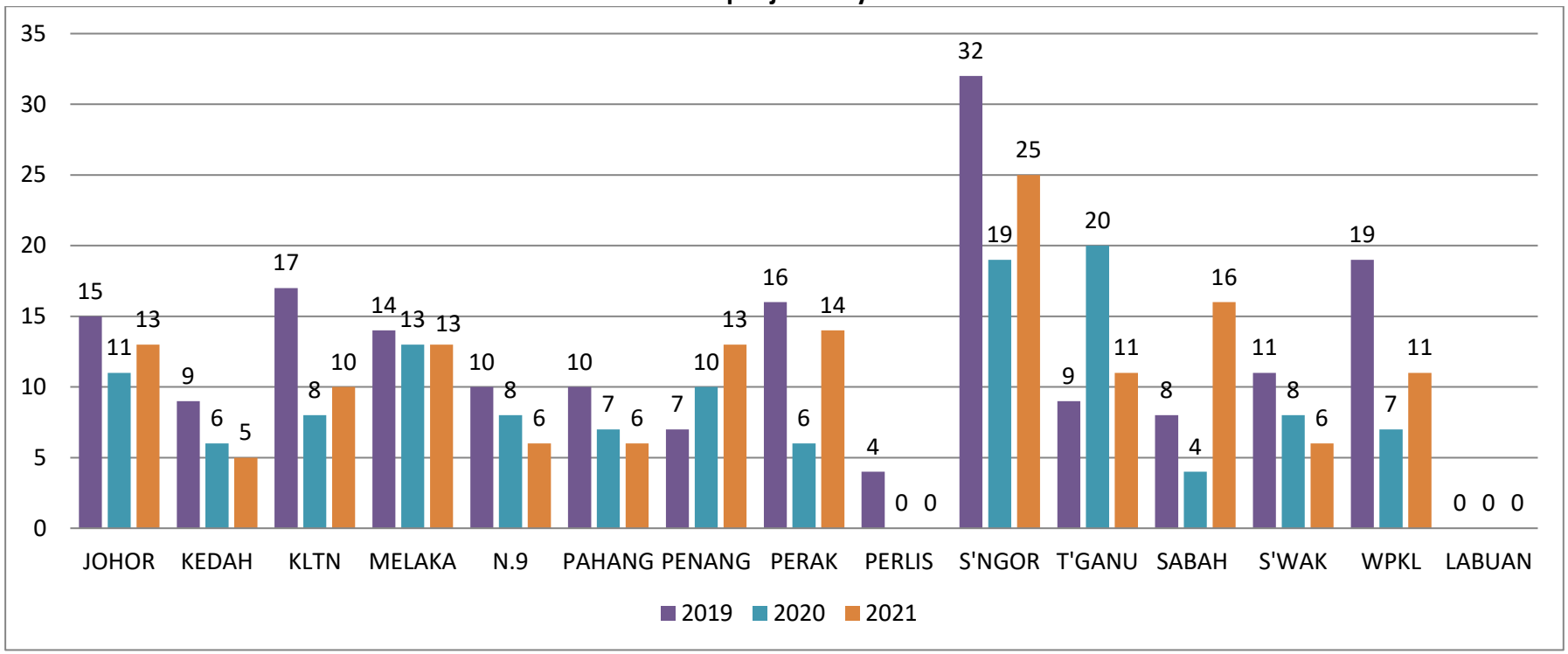


Source: Oral Health Programme, MOH

The incidence of sharp injuries among government dental staffs in 2021 increased by 17.3 percent compared to the year 2020. However, it remains low compared to the year 2019 by 18.1 percent.

Figure 94 showed the distribution of incidence by states from the year 2019 to 2021. No incidence reported in Labuan and Perlis. All states showed decreasing in trend except for Federal Territory of Kuala Lumpur and Putrajaya, Sabah, Perak, Pulau Pinang, Kelantan and Johor. Selangor recorded the highest number of sharp injuries in 2021 which was 25 incidences. Sabah recorded 16 incidences which is four (4) times higher compared to 2020.

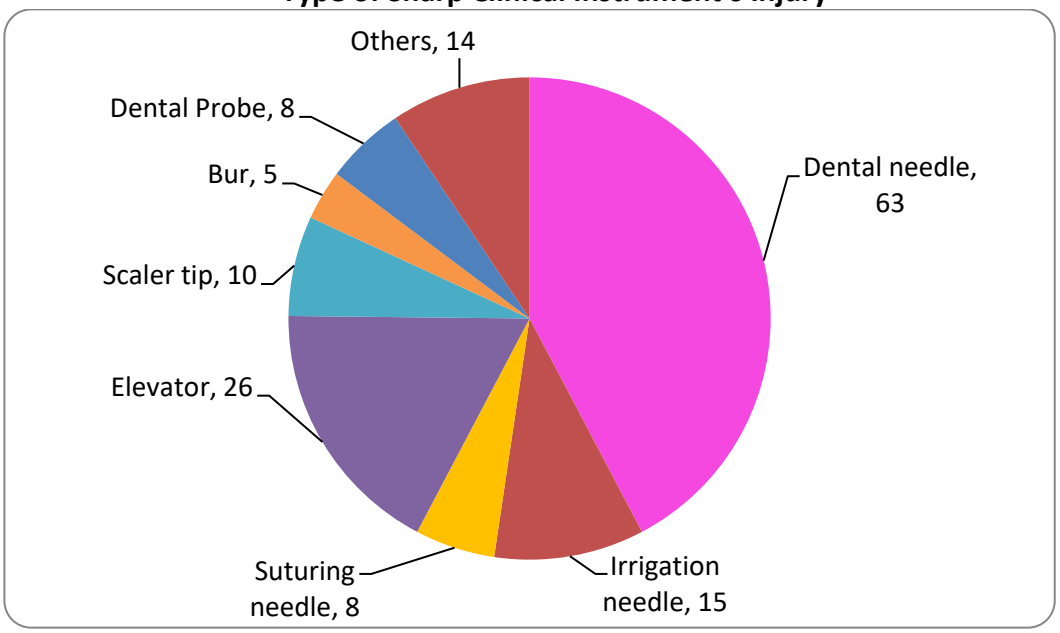
Figure 94:
Incidence of Sharp Injuries by State



Source: Oral Health Programme, MOH

Of 149 reported sharp clinical instrument's injury cases, dental needle injury was the common cause of injury (42.3 percent; 63 cases) **(Figure 95)**.

