ANNUAL REPORT 2016

ORAL HEALTH PROGRAMME

MINISTRY OF HEALTH MALAYSIA

MOH/K/GIG/

ANNUAL REPORT 2016

ORAL HEALTH PROGRAMME

MINISTRY OF HEALTH MALAYSIA

August 2018

Contents

Foreword

PRINCIPAL DIRECTOR OF ORAL HEALTH
MINISTRY OF HEALTH MALAYSIA

The year 2016 has been a successful year for the Oral Health Programme. The organization has expanded over the last 12 months with some notable achievements in improving governance, quality care, prevention and control of non–communicable disease (NCD). This is in line with the theme "Primary care as focus of NCD agenda 2016-2018' where the Honourable Minister of Health Malaysia had emphasized on effectiveness and efficiency of health service delivery alongside with ICT development, hospital clustering and development of capacity for specialist care.

Year 2016 saw the establishment of the Oral Health Regulation and Practice Division as the third division within the Oral Health Programme governing the Professional and Auxiliary Practice, Accreditation & Globalization, Legislation and Enforcement and Oral Health Quality.This timely move reflects further the role and functions of the Oral Health Programme towards enhancing the healthcare system.

On 10 July 2016, the Oral Health Programme bid a sad farewell to Dr Jegarajan S. Pillay who left on compulsory retirement. Our appreciation goes to Dr Jegarajan for his contributions, support and expert advice towards improving the programme. Our heartiest congratulation goes to YBhg. Datin Dr Rohani Embong who had joined the organization as the new Director of Oral Health Development and Policy Division effective 1 August 2016.

In 2016, more efforts were given towards enhancement of the oral health promotion and prevention activities. The aim was to increase public awareness on oral health, to empower them towards self care and to believe that oral disease can be prevented. Various campaigns and exhibition were conducted, working in collaboration with various mass media agencies, ministries and NGOs. The training of community volunteers in delivering oral health messages and training for trainers on prevention and strategic intervention for smoking among schoolchildren was initiated.

Enhancing accessibility of the population to dental care continues in 2016 with increase number of dental clinics with 2 permanent dental officers opened daily for outpatient service. In ensuring safe practice in dentistry, the standard operating procedure on blood pressure taking was initiated. Professional judgement can be instituted in determining patients' readiness to undergo dental procedure.

Mid-term review of the National Oral Health Plan (2011-2020) was successfully held in November 2016 at the Institute for Health Management, Kuala Lumpur with the theme "Realigning Our Directions: Pathway to 2020 and the Future'. It was attended by 200 participants from MoH, other ministries, NGOs, academia, professional bodies, industries and consumer groups with planery sessions, forum and panel discussion involving speakers from multiple agencies where together we chart the plan towards improving the oral health of the Malaysian population.

Another important project is the electronic data management system, Teleprimary Care - Oral Health Clinical Information System (TPC-OHCIS) in collaboration with various stakeholders. This detailed and meticulous project will have the most profound impact in the arena of healthcare. In 2016, training of users on concept and business re-engineering was conducted.

Safety of patients in healthcare delivery is given due attention. More stringent audit tools were formulated and a series of training on the use of the tools were conducted throughout 2016. Safety audits findings suggested more deliberation is required in areas of infection control and management. The Oral Health Programme will seriously monitor the compliance to safety of oral healthcare practice with continuous monitoring of outcomes.

Reflecting the past year, I record my sincere appreciation for the efforts of all staff. I hope that this tremendous support will continue with renewed determination for greater success into the years ahead.

YBhg. Datuk Dr Noor Aliyah binti Ismail
Principal Director of Oral Health
Ministry of Health Malaysia

HIGHLIGHTS 2016

World Oral Health Day, 20 March 2016

The World Oral Health Day with the theme 'It all starts here, Healthy Mouth Healthy Body' was celebrated on the 20 March 2016 at IOI City Mall Putrajaya and the Honourable Deputy Minister of Health, Dato' Seri Dr Hilmi Haji Yahaya had graced the official launch. The celebration was jointly organized by the Malaysian Dental Association and the Oral Health Programme MoH with great support from the dental schools, universities and Malaysian Dental Students' Association not forgetting the sponsorship from Wrigley Malaysian Company Sdn Bhd. Oral examination, puppet shows and dental performance were held by the oral health promotion teams from Pulau Pinang, FT KL, Selangor, Negeri Sembilan, Johor, Kelantan as well as dental students from UM, UKM and MAHSA University. The event was aimed to increase public awareness on the importance of oral health to overall health.

Kembara Kebajikan 1Malaysia, 10 April 2016

Kembara Kebajikan 1Malaysia is one of the many NBOS activities which focus on elderly people, orphanage and single mothers. This year, the Oral Health Programme became a strategic partner with the *Kementerian Pembangunan Wanita, Keluarga dan Masyarakat*, to undertake this activity. The symbolic journey began from Lundu Sarawak on 11 Mac 2016 and ends at Bagan Datoh, Perak on 10 April 2016. It involves 20 pit stops and various activities were conducted at each pit stop with the aim to involve and empower the public towards good oral and general health. The closing event was graced by the presence of the Honourable Deputy Prime Minister, Dato' Seri Dr Ahmad Zahid Hamidi.

Tobacco Intervention Programme for Schoolchildren in Malaysia- An Oral Health Initiatives, 4-6 April 2016

The training of trainers on Tobacco Intervention Programme for schoolchildren or known as KOTAK programme was held at Hotel Seri Malaysia on the 4-6 April 2016. It was aimed to provide trainers with sufficient knowledge to ensure the successful implementation of the KOTAK Programme among schoolchildren. A total of 55 participants attended the programme. The closing ceremony was officiated by YBhg Datuk Dr Noor Aliyah Ismail, Principal Director of Oral Health Programme. Key topics presented at this meeting were 'Danger on Tobacco Use', 'Identification of Smokers' and 'Advice to Help Smokers Stop Smoking'. The expected outcome of this initiative is that Malaysia will be smoke-free by 2045.Towards this, strong commitments by all quarters is much needed to make it a reality.

HIGHLIGHTS 2016

National Oral Health Plan (2011-2020) Symposium, A Mid- term Review

The National Oral Health Plan (2011-2020) Symposium was held on 14 November 2016 at the Institute for Health Management, Kuala Lumpur with the aim to monitor and review the implementation of NOHP 2011-2020 towards the achievements of the targets. With the Theme 'Realigning Our Directions: Pathway to 2020 and the Future' this symposium was attended by 200 participants from MoH, other ministries, NGOs, academia, professional bodies, industries and consumer groups. The event was officiated by the Director General of Health Malaysia and the planery sessions, forum and panel discussion involved speakers from multiple agencies. The event ended with the Mid–term Review Resolution by the Principal Director of Oral Health.

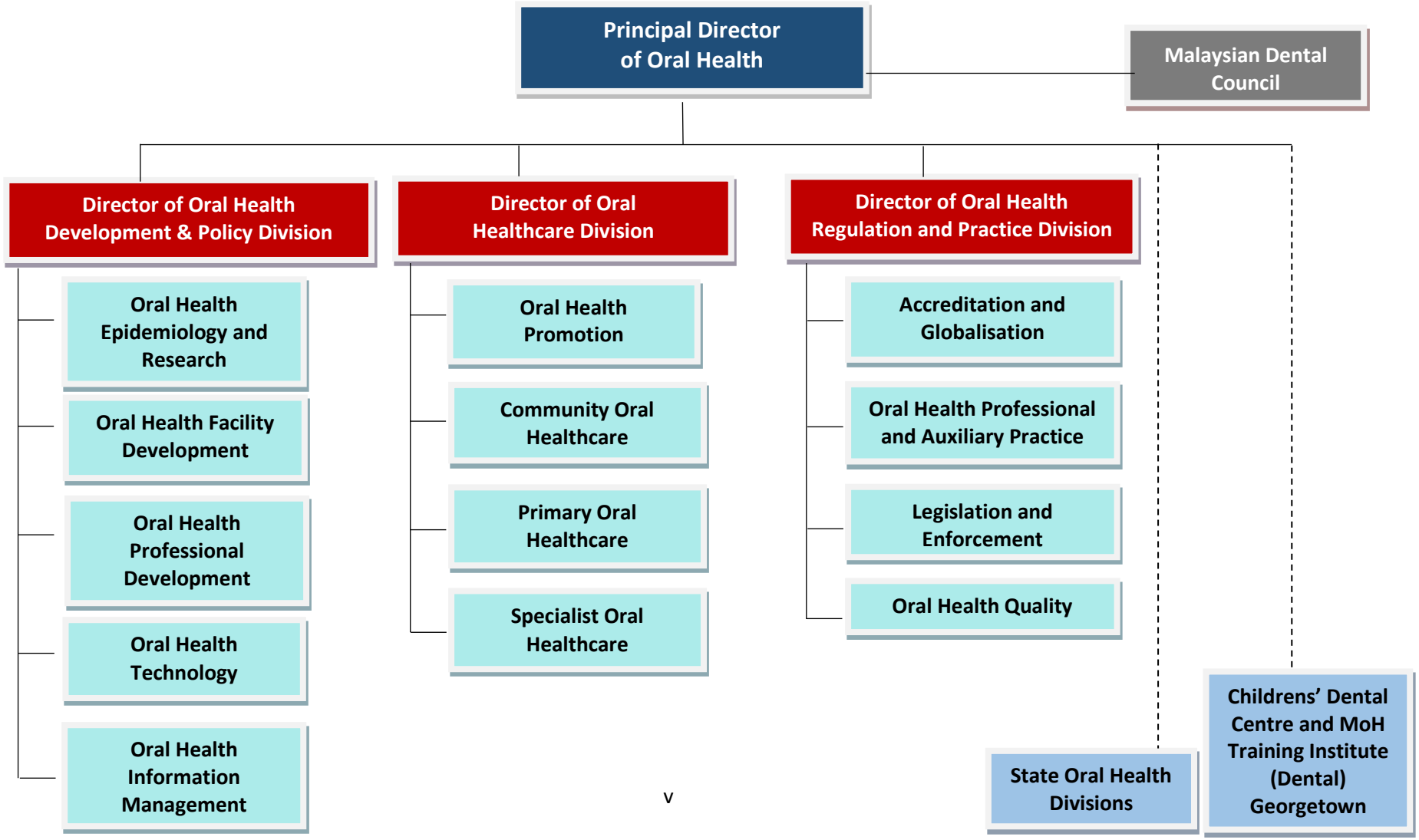
Program Ikon Gigi (iGG)

The Ikon Gigi (iGG) programme was officially launched by the Honourable Deputy Minister of Health, Dato' Seri Dr Hilmi Haji Yahaya on 4 December 2016 at Dewan Tun Perak, LHDN Melaka. The event was jointly organized by the Oral Health Programme MoH and the State Oral Health Division, Melaka with the theme '*Semuanya bermula di sini'*. This programme aims to increase the involvement of volunteers as iGG, of whom will function as mediators for oral health promotion, thus oral health messages can be disseminated widely especially within their family members and local community. Many local residents gave positive response to this programme. During this event, a total of 30 iGG was awarded certificate to mark their participation in this program.

New Dental Officer Programme, 20-22 August 2016

The first workshop on New Dental Officers Programme (NDOP) for Eastern Zone Malaysia was conducted at Permai Inn Hotel in Kuala Terengganu on 20-22 August 2016 with the aim to guide facilitators on the implementation of the New Dental Officers programme. The event was officiated by the Principal Director of Oral Health and 41 Dental Officers from Pahang, Terengganu and Kelantan attended the programme. The workshop consisted of series of lectures on coaching and mentoring, log book and performance appraisal. The workshop ends with presentations from participants.