Figure 95:
Type of Sharp Clinical Instrument's Injury



Source: Oral Health Programme, MOH

Dental Occupational Safety and Health Week, 2021

This section was tasked as the secretariat of the First Dental Occupational Safety and Health Week 2021 which was held on 16 to 18 August 2021, with the theme of *Norma Baharu: Sihat dan Produktif*. The opening ceremony was graced by the Principal Director of Oral Health, Ministry of Health Malaysia on 17 August 2021, broadcasted live in the Official Oral Health Programme (OHP) Facebook **(Image 47)**.

There were two (2) talks broadcasted live in the Official OHP Youtube Channel as follow:

1. *Pandemik COVID-19: Anda OK? (Psikososial)*
   - By Dr Norasyikin binti Ibrahim, Public Health Specialist from Mental Health Sector, Disease Control Division, Ministry of Health Malaysia.

2. *Pelaksanaan Risiko Ergonomik di Tempat Kerja*
   - By Mr. Norhafiz bin Ibrahim from Department of Occupational Safety and Health, Putrajaya.

Other activities which were held during the week as shown in **Image 48**.

Image 47:
Official Ceremony of Dental Occupational Safety and Health Week 2021

Source: Oral Health Programme, MOH 2021

Image 48:
Activities during Dental Occupational Safety and Health Week 2021

Source: Oral Health Programme, MOH 2021

Promotion Activities

The Legislation and Enforcement Department also took preventive initiatives in raising public awareness on the issue of illegal dental practices. Among the activities carried out were radio talk and television interview programme, one (1) to one (1) talk and panel discussions, organization of exhibitions as well as the preparation of pamphlets and bunting related to illegal dental practices **(Table 106).**

Table 106:
Promotion Activities, 2021

State	Promotion Activities			
	Radio Talk/ TV Interview	Talk	Exhibition	Training for staffs
Johor	1(R)	3	0	3
Kedah	0	83	7	4
Kelantan	0	5	0	4
Melaka	0	0	0	1
Negeri Sembilan	0	0	0	0
Pahang	0	2	4	9
Perak	0	0	0	0
Perlis	0	2	1	1
Pulau Pinang	0	8	0	1
Sabah	0	1	0	2
Sarawak	2 (R)	1	0	1
Selangor	0	0	0	0
Terengganu	0	41	8	3
FT Kuala Lumpur & Putrajaya	1 (FB live)	2	0	2
FT Labuan	0	0	0	0
TOTAL	**4**	**148**	**20**	**31**

Source: Oral Health Programme, MOH 2021

In 2021, the highest number of promotional activities was carried out by Kedah.

Competence Enhancement Activities of Dental Enforcement Officers

Legal and Enforcement Department also organized activities to further enhance the competency level of dental enforcement officers. In 2021, a total of RM16,982.00 received for this purpose and around September 2021, an addition of RM6,000.00 received under the *Latihan Dalam Perkhidmatan* (LDP) budget. The budget received was intended for all enforcement dental officers to attend at least two (2) training / courses related to law or enforcement throughout the year. However, this section managed to organized three (3) courses as shown in **Table 107**.

Table 107:
Courses / Training Organized by CPP for the Year 2021

Date	Title of Courses/ Training	No. of Officer
5 –8 July 2021	Digital Forensic for 1st Responder	1
28 –30 September 2020	*Pengenalan Asas Akta Pergigian 2018 dan Akta-Akta Lain yang Berkaitan kepada Pegawai Diberi Kuasa di Bawah Akta Pergigian 2018*	20
11 – 13 October 2021	*Kursus Pemantapan Pemantauan Klinik Pergigian Swasta Zon Selatan*	10

Source: Oral Health Programme, MOH 2021

ORAL HEALTH QUALITY INITIATIVES

Quality Assurance Programme (QAP)

With the advent of the National Policy for Quality in Healthcare, aimed to bridge silos and accelerate improvements in healthcare, the Oral Health Programme takes cognizance of the emphasis to provide high quality healthcare that is safe, timely, effective, equitable, efficient, people-centered and accessible (STEEPA).

The Quality Assurance Programme (QAP) is intended to measure compliance towards required standards. In dentistry, QAP is a mechanism to assess quality of care as well as to implement and evaluate changes in the patient care delivery system towards maintaining or improving the quality of services. Among the indicators monitored under QAP are the National Indicator Approach (NIA), District/Hospital Specific Approach (DSA/HSA) and the Key Performance Indicators (KPI). The achievements of these indicators are monitored periodically at national level. Indicators will be reviewed occasionally to ensure that they are always relevant and in line with current conditions or norms.

- **National Indicator Approach (NIA)**

In 2021, four (4) indicators under the National Indicator Approach (NIA) were monitored to measure the performance of primary and community oral healthcare **(Table 108)**.

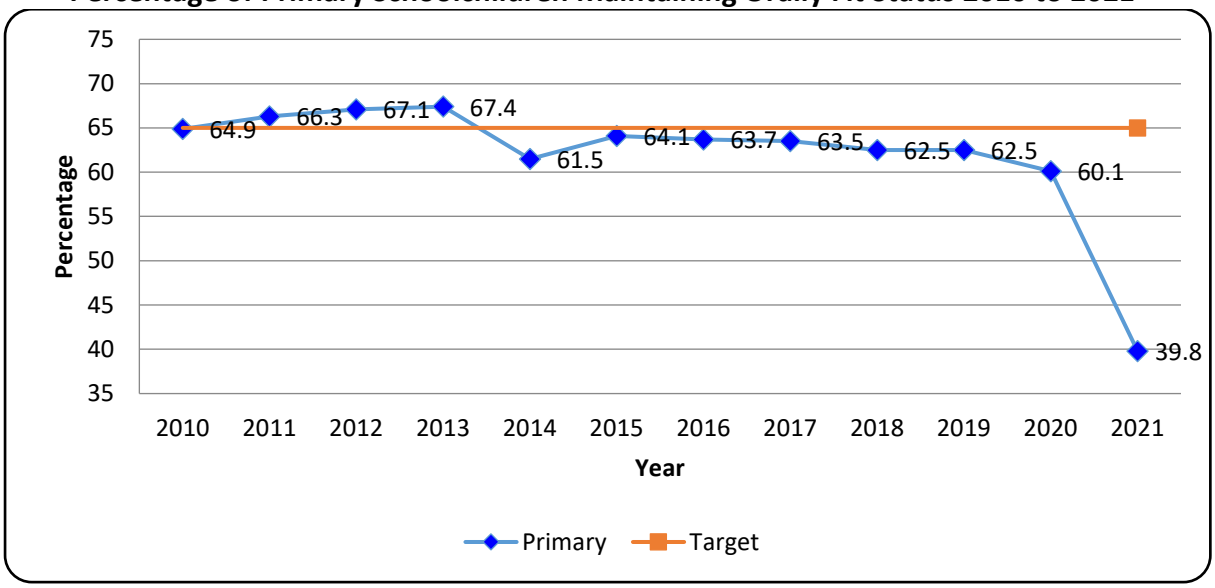
Table 108:
Oral Health NIA Achievement, 2020 to 2021

No.	Indicator	Standard (Percentage)	Achievement (Percentage) 2020	Achievement (Percentage) 2021	SIQ Yes/No
1	Percentage of primary schoolchildren maintaining orally-fit status	≥ 65	60.1	39.8	Yes
2	Percentage of secondary schoolchildren maintaining orally-fit status	≥ 70	67.6	38.4	Yes
3	Percentage of non-conformance of fluoride level at reticulation points (Level < 0.4ppm)	≤ 25	14.2	20.6	No
4	Percentage of non-conformance of fluoride level at reticulation points (Level > 0.6ppm)	≤ 7	0.4	0.2	No

Source: Oral Health Programme, MOH

In 2021, two (2) out of four (4) indicators achieved targets, namely, 'Percentage of non-conformance of fluoride levels at reticulation points (Level < 0.4 ppm)' and 'Percentage of non-conformance of fluoride levels at reticulation points (Level > 0.6ppm)' showed improvement compared with its achievement in 2020. Over the years, the performance at state and national levels for 'Percentage of primary schoolchildren maintaining orally-fit status' and 'Percentage of secondary schoolchildren maintaining orally-fit status' showed a downward trend in achievements, recording their lowest attainment in 2021.

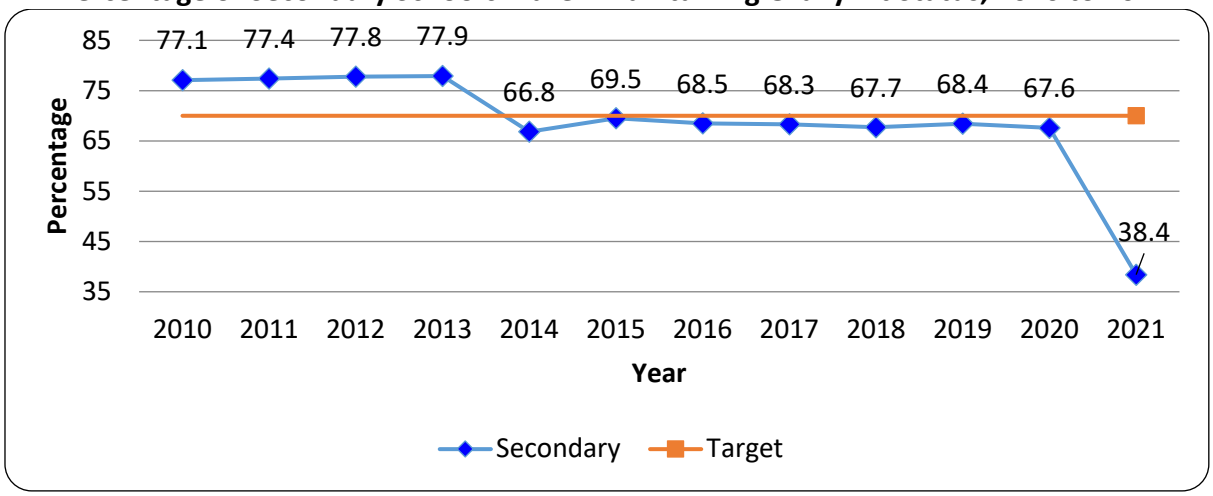
Figure 96:
Percentage of Primary Schoolchildren Maintaining Orally Fit Status 2010 to 2021



Source: Annual Report HIMS (Oral Health Sub-Programme); State Service Data

There was a stark decline in percentage of primary schoolchildren maintaining orally fit status from 2020 (60.1 percent) to 2021 (39.8 percent) as shown in **Figure 96.**