ORGANISATION STRUCTURE
ORAL HEALTH PROGRAMME, MINISTRY OF HEALTH MALAYSIA



MANAGEMENT AND PROFESSIONAL STAFF
as of 1st JULY 2016

Principal Director of Oral Health
Dr Noor Aliyah Ismail

Director of Oral Health Development & Policy
Dr Jegarajan S.Pillay

Director of Oral Health Regulation & Practice
Dr Nomah Taharim

Pesonal Assistant
Pn Nur Aisyah Rutel Abdullah,
Pn Rosyatimah Redzuan, Pn Halimah Abu Kassim

Oral Health Epidemiology and Research
Dr Yaw Siew Lian, Dr Natifah Che Salleh,
Dr Nurrul Ashikin Abdullah, Pn Haziah Hassan, Pn Nurulliyana Mohd Don

Oral Health Promotion
Dr Sharol Lail Sujak, Dr Nur Farohana Zainol,
Dr Noor Syahidah Hisamuddin, Pn Siti Zuraidah Alias,
Pn Rozita Abd Yazid, Cik Umi Khairul Abdul Kadir,
Pn Azirah Muhammad, En Ganesan a/l D. Karuppiah

Oral Health Facility Development
Dr Mohd Rashid Baharon,
Dr Suhana Ismail,
Dr Muhamad Faris Muhamad Noor, En Mohd Tohir Ibrahim,
En Zainudin Abdul Majid

Oral Health Technology
Dr Salleh Zakaria,
Dr Noor Hasmin Mokthar

Oral Health Professional Development
Dr Azlina Abu Bakar, Dr Azizi Ab Malik,
Dr Nor Fatimah Syahraz Abdul Razakek

Oral Health Quality
Dr Zurina Abu Bakar,
Dr Nurul Izzati Mohamad Ali, Pn Zabidah Othman

Oral Health Information Management
Dr Chu Geok Theng, Dr Tuan Yuswana Tuan Soh,
Cik Norjanah Mohd Nawi,
En Gauthama Dasa Edwin, Pn Julaiha Mohd Sarif

Community Oral Healthcare
Dr Norlida Abdullah,
Dr Cheng Lai Choo, Dr Mazura Mahat,
Puan Normala Omar

Legislation & Enforcement
Dr Elise Monerasinghe,
Dr Haznita Zainal Abidin

Accreditation & Globalisation
Dr Savithri a/p Vengadasalam,
Dr Norashikin Mustapa Yahya
Dr Faizah Kamaruddin, Puan Suriyanti Sudin

Primary Oral Healthcare
Dr Zainab Shamdol,
Dr 'Ainun Mardhiah Meor Amir Hamzah,
Dr Nurul Izzati Mohamad Ali, Cik Hayati Mohd
Yasin, Pn Jayendra Ghandi Chelliah

Specialist Oral Healthcare
Dr Norliza Mohamed,
Dr Faizah Kamaruddin, Dr Nazita Yaacob,
Pn Norliza Jamalludin, Pn Azlina Linggam

Oral Health Professional & Auxiliary Practice
Dr Che Noor Aini Che Omar, Dr Rohayati Mohd Noor,
Pn Fatimah Rahman, En Abd Rahaman Jaafar,
Pn Arbiah Basri, Pn Sarina Othman

Management & Administrative
En Emir Ashraff Abdullah, En Hidzer Harun,
Pn Suzana Ahmad, Pn Jamillah Sha'ari, Pn Wan Ismawati Wan Yusof, Pn Nik Iwani Nik Mohd
Azami, Pn Norulhuda Ghazali, En Ahmad Razaidi Mohd Othman, Pn Rahanah Mad Nor,
Pn Nurul Ashikin Muhamad, Cik Azimah Abd Manab,
En Raymond Anak Renges, En Shahrul Naim Saad, En Mustafar An Nor Abdul Ghani,En
Muhammad Nizam bin Muhamad Nazir, En Raszali Mahmud, Pn Rosilawani Ismail
En Azman Alias, En Yusree Mahiyar, En Lockman Hakim Shamshul Kamar

Vision of the Ministry of Health

A nation working together for better health

Mission of the Ministry of Health

To lead and work in partnership

To facilitate and support the people to:

- attain fully their potential in health
- appreciate health as a valuable asset
- take individual responsibility and positive action for their health

To ensure a high quality system that is:

- equitable
- affordable
- efficient
- technologically appropriate
- environmentally adaptable
- customer centred
- innovative

With emphasis on:

- professionalism, caring and teamwork value
- respect for human dignity
- community participation

Mission of the Oral Health Programme

To enhance the quality of life of the population through the promotion of oral health
with emphasis on patient-centered care and
the building of partnerships for health

Financial Resource Management

FINANCIAL RESOURCE MANAGEMENT

FINANCIAL MANAGEMENT AT PROGRAMME LEVEL

The allocation for operating budget for the Oral Health Programme has been increasing over the years. In 2016, the Programme received a total adjusted operational allocation of RM865,427,474 (*Peruntukan Di Pinda*) which was 7.28% above that of 2015 and 18.26% above that of 2014 **(Table 1).**

Table 1: Adjusted Operational Allocation, Oral Health Programme, 2010-2016

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

Source: Finance Division, MoH 2016

Expenditures covered the following:

a. *Dasar Sedia Ada*
b. *Dasar Baru*
c. One-off
d. *Latihan Dalam Perkhidmatan* (In-service training), and
e. MS ISO 9001 activities

The final expenditure was 99.91% of the allocation received **(Table 2)**. Expenditures under *Dasar Sedia Ada* included *Pengurusan Kesihatan Pergigian* (Administration - Financial Code 050100), *Kesihatan Pergigian Primer* (Primary Oral Healthcare - Financial Code 050200), *Kesihatan Pergigian Masyarakat* (Community Oral Healthcare - Financial Code 050300), and *Kesihatan Pergigian Kepakaran* (Specialist Care - Financial Code 050400).