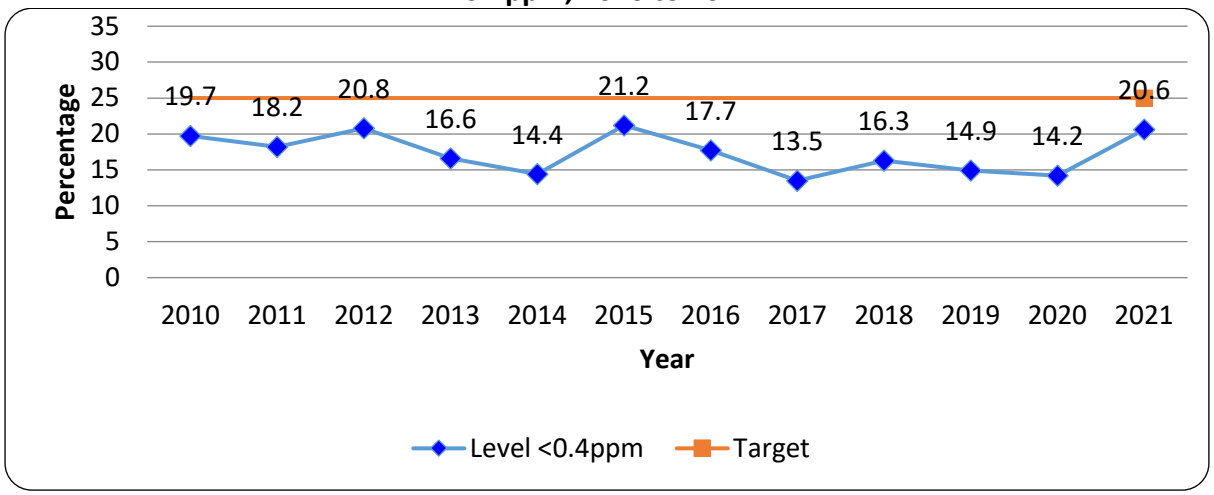
Figure 97:
Percentage of Secondary Schoolchildren Maintaining Orally-Fit Status, 2010 to 2021



Source: Annual Report HIMS (Ora Health Sub-Programme); State Service Data

There was a also significant drop in the percentage of secondary schoolchildren maintaining orally fit status from 2020 (67.6 percent) to 2021 (38.4 percent) as shown in **Figure 97.** This is mainly because all public schools remained closed for the most part of 2021, as COVID-19 continued its onslaught. Nevertheless, data and returns were derived from the initiatives and efforts made by dental health staff to organize and call upon students to attend their dental appointments at designated dental clinics. Lack of awareness on the importance of dental health among schoolchildren, school authorities as well as parents or guardians also contributed to the decline in performance. The achievements of these indicators are expected to stay low in 2022, as the school dental services through mobile dental teams have not yet been granted permission to resume their services/visits.

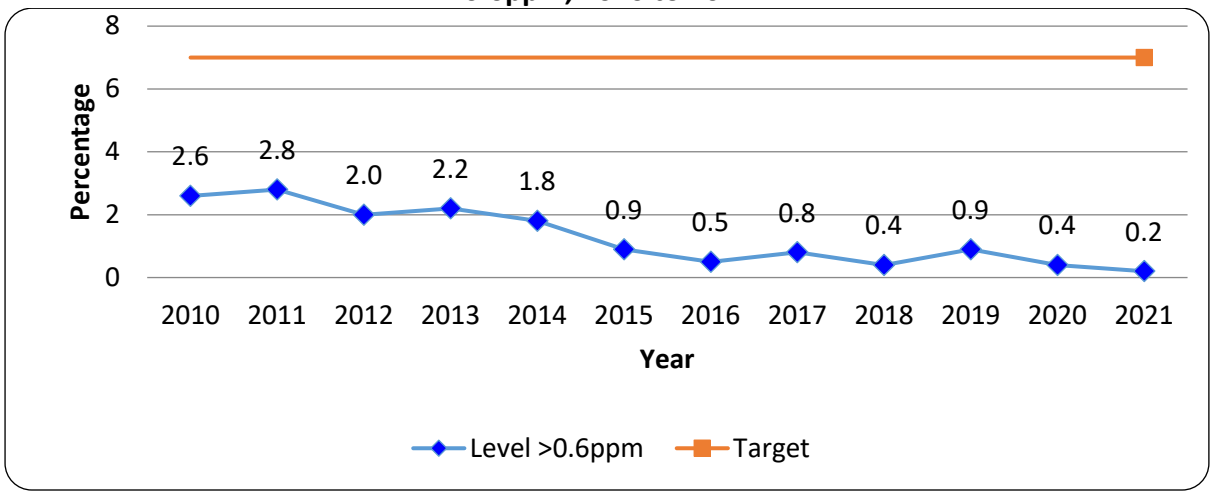
Figure 98:
Percentage of Non-conformance of Optimal Fluoride Level at Reticulation Points Level < 0.4ppm, 2010 to 2021



Source: State NIA Report

From 2010, percentages of non-conformance of optimal fluoride for levels < 0.4 ppm have achieved the set standard. However, it showed an upward trend in 2021 **(Figure 98).**

Figure 99:
Percentage of Non-conformance of Optimal Fluoride Level at Reticulation Points, Level > 0.6ppm, 2010 to 2021



Source: State NIA Report

From 2010 to 2020, the percentages of non-conformance of optimal fluoride for levels > 0.6 ppm achieved the set standard **(Figure 99).**

The percentages of non-conformance of optimal fluoride level at reticulation points, level < 0.4 ppm and level > 6 ppm have achieved the set standards even though their achievement fluctuates. Thus, fluoride levels still require vigilant monitoring to ensure maintenance of optimal fluoride level for maximum effectiveness.