Table 2: Adjusted Budget Allocation & Expenditures, Oral Health Programme MoH, 2016

Activity	Program Code	Final Adjusted Allocation (RM)	Final Expenditures (RM)	% Final Expenditures
Dasar Sedia Ada	050000	865,427,474.00	864,634,688.00	99.91
Dasar Baru	100500	0.00	0.00	-
One-off (Assets)	110100	0.00	0.00	-
TOTAL	**-**	**865,427,474.00**	**864,634,688.00**	**99.91**

Source: Finance Division and Oral Health Programme, MoH 2016

FINANCIAL MANAGEMENT, ORAL HEALTH PROGRAMME

In 2016, the Oral Health Programme received RM9,931,202.00, of which RM9,794,137.12 (98.62%) was spent **(Table 3).** Funds for the Oral Health Programme (OHP) Ministry of Health were from the following sources:

a) Management of Oral Health
b) Primary Oral Healthcare
c) MoH Management (Innovation Award)
d) National Blue Ocean Strategy
e) One-off for Assets
f) In-service training
g) Research & Development
h) ICT Facility

The operating budget under Financial Codes 050100 and 050200 included the operating costs for the programme, the Malaysian Dental Council (MDC) and other activities at Ministry level. The Oral Health Programme also received RM85,600.00 from MoH Management for the National Innovation Award annual event in 2016.

The National Blue Ocean Strategy fund of RM4,725,000.00 was used to buy buses. These buses will be used as mobile dental clinics.

Table 3: Adjusted Budget Allocations and Expenditures, Oral Health Programme MoH, 2016

Activity	Activity Code	Adjusted Allocation (RM)	Final Expenditures (RM)	% Final Expenditures to Initial Allocations
Management of Oral Health	050100	1,872,700.00	1,817,832.88	97.07%
Primary Oral Healthcare	050200	298,200.00	297,932.40	99.91%
MoH Management (Innovation Award)	010100	85,600.00	73,619.45	86.00%
NBOS	022601	4,725,000.00	4,725,000.00	100.00%
One-off for Asset	011000	40,000.00	38,837.92	97.09%
In-service Training	00105	1,410,960.00	1,342,203.84	95.13%
Research & Development	00500	411,082.00	411,051.28	99.99%
ICT Facility	00800	1,087,660.00	1,087,659.35	100.00%
TOTAL	**-**	**9,931,202.00**	**9,794,137.12**	**98.62%**

Source: Oral Health Programme, MoH 2016

FUNDS FOR *LATIHAN DALAM PERKHIDMATAN* (LDP)

The Programme also received RM1,410,960 for LDP, of which 95.13% (RM1,342,203.84) was spent.

MONITORING STATE FINANCES

The Oral Health Programme also monitored allocation and expenditure of the states. In 2016, under *Dasar Sedia Ada,* Sarawak received the highest allocation, followed by Selangor and Sabah. A total of 14 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, 2016

State	Adjusted Allocation (RM)	Final Expenditure (RM)	% Final Expenditure to Initial Allocation
Perlis	19,876,615.55	18,507,472.55	93.11%
Kedah	56,119,320.00	58,499,775.00	104.24%
Pulau Pinang	46,150,188.47	47,451,020.06	102.82%
Perak	72,434,870.00	74,989,974.65	103.53%
Selangor	79,747,301.42	80,834,859.26	101.36%
Negeri Sembilan	46,531,687.00	48,225,366.76	103.64%
Melaka	32,273,171.39	35,631,535.18	110.41%
Johor	69,315,844.00	70,278,705.77	101.39%
Pahang	61,829,457.00	64,443,852.96	104.23%
Terengganu	53,625,498.00	55,003,786.42	102.57%
Kelantan	63,220,931.00	65,493,586.43	103.59%
Sabah	76,543,500.00	78,582,925.12	102.66%
Sarawak	88,312,777.94	92,503,268.47	104.75%
FT KL & Putrajaya	47,366,265.00	47,398,328.89	100.07%
FT Labuan	3,900,966.00	3,956,450.12	101.42%
Oral Health Program, MoH	2,170,900.00	2,115,765.28	97.46%
PPKK & KLPM	465,600.00	465,493.18	99.98%
HKL	8,027,600.00	7,795,465.66	97.11%
IMR	1,038,700.00	788,321.07	75.89%
TOTAL	**828,951,192.77**	**852,965,952.83**	**102.90%**

Source: Oral Health Programme, MoH 2016

Oral Health Policy & Strategic Planning Division

Oral Health Facility Development
Oral Health Professional Development
Oral Health Epidemiology and Research
Oral Health Information Management
Oral Health Technology

ORAL HEALTH FACILITY DEVELOPMENT

ORAL HEALTH FACILITIES

The Oral Health Programme, MoH has a comprehensive network of oral healthcare facilities located at standalone clinics, health centres and clinics, hospitals, primary and secondary schools and institutions.

Under the Government's National Blue Ocean Strategy (NBOS), the Urban Transformation Centres (UTCs) were established. UTCs were built by the Ministry of Finance (MoF) but staffed and operated by the Ministry of Health. The 1Malaysia Clinics within UTCs provide Malaysians with access to outpatient healthcare services, including oral healthcare services. In addition to UTCs, Rural Transformation Centres (RTCs) were also developed and funded by the MoF and provide outpatient oral healthcare via the outreach programme.