- **District Specific Approach (DSA)**

DSAs are indicators set by states and districts related to their respective specific issues. DSA indicators related to dental services of pregnant mothers, toddlers, pre-schoolers, primary and secondary schoolchildren are among the commonly adopted indicators by all states. Such indicators include attendance rates, examinations, treatment, dental health education provided and case completion.

There are states with different indicators. Among these unique indicators are as follows:

1. Incidence of sharp or needle-stick injury among healthcare workers
2. Radiograph rejection/repeat rate
3. Fluoride varnish application on toddlers
4. Redo fillings on permanent dentition
5. Primary / Secondary schoolchildren consent for treatment
6. Safety and health audits conducted at dental facilities
7. Training sessions organised
8. Schoolchildren satisfaction towards oral healthcare services
9. Post-minor oral surgery complication
10. Clinical case study presented
11. Patient injured during procedure / treatment
12. Presentation of Patient Safety Goals Report

- **Key Performance Indicators (KPI) 2021**

The Oral Health Programme monitored 29 Key Performance Indicators (KPI) in 2021. Five (5) indicators were monitored three (3) monthly, 19 indicators monitored every six (6) months and five (5) indicators monitored at a yearly basis. Overall, 22 indicators achieved their set targets in spite of incomplete data in two (2) indicators (KPI10 and KPI11**, Table 109**), whereas seven (7) indicators failed to achieve their set targets.

Two (2) indicators which are 'Percentage of dental clinics providing daily outpatient service to increase people's access to dental services everyday' and 'Percentage of toddlers with maintaining orally fit status (based on new attendances)' (KPI1 and KPI4, **Table 109**) contributed as indicators to measure the performance of the Principal Director of Oral Health Programme and were monitored by the Clinical Performance Surveillance Unit (CPSU), Medical Development Division, Ministry of Health (MOH).

Table 109:
Key Performance Indicators, Oral Health Programme, MOH 2021

KPI Domain	KPI Number	Monitor Indicator	Target 2021 (Percentage)	Achievement (Percentage)
Accessibility to MOH oral healthcare services	1	Percentage of dental clinics providing daily outpatient service to increase people's access to dental services everyday	≥84	87.6
	2	Percentage of Health Clinic with dental facility component	≥60	59.4

KPI Domain	KPI Number	Monitor Indicator	Target 2021 (Percentage)	Achievement (Percentage)
	3	Percentage of antenatal patient coverage	≥60	57.0
Oral health status of Toddler	4	Percentage of toddlers with maintaining orally-fit status (based on new attendances)	≥50	83.2
Oral health status of school children	5	Percentage of primary schoolchildren maintaining orally-fit status (over new attendances)	≥65	39.8
	6	Percentage of secondary schoolchildren maintaining orally-fit status (over new attendances)	≥70	38.4
	7	Percentage of 6 years old school children free of dental caries	≥41	29.4
	8	Percentage of 12 years of school children free of dental caries	≥70	70.6
	9	Percentage of 16 years old school children free of dental caries	≥61	38.6
	10	Percentage of fissure sealant retention in teeth that have been treated with fissure sealant (FS)	≥50	59.0
	11	Percentage of primary school students identified as current smokers with a quit date after the KOTAK programme intervention	≥50	50.0
Oral health status of antenatal mother	12	Percentage of the antenatal mother with orally fit status	≥33	34.9
Delivery of denture services	13	Percentage of patients aged 60 years and above received their denture within 8 weeks	≥50	74.9
Efficiency and effectiveness of services	14	Percentage of failed restorations done under GA within 6 months	<3	1.7

KPI Domain	KPI Number	Monitor Indicator	Target 2021 (Percentage)	Achievement (Percentage)
delivery	15	Percentage of patients with new referrals who received "Special Needs" consultation within 6 weeks from the date of referral	>85	93.8
	16	Percentage of patients who showed reduction in periodontal pocket depth ≥ 50% after receiving treatment for 6 months	≥75	84.5
	17	Percentage of active ikon Gigi (iGG)	≥75	98.2
	18	Percentage of outpatients screened for oral lesions	≥37	76.5
Quality dental service and MS ISO certification	19	Percentage of dental staff trained to conduct screening and smoking cessation interventions in schools	≥80	94.3
	20	Percentage of heavy dental equipment acquired during the current year which is safe to use	100	100
	21	Percentage of New Biomedical Equipment (NBE) equipment supplied which functions well and does not disrupt the smooth delivery of oral health services	100	100
	22	Percentage of oral health personnel who followed short and medium-term modular courses and submitted proposals for the application of knowledge and skills acquired, to the Oral Health Programme, MOH within one month after course completion	100	100
Quality dental service and MS ISO certification (con't)	23	Percentage of proposed application of knowledge and skills acquired from short- and medium -term modular courses implemented in the oral health services	100	100

KPI Domain	KPI Number	Monitor Indicator	Target 2021 (Percentage)	Achievement (Percentage)
	24	Percentage of MOH dental facilities achieving equal to or more than 80 percent compliance during safety and health audits to ensure the audited facilities are at optimum levels	≥64	76.0
	25	Percentage of dental clinics with MS ISO 9001:2015 certification	≥85	89.4
Monitoring of private dental clinic	26	Percentage of monitoring inspections conducted on Private Dental Clinics (KPS) identified to ensure compliance with relevant acts and regulations to ensure the safety and health of patients	≥95	94.4
Index of customers satisfaction	27	Percentage of customers satisfied with dental service / treatment received	≥95	98.2
Index of innovation culture	28	Cultivation of Innovation in the Dental Clinic	≥80	92.0
Complaints index	29	Percentage of complaints in which the complainant was satisfied with the remedial action taken	≥70	99.4

Source: Oral Health Programme, MOH 2021

- **Client Satisfaction Survey**

In 2021, Client Satisfaction Surveys were conducted at all chosen dental clinics using survey questions endorsed and validated by OHP MOH to determine the level of customer satisfaction. A total of five (5) dental clinics from each state were selected to run the survey and produce the outpatient customer satisfaction survey report.