The various types of Mobile Dental Clinics which includes buses, trailers, lorries and caravans as well as mobile dental teams provide outreach services especially to schoolchildren and to populations in sub-urban and remote areas of the country. In addition, four (4) units of Mobile Dental Lab provide services, mainly construction of dentures to underserve area.

In 2016, there were 1,721 dental facilities equipped with 3,219 dental units in the MoH **(Table 5).**

Table 5: Oral Health Facilities in MoH, 2016

Facility Type	Facilities	Dental Units
Stand-alone Dental Clinics*	56	503
Dental Clinics in Health Centres	587	1486
Dental Clinics in Hospitals	67	376
School Dental Clinics	925	813
Mobile Dental Clinics	35	54
Mobile Dental Laboratories	4	-
1Malaysia Mobile Dental Clinics • Bus • Boat	 1 2	 1 0
Dental Clinic in 1Malaysia Clinics • Urban Transformation Centres (UTC) • Rural Transformation Centres (RTC) • Klinik Pergigian di Klinik 1Malaysia (K1M)	 17 7 1	 32 4 2
Others: • IMR, Prisons, *Maktab Rendah Sains MARA (MRSM) Pusat Serenti,* Handicapped Children's Centres, Children Spastic Centres, Puspanita, Perbadanan	19	19
Total	**1721**	**3290**

Source: Health Informatics Centre, MoH as of 31.12.2016

** Including Children Dental Centre & Malaysian Dental Training College, Penang*

In addition, there were 586 mobile dental teams, with an estimated 2739 dental units **(Table 6)**.

Table 6: Mobile Dental Teams in MoH, 2016

Facility Type	Facilities	Dental Units
Mobile Dental Team		
• School Mobile Dental Teams (Primary and Secondary Schools)	446	2739**
• Pre-School Mobile Dental Teams	136	
• Elderly & Special Needs Mobile Dental Teams	4	
Total	**586**	**2739**

Source: Health Informatics Centre, MoH as of 31.12.2015
***Total no. of dental units for mobile dental teams*

ORAL HEALTH DEVELOPMENT PROJECTS UNDER THE MALAYSIA PLAN (MP)

Development Projects under the 11th Malaysia Plan (11th MP)

The 11th Malaysia Plan (11th MP) is the five-year development plan for Malaysia which covers the year 2016-2020. The MoH will continue to improve people's health by providing universal access to quality health care through the development of healthcare facilities. In 2016, under the 1st Rolling Plan of the 11th MP, six (6) new dedicated oral health development projects were approved as listed below:

a) Standalone Dental Clinic:
- Dental Clinic Daro, Mukah Sarawak.
- Dental Clinic Pasir Akar, Besut Terengganu.
- Upgrading of Dental Clinic Tronoh, Kinta Perak.

b) Health Clinic Type 3 and Dental Specialist Centre Precint 6, Putrajaya.
c) Public Water Fluoridation in Sabah.
d) Quarters at Dental Clinic Chiku 3, Gua Musang.

In addition there were eleven (11) development projects brought forward from 10th MP in various states as follows:

a) Six Standalone Dental Clinic:
- Dental Clinic Bukit Selambau, Kedah
- Dental Clinic Kluang, Johor.
- Dental Clinic Beluran, Sabah.
- Dental Clinic Tanjung Karang, Kuala Selangor.
- Dental Block at Bukit Changgang, Kuala Langat.
- Dental Blok at Health Clinic Sungai Tekam Utara, Jerantut, Pahang.

b) Non-Hospital-Based Dental Specialist Centre in Jalan Zaaba, Seremban Negeri Sembilan.
c) Dental Specialist Centre Sabah.
d) Upgrading dental facilities in hospital – Pediatric Dental Department, Hospital Melaka.
e) Dental Clinic Sipitang, Sipitang Sabah.
f) Upgrading dental clinic Karakit, Pulau Banggi, Sabah.

A number of three (3) Mobile Dental Clinic (MDC) under the National Blue Ocean Strategy (NBOS) Programme and Mobile Community Transformation Centre (MCTC) initiatives were completed and delivered to Kelantan (1MDC) and Sabah (2 MDCs).

Development of Norms and Guidelines for New Facilities

Brief of Requirements (BOR) and standard list of equipment, specification of other requirement for new dental facilities were reviewed and updated:

a) Development of new Dental Clinic Dato' Keramat.
b) Redevelopment of Dental Clinic Cahaya Suria.
c) Brief of Standalone Dental Clinic for 11MP.
d) Standard Brief of Health Clinic Type 2 for 11MP.
e) Standard Brief of Health Clinic Type 4 for 11MP.
f) New development of Health Clinic Kinrara Type 1.
g) Other new development projects approved under 1st Rolling Plan 11MP.

Privatization of Health Clinic Support Services: Biomedical Equipment Management Services (BEMS) under Medical Equipment Enhancement Tenure (MEET) Program

Monitoring of maintenance services under MEET by Quantum Medical Solutions (QMS) Sdn. Bhd. is an ongoing activity, in collaboration with the Engineering Services Division, MoH and the Procurement & Privatisation Division, MoH. The first batch of delivery and supply of MEET gap equipment started on 1 September 2016. One hundred (100) dental clinics in various states under MEET received a total of three hundred and thirty five (335) biomedical equipment involving sixteen (16) different categories.

Privatization of Health Clinic Support Services: Facilities Engineering Management Services (FEMS), Cleaning Services (CLS) and Clinical Waste Management Services (CWMS) under *Perkhidmatan Sokongan Klinikal* (PSK)

The privatization of support services which includes FEMS, CLS and CWMS in health clinics involving dental facilities continues in 2016. The monitoring of the projects, issues and other related activities were coordinated by the Clinic Operation Section, Engineering Services Division, MoH. The variation to the contract under PSK for 11 states have been finalized with the additional of two (2) health facilities i.e Health Clinic Precinct 18 Putrajaya and Health Clinic Kuala Lumpur. PSK contract in Sarawak was renewed with additional five (5) new health clinics. Another two PSK contracts in Sabah and Pahang were continued as per contract agreement.