In 2021, at least 96 percent of the clients involved in this study from all states, federal territories and institutions were generally satisfied with the dental treatment/services they received. Perlis accomplished the highest achievement of 99.7 percent while the Children's Dental Centre and Training Institute of the Ministry of Health Malaysia (PPKK and ILKKM) was lowest at 96.55 percent. The national achievement stood at 98.2 percent.

Clients' Charter

There are two (2) main areas for the Oral Health Programme Clients' Charter:

1. Core Clients' Charter of the MOH, monitored by Pharmaceutical Services Programme who is the Secretariat of Core Clients' Charter **(Table 110).** Report of Core Clients' Charter was submitted to the secretariat, based on the frequency of reporting the indicators.
2. Clients' Charter for the Oral Health Programme MOH **(Table 111)**.

Table 110:

Core Clients' Charter of the Ministry of Health Achievement 2021

Core Clients' Charter	Indicator	Target (Percentage)	Achievement (Percentage)
Memastikan setiap pelanggan berpuas hati dengan perkhidmatan diberikan dengan memantau:	*70 peratus pesakit luar dipanggil untuk rawatan oleh pegawai pergigian dalam tempoh 30 minit. (Pengukuran 2 kali setahun)*	70.00	88.06
	95 peratus pesakit berpuas hati dengan perkhidmatan pergigian yang diberikan.(Pengukuran sekali setahun)	90.00	98.36
Memastikan permohonan dan kelulusan perkhidmatan diproses dan diselesaikan dalam tempoh berikut dari tarikh borang permohonan lengkap diterima serta memenuhi syarat-syarat permohonan dan perundangan yang ditetapkan:	*Pendaftaran Klinik Pergigian Swasta: 75% permohonan pendaftaran Klinik Pergigian Swasta (KPS) diperakukan dalam Mesyuarat Jawatankuasa Penilaian Kemudahan dan Perkhidmatan Jagaan Klinik Swasta (KPJKS) atau Mesyuarat Jawatankuasa Kecil perakuan KPJKS dalam tempoh 30 hari fail diterima dari CKAPS JKN/JKWP. (Pengumpulan data setiap 6 bulan)*	75.00	62.42

Source: Oral Health Programme, MOH 2021

Table 111:

Clients' Charter of Oral Health Programme Achievement 2021

No.	Client's Charter Indicator	Target (Percentage)	Achievement (Percentage)
1	Clients are served efficiently and in a friendly manner	100	100
2	Clients are given relevant information on services provided	100	100
3	Clients with appointment are seen within 15 minutes of their appointment time	100	100

Source: Oral Health Programme, MOH 2021

- **MS ISO 9001:2015**

Nationwide, out of 689 dental clinics providing primary dental services, 625 dental clinics (90.7 percent) have obtained ISO certification. The data provided is updated to 31 December 2021. Sarawak is the only state which has not obtained MS ISO 9001: 2015 certification **(Table 112)**.

Table 112:
MS ISO 9001: 2015 Certification Status by State, District and Facility, 2021

State	No. of districts with certification	No. of districts	Pecentage of districts with certification	No. of dental clinics with certification	No. of dental clinics	Percentage of dental clinics with certification
Perlis	2	2	100.0	10	10	100.0
Kedah	11	11	100.0	60	60	100.0
Pulau Pinang	5	5	100.0	28	29	96.6
Perak	10	10	100.0	62	73	84.9
Selangor	9	9	100.0	66	66	100.0
FT Kuala Lumpur & Putrajaya	5	5	100.0	20	20	100.0
N. Sembilan	7	7	100.0	43	43	100.0
Melaka	3	3	100.0	27	30	90.0
Johor	10	10	100	95	96	99.0
Pahang	11	11	100.0	65	65	100.0
Kelantan	10	10	100.0	64	65	98.5
Terengganu	8	8	100.0	44	47	93.6
Sabah	9	9	100.0	38	41	92.7
FT Labuan	1	1	100.0	2	3	66.7
PPKK & ILKKM	1	1	100.0	1	1	100.0
Sarawak	0	11	0	0	40	0
MALAYSIA	**102**	**113**	**90.3**	**625**	**689**	**90.7**

Source: Oral Health Programme, MOH 2021

Quality Improvement Initiatives (QII)

The Quality Improvement Initiative (QII) activities are a systematic and continuous approach that aim to improve the quality of services provided. QII aims to achieve the highest standards and is not just limited to pre-set standards. Processes rather than individuals are at the center of QI, so the activities are intrinsically focused on preventing errors rather than placing blame.

- **Feedback Management (Complaint and Non-Complaint)**

The Oral Health Quality Section is responsible as Feedback Coordinator in Oral Health Programme as well as monitoring the feedback received by states. In 2021, a total of 639 responses comprising 225 complaints and 414 non-complaints were received. Throughout 2021, 100 percent of the responses were completed within the stipulated period.

- **Patient Safety and Incident Reporting**

Each dental facility is required to submit data online via a website developed by the Patient Safety Unit, Medical Development Division and manually to the Oral Health Quality Section by 31 January of the following year. There are four (4) Malaysian Patient Safety Goals (MPSG) involved with dental clinics, namely:

1. To implement clinical governance
2. To improve medication safety
3. To reduce patient fall
4. To implement the Patient Safety Incident Reporting (IR) and Learning System

Incident reporting (IR) data for 2021 by state are as shown in the **Table 113**.