Procurement of Medical and Non-Medical Equipment and Non-Ambulance Vehicles

In 2016, the Oral Health Programme received RM16.5 million under the Development Funds for procurement of new, replacement, upgrading of non-ambulance vehicles, medical and non-medical equipment.

Training

Kursus Pembangunan dan Perkembangan Fasiliti Kesihatan Pergigian was held from the 29 to 1 December 2016 at Klana Resort Seremban, Negeri Sembilan. The aim of the course is to review and update the standard Brief of Requirement (BOR) for the following types of facilities:

a) Dental Services in Health Clinic (Type 1,2,3,4 & 5).
b) Standalone Dental Clinic.
c) Non Hospital Based Dental Specialists Centre.
d) Dental Services in Major Hospital.
e) Dental Services in Minor Hospital.
f) Dental Clinic in UTC.

ORAL HEALTH PROFESSIONAL DEVELOPMENT

RECOGNITION AND ENDORSEMENT OF DENTAL POST-GRADUATE QUALIFICATIONS

JPA Recognition of Dental Post-graduate Qualifications

As the outcome of the meeting of the Permanent Committee for Assessment and Recognition of Qualifications (*Jawatankuasa Tetap Penilaian dan Pengiktirafan Kelayakan),* the following qualifications obtained full recognition by Ministry of Higher Education:

1. Master of Clinical Dentistry (MClinDent) Restorative Dentistry, Newcastle University, United Kingdom
2. Master of Community Oral Health (MCoH), University Malaya
3. Doctor of Dental Public Health (DrDPH), University Malaya
4. Doctor in Clinical Dentistry (Periodontology), University of Adelaide Australia
5. Master of Science in Clinical Dentistry (Periodontology), University of Manchester, United Kingdom
6. Doctor in Clinical Dentistry (Periodontology), University of New Zealand
7. Diploma of Membership in Restorative Dentistry (Prosthodontics), Royal College of Surgeons of England
8. Diploma of Membership in Restorative Dentistry (Prosthodontics), Royal College of Physicians and Surgeons, Glasgow
9. Diploma of Membership in Prosthodontics, Royal College of Surgeons Edinburgh
10. Doctor of Clinical Dentistry in Paediatric Dentistry (DCD) Paediatric Dentistry, University of Melbourne
11. Master of Dental Surgery (Paediatric Dentistry) and Advance Diploma in Paediatric Dentistry, University of Hong Kong
12. Diploma of Membership in Periodontics, Royal College of Surgeons of Edinburgh (M Perio RCSEd)
13. Diploma of Membership in Restorative Dentistry (Periodontology), Faculty of Dental Surgery, Royal College of Surgeons of England (MRD FDSRCSEng)
14. Diploma of Membership in Restorative Dentistry (Periodontology), Royal College of Physicians and Surgeons of Glasgow (MRDRCPS Glasgow)
15. Doctor of Clinical Dentistry (DClinDent) Periodontics, University of Sydney, Australia
16. Doctor of Clinical Dentistry (DClinDent) Periodontics, University of Melbourne, Australia
17. Doctor of Clinical Dentistry (DClinDent) Periodontics, University of Western Australia, Australia
18. Doctor of Clinical Dentistry (DClinDent) Periodontics, University of Griffith, Australia
19. Master of Dental Surgery (Paediatric Dentistry), University of Hong Kong
20. Master of Dental Surgery (Paediatric Dentistry) and Advanced Diploma in Paediatric Dentistry, University of Hong Kong, Hong Kong

GAZETTEMENT OF DENTAL SPECIALISTS

In 2016, Dental Specialist Gazettement and Evaluation Committee [*Jawatankuasa Penilaian Pewartaan Pakar Pergigian (JPPPP)]* held three (3) meetings (18 March, 16 June and 15 July, and 22 November) to assess and make recommendations to the *Jawatankuasa Khas Perubatan (JKP)* for gazettement of Dental Specialists in the MoH.

Gazettement of Dental Public Health Specialists

Three (3) Dental Public Health Specialists were gazetted in 2016 **(Table 7).**

Table 7: Dental Public Health Specialists Gazetted, 2014

No.	Name	Gazettement Date	Pre-Gazettement Period	Posting
1.	Dr Muhammad Zulkefli bin Ramlay	26.3.2016	6 months	*Pejabat Kesihatan Pergigian Daerah Bentong, Pahang*
2.	Dr Mohd Zaid bin Abdullah	14.5.2016	6 months	*Pusat Pergigian Kanak-Kanak & Kolej Latihan Pergigian Malaysia*
3.	Dr Suzana binti Sharif	6.10.2016	6 months	*Pejabat Kesihatan Pergigian Daerah Kuantan, Pahang*

Source: Oral Health Programme, MoH 2016

Gazettement of Clinical Dental Specialists

Eighteen (18) Clinical Dental Specialists were gazetted in 2016 **(Table 8).**

Table 8: Dental Clinical Specialists Gazetted, 2016

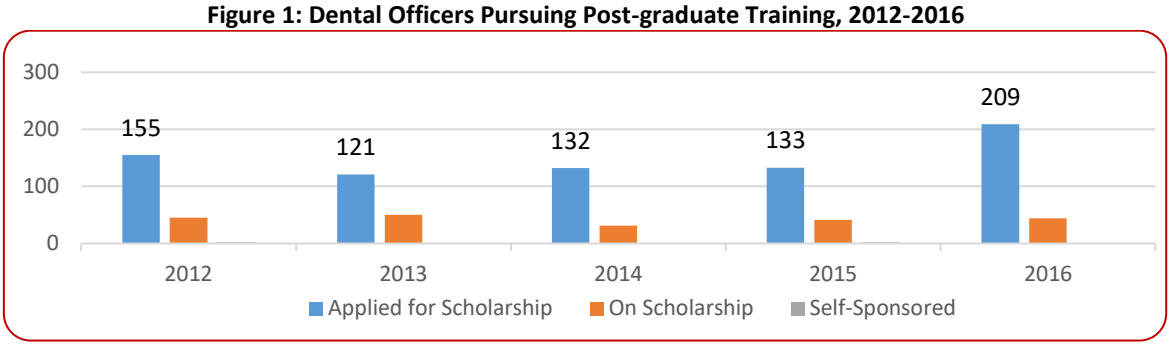
No.	Name	Gazettement Date	Pre-Gazettement Period	Posting Place
1.	Dr Yusnilawati binti Yusoff	15.3.2016	6 months	*Klinik Pergigian Batu 2 ½, Terengganu*
2.	Dr Yap Kin Teen	11.3.2016	6 months	
3.	Dr Nora Rizka binti Mohamad	9.3.2016	6 months	*Klinik Pergigian Setapak, Kuala Lumpur*
4.	Dr Sia Jye Yen	7.4.2016	6 months	*Klinik Pergigian Raub, Pahang*
5.	Dr Cheok Chieh How	1.3.2016	6 months	*Klinik Pergigian Tampin, Negeri Sembilan*
6.	Dr Ikmal binti Mohamad Jaafar	9.3.2016	6 months	*Klinik Pergigian Pekan, Pahang*
7.	Dr Wong Pik Yong	18.3.2016	6 months	*Klinik Pergigian Hospital Kluang, Johor*
8.	Dr Nina Baizura binti Abdul Aziz	9.3.2016	6 months	*Klinik Pergigian Besar Tun Sri Lanang, Melaka*
9.	Dr Lisa Marie Alice Luhong	2.3.2016	6 months	*Hospital Miri, Sarawak*
10.	Dr Ahmad Kamal Tarmizi bin Zamli @ Zamadi	28.2.2016	6 months	*Klinik Pergigian Kuala Lipis, Pahang*
11.	Dr Lim Yee Chin	28.2.2016	6 months	*Hospital Slim River, Perak*
12.	Dr Atika Farrah binti Yahya	1.3.2016	18 months	*Hospital Sultanah Fatimah, Johor*
13.	Dr Noor Rashidah binti Saad	15.3.2016	18 months	*Klinik Pergigian Baling, Kedah*
14.	Dr Husni Murshidah binti Harun	8.3.2016	12 months	*Klinik Pergigian Besar Kota Bharu, Kelantan*
15.	Dr Kavitha a/p Ramasamy	2.3.2016	12 months	*Klinik Pergigian Ayer Keroh, Melaka*
16.	Dr J.Sureinthiren a/l Jeya Raman	28.8.2016	12 months	*Hospital Tengku Ampuan Afzan, Pahang*
17.	Dr Mazlina binti Mohd Noor	7.7.2016	18 months	*Hospital Queen Elizabeth, Sabah*
18.	Dr Lynnora Patrick Majawit	9.6.2016	12 months	*Hospital Queen Elizabeth II, Sabah*

Source: Oral Health Programme, MoH 2016

POST-GRADUATE TRAINING FOR DENTAL PROFESSIONALS

Out of 209 dental officers who applied, 44 (23%) were offered Federal Scholarships for postgraduate training in 2016. Only 38 were taken up due to limited training slots **(Figure 1).**

Figure 1: Dental Officers Pursuing Post-graduate Training, 2012-2016



Source: Oral Health programme, MoH 2016

Thirty six (36) dental officers pursued post-graduate training at local universities, while two (2) went abroad. **(Table 9)**.

Table 9: Dental Officers Pursuing Postgraduate Training by Discipline, 2016

Discipline	On Scholarship		Total
	Local	Abroad	
1. Oral Surgery	7	0	7
2. Orthodontics	4	0	4
3. Periodontics	7	0	7
4. Paediatric Dentistry	4	0	4
5. Restorative Dentistry	5	0	5
6. Oral Pathology & Oral Medicine	1	0	1
7. Special Needs Dentistry	0	2	2
8. Dental Public Health	8	0	8
9. Area of Special Interest	0	0	0
TOTAL	36	2	38

Source: Oral Health Programme, MoH 2016

Thirty-nine (39) dental officers completed post-graduate training in 2016 **(Table 10).**

Table 10: Dental Officers who Completed Post-graduate Training, 2016

Discipline	Local Universities	Institutions Abroad
1. Oral Surgery	5	0
2. Orthodontics	1	5
3. Periodontic	3	4
4. Paediatric Dentistry	3	5
5. Restorative Dentistry	2	1
6. Oral Pathology & Oral Medicine	4	0
7. Special Needs Dentistry	0	1
8. Dental Public Health	5	0
TOTAL	23	16

Source: Oral Health Programme, MoH 2016

ORAL HEALTH EPIDEMIOLOGY AND RESEARCH

As in previous years, research efforts were concentrated at National and Programme levels in support of evidence-based policy decisions for oral healthcare delivery. Thus the continuation of several research projects initiated prior to 2016 were continued.

NATIONAL LEVEL RESEARCH PROJECTS AND INITIATIVES

NHMS 2017: WHO Global School Health Survey: Malaysia

In 2016, the Oral Health Programme was involved in the development of questionnaire for the Oral Health Module. The input was provided to the Institute for Public Health (IPH), MoH Malaysia prior to merging of survey instrument.

NHMS 2016: Oral Health Module in Maternal and Child Health Survey

This survey was led by the Institute for Public Health (IPH), MoH in collaboration with Oral Health Programme and other programs in MoH. The target population for this survey were children under 5 years' old and their mothers. This survey aimed to assess health common morbidities including oral health using self-administered questionnaires by mothers, child's development assessment and measurement of height and weight for children.