Table 113:
Incident reporting (IR) data for 2021

States / Institution	Red	Yellow	Green	Total
Perlis	0	3	5	8
Kedah	0	0	1	1
P.Pinang	0	1	0	1
Perak	1	3	4	8
Selangor	1	3	0	4
FT Kuala Lumpur & Putrajaya	0	3	2	5
Negeri Sembilan	2	0	0	2
Melaka	0	1	2	3
Johor	2	1	7	10
Pahang	2	3	1	6
Terengganu	7	1	3	11
Kelantan	1	0	1	2
ILKKM	0	3	0	3
Sabah	0	2	0	2
Sarawak	0	0	2	2
TOTAL	**16**	**24**	**28**	**68**

Source: Oral Health Programme, MOH 2021

In 2021, every state reported at least one (1) incident except for FT Labuan. In the IR format, there are 10 codes which involve and are relevant to dental clinics. Each code is further categorized as red, yellow and green. The State Oral Health Divisions are required to update and submit their incident reports to the Oral Health Quality Section every three (3) months. Nevertheless, incidents under red category must be notified immediately, followed by submission of the full report with Root Cause Analysis (RCA).

- **Clinical Monitoring**

The draft of the 'Clinical Monitoring Guidelines' is still in the process of improvement and has been discussed at several meetings at the level of the Oral Health Programme. The trial run session for one (1) of the clinical monitoring aspects which is the accuracy and the management of records / treatment card had been done on July 2021. Four (4) dental clinics had been selected to conduct self-monitoring and in total there were 30 operators involved

from different types of categories (dental officers and dental therapists). 20 treatment cards were audited for each operator. In total, 600 treatment cards had been checked throughout the trial run session. The results from this trial run session will be used as the input for the guideline.

- **Pain as Fifth Vital Sign (P5VS)**

The implementation of this programme has entered the Third Phase which is the implementation in all government dental clinics. Monitoring will be conducted by the State Oral Health Division. All dental personnel involved in treating patients at the dental clinic need to be trained through training of trainers (ToT) or continuous dental education (CDE) sessions. For awareness activities, it will involve all members of various positions who are directly or indirectly involved with the treatment of dental patients.

Other Quality Initiative Activities

- **Ministry Of Health Innovation Award (AIKKM) 2021**

AIKKM 2021 was successfully conducted entirely online from 21-26 October 2021, due to the restrictions imposed under the movement control order amidst the COVID-19 pandemic. There were four (4) categories of innovation competing in this event, namely, product, service, process and technology categorization. The names of the winners and their winning projects at AIKKM 2021 are as shown in **Table 114**.

Image 48:
13th National innovation Awards MOH

Source: Oral Health Programme, MOH 2021

In 2021, the organising committee comprised of Oral Health Programme as main secretariat in collaboration with the Management Services Division, Family Health Development Division, Policy & International Relations Division and Information Management Division.

The objectives of organising this annual programme/competition are to:

1. Give recognition to the innovations produced by MOH staff
2. Foster a culture of creativity and innovation in service delivery
3. Introduce and disseminate exemplary innovation results for mutual benefits
4. Contribute to improving the quality of customer service delivery

Table 114:
Winners of AIKKM 2021

Category	Winner	Project	Department	State
Product	First	Multipurpose Anesthesia Transporter (MAT)	Jabatan Anestesiologi dan Rawatan Rapi, Hospital Tengku Ampuan Afzan	Pahang
	Second	KOJAU	Pejabat Kesihatan Pergigian Daerah Tampin	Negeri Sembilan
	Third	Foot Operated Eco-Friendly Suction	Klinik Pergigian Durian Tunggal	Melaka
	Special Jury Award	Easy Grasp Glove (E.G.G)	Unit Pemulihan Carakerja, Hospital Putrajaya	FT Kuala Lumpur & Putrajaya
Service	First	HASTE (Hyperacute Stroke Smart Track in Emergency)	Jabatan Kecemasan dan Trauma, Hospital Tuanku Jaafar	Negeri Sembilan
	Second	Tr-Speech	Hospital Rehabilitasi Cheras	FT Kuala Lumpur & Putrajaya
	Third	Modul Wellness Adequate Nap & Sleep (WANS)	Hospital Rehabilitasi Cheras	FT Kuala Lumpur & Putrajaya
	Special Jury Award	Inovasi Perkhidmatan Komplimentari Alkohol	Klinik Kesihatan Nibong Tebal	Pulau Pinang
	Special Jury Award	Projek Share	Hospital Permai	Johor
Process	First	Perkhidmatan Nilai Tambah Farmasi Melalui Sistem MyUBAT	*Program Perkhidmatan Farmasi*	Ministry Of Health
	Second	Suicide Markers	Hospital Rehabilitasi Cheras	FT Kuala Lumpur & Putrajaya

Category	Winner	Project	Department	State
	Third	Electronic Malnutrition Screening Tool	Institute of Cancer Malaysia	FT Kuala Lumpur & Putrajaya
	Special Jury Award	TORCH	Jabatan Farmasi, Hospital Tuanku Ampuan Najihah	Negeri Sembilan
Technology	First	Portal OncoPP	Jabatan Farmasi, Hospital Tuanku Jaafar	Negeri Sembilan
	Second	Electronic Discharge Summary System (EDSS)	Hospital Kulim	Kedah
	Third	Drive-TAG (Drive-Take-and-Go)	Hospital Miri	Sarawak
	Special Jury Award	ILKKM Blended e-Learning System (IBES)	ILKKM Sg Buloh	Selangor

Source : Oral Health Programme, MOH 2021

Oral Health Programme is proud to acknowledge the nine (9) dental innovation projects which were shortlisted and chosen out of 44 innovation projects to compete in the final stage of AIKKM 2020 as below:

Product Innovation Category

1. iBOX – *Klinik Pergigian Taman Medan,* Petaling Jaya, Selangor
2. Trimming Box- *Klinik Pergigian Lanang, Pejabat Pergigian Bahagian* Sibu, Sarawak
3. Kojau- *Pejabat Kesihatan Pergigian Daerah* Tampin, Negeri Sembilan
4. Postex Care – *Klinik Pergigian* Mentakab, Pahang
5. Trimoshield – *Klinik Pergigian* Kota Samarahan, Sarawak
6. Foot Operated Eco-Friendly Suction (FES)- *Klinik Pergigian Daerah* Alor Gajah, Melaka
7. Dentolit - *Pejabat Kesihatan Pergigian Daerah* Batang Padang, Perak
8. D'Hygiene Box- *Pejabat Kesihatan Pergigian Daerah* Baling, Kedah

Process Innovation Category

1. Portable Waterline Systems (PWLS) – *Pejabat Kesihatan Pergigian Daerah Yan, Kedah.*

OHP will continue to facilitate to enhance achievement of AIKKM by fostering a quality culture of creativity and innovation in service delivery, ensuring dissemination of exemplary innovation results for mutual benefit and identification of potential innovations to be replicated, patented and for commercialization.

- **Conducive Public Sector Ecosystem (EKSA)**

MAMPU has taken the initiative to enhance the implementation of the 5S Practice which has been rebranded as a Conducive Public Sector Ecosystem (EKSA). This move is in line with efforts to strengthen a high-performing and innovative organizational culture among public sector agencies through the provision of environmental, workplace culture and values.

In Oral Health Programme, the implementation of EKSA practices continues to be strengthened and improved. New employees of the Oral Health Programme will attend briefing on the implementation of EKSA apart from the training organized by the EKSA Training Committee, MOH.

To ensure the assessment criteria are adhered to, audits were carried out at regular interval by EKSA internal auditors and also by MOH EKSA Auditors. Audit findings were shared to all staff and actions taken for continual improvement. This audit is a preparatory step to renew the EKSA IPKKM Certificate by MAMPU which audit plan to be held in 2022.

- **MyPortfolio**

MyPortfolio is an official reference document which contains important information related to an organization such as job descriptions, functions, activities, procedures and work processes. In short, MyPortfolio serves as a guide for each and every employee of an organisation to follow and update their daily tasks respectively.

The Malaysian Administrative Modernization and Management Planning Unit (MAMPU) issued and released *PKPA Bil. 4 Tahun 2018 MyPortfolio: Panduan Kerja Sektor Awam* as a new approach of the implementation of duties and responsibilities in a more comprehensive and orderly manner at all government agencies. Heads of Departments can also widely use MyPortfolio as a strategic apparatus in human resource management.

To ensure that the implementation of MyPortfolio at MOH Headquarters (IPKKM) complies with this circular, an inspection was held in 2021. A total of 15 MyPortfolio documents of OHP (including MDC) employees were selected to be the samples for the MyPortfolio Inspection at IPKKM for the year 2021. OHP achieved an average score of 93.4 percent in this inspection, which has been categorised as excellent.

CONCLUSION AND WAY FORWARD

A year on, MOH is still trying its best to manage the COVID-19 pandemic response. Dental personnel have also been mobilized to provide health services during the COVID-19 pandemic in 2021. It has put enormous strain on the public oral health care system to deliver high-quality care as well as to meet a growing backlog of dental needs and the need to manage this effectively. The pandemic also has influenced how dental care can be safely delivered and likely will trigger permanent changes in how dental care is delivered in future.

The effects of COVID-19 are particularly dreadful for vulnerable populations and pose challenges as well which can also be seen as areas of opportunities for oral health care in Malaysia. On the positive side, the pandemic offers an opportunity for the dental profession to shift more towards non-aerosolizing and prevention-centric approaches to care to ensure access to oral health care, address disparities and inequities, and improve population health. During this pandemic, virtual oral health education is the most appropriate way to raise awareness and promote oral health in the community. Thus, virtual oral health education had been strengthened and intensified at all levels. On top of that, empowerment activities were amplified as they are seen to be pivotal and have an impact on the oral health status of communities.

In view of the current challenges and the effort to further improve the oral health status and quality of life of *Keluarga Malaysia*, the OHP has taken the initiative to develop the NOHPol and the NOHP 2021- 2030 in accordance with the agendas of 12th Malaysia Plan (12MP). This will provide comprehensive guidance in delivering oral healthcare services underpinned by six (6) priority areas:

1. Ensure provision of comprehensive oral healthcare service delivery which is approachable, acceptable, available, affordable and appropriate that includes promotive, preventive, treatment and rehabilitative activities;
2. Intensifying inter-agency networking between relevant agencies in the public, private sector and non-profit organisations in the provision of oral healthcare for the population;
3. Encourage community involvement in the planning, management and evaluation of community-based activities, to instil a sense of ownership in ensuring sustainability;
4. Ensuring standards in the delivery of oral healthcare with quality assurance and auditing programmes to ensure safe and quality oral healthcare delivery to the population;
5. Encourage research on oral health-related issues in line with evidence-based approaches in patient care and management thereby aiding in Oral Health Programme planning and monitoring;

6. Strengthening and expanding the information management system towards the establishment of a digital patients' lifetime health record.

This effort is also in line with the SDG and the UHC 2030 agenda in providing universal access to high quality health care services without financial hardship to individuals, as a way forward in the post-pandemic era for oral health in Malaysia.

EDITORIAL COMMITTEE 2021

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ORAL HEALTH PROGRAMME
MINISTRY OF HEALTH MALAYSIA
Level 5, Block E, Complex E,
Federal Government, Administrative Center
62590 Putrajaya
Malaysia
Tel : 03-8883 4215
Fax : 03-8888 6133
http://ohd.moh.gov.my