Data collection was carried out from mid-February until end of May 2016. Data management and data analysis were performed by the IPH, MoH in July 2016 and the draft write-up for the Oral Health Module Report was completed and will be sent to IPH by October 2017. The findings were presented by the IPH, at the National Steering Committee on 28 October 2016. Infographic posters and fact sheet of findings from the Oral Health Module were prepared and finalized for submission to IPH.

National Health Financing Mechanism Studies

Report writing for Health Facility Costing Study in Dental Clinics together with the Analytical Team members in collaboration with Harvard Consultancy under the 9 work packages of the Malaysian Health System Reform Project was carried out. Infographic posters on preliminary findings of the Health Facility Costing Study in Dental Clinics was presented at the National Institutes of Health (NIH) Research Week from 19 – 21 November 2016 at the Institute for Health Management, Kuala Lumpur.

Dental Care Pathways for Geriatric Populations in ASEAN Countries: Clinicians' Knowledge, Perceptions and Barriers Faced

This collaborative study "Dental Care Pathways for Geriatric Populations in ASEAN Countries: Clinicians' Knowledge, Perceptions and Barriers Faced" conducted with University of Malaya (UM) was started in 2014. The Phase 1 data collection using Focal Group Discussion technique was completed

in November 2015. Data analysis was carried out by research officers from the UM in December 2015 to early January 2016. The findings from Phase I study were discussed at the Pre-conference for ASEAN Geriatric Study at Crystal Crown Hotel on 29 January 2016. It was attended by 6 representatives from the Oral Health Programme MoH, 7 from the UM research team, 3 researchers from Cambodia and 1 researcher from Thailand.

Following the Pre-conference, the Oral Health Programme team finalized the 'sub-category' terms and submitted to UM researcher in March 2016. Throughout 2016, meetings were held to further discuss on the status and activities planned for the survey. In the Phase II study, questionnaires for dentist, caregivers, dependent and independent elderly were developed on 24 – 25 March 2016 at Crystal Crown Hotel, Selangor involving all team members. Pre-test for the questionnaires were undertaken in October to December 2016 in Selangor and Johor. The lists of Public Dentists in Selangor, Johor and Sabah were submitted to the UM team for sample selection in November 2016.

National Oral Health Research Initiatives

The National Health Research Initiative (NOHRI) was established in 2010 to better manage the research agenda in oral healthcare. NOHRI membership comprises of members from the dental fraternity which includes the Oral Health Programme, MoH, Ministry of Defense, public and private local universities, Oral Cancer Research and Coordinating Centre, University Malaya (OCRCC) and the Malaysian Dental Association (MDA). In 2016, the NOHRI Steering Committee meeting was held on 19 July 2016.

Since the establishment of NOHRI, oral health research priorities for the 10th Malaysia Plan (2011-2015) was identified and uploaded onto the Oral Health Programme website. Online update of database pertaining to abstracts submitted to NOHRI was done in April and November 2016. The call for submission of proposals for 11th Malaysia Plan oral health research priorities was also initiated in 2016.

PROGRAMME LEVEL RESEARCH PROJECTS

NHMS 2017: School-based Oral Health Survey

This national survey was previously carried out by the Oral Health Programme, MoH in 1997 and 2007. In 2015, decision was made to conduct the survey under the purview of National Health & Morbidity Survey (NHMS) 2017 by the Institute for Public Health (IPH). The Technical Advisory Committee was established, with members from the Oral Health Programme, MoH, IPH and Ministry of Education.

Two national level meetings were organized by the Oral Health Programme MoH as follows; on 17 February 2016 and 2 August 2016. Protocol development was initiated in November 2015 and was approved by the Technical Advisory Committee on 2nd August 2016.

The name list of schools and enrolment of schoolchildren obtained from the Ministry of Education in July 2016 were used to sample the schools for this survey. Selection of school was done twice by the Oral Health Programme, MoH on 6 and 30 September 2016. Benchmark Examiners and Gold Standards Examiners for Caries Index and CPI Modified Index were identified and trained on 17 – 19 May 2016 at Sek. Keb. Batu Unjur, Klang, Selangor and on 14 – 16 June 2016 at SJK (C) Khong Hoe Klang, Selangor.

The survey trial run was successfully conducted in Negeri Sembilan, involving 119 Primary 5 schoolchildren, on 20 – 24 June 2016. Four (4) schools in Seremban participated in the trial run survey namely; SJK (C) Sin Hua, SJK (C) Kg. Seri Sikamat, SJK(C) Kelpin and SJK(C) Sungai Salak. A total of 17 State Coordinators, 36 Dental Examiners and 35 Field Supervisors were identified for this survey. Training for the State Coordinators, Examiners and Field Supervisors was conducted as follows:

- Exposure and Consensus of NHMS 2017 Protocol to Examiners, held on 15 – 17 August 2016, at the Oral Health Programme, MoH.
- Field Conduct of NHMS 2017: School-based Oral Health Survey and Data Entry Training for State Coordinators, Field Supervisors and Examiners, held on 4 – 7 October 2016 at Eastin Hotel, Selangor.

The NHMS 2017: School-based OHS statistical report was scheduled to be completed by 2017, thus the preparation for the dummy tables and draft report writing were also initiated by the National Core Team Analysis (involving 13 officers from states and 3 officers from the Epidemiology and Oral Health Research Section) in September and November 2017 at Summit Hotel, Selangor.

National Oral Health Survey of Pre-school Children (NOHPS 2015)

NOHPS 2015 is the country's third national survey of preschool children. Data collection was carried out between July to October 2015. On completion of survey, data cleaning of merged data was carried out in January 2016.

Survey data management and analysis was undertaken between January to April 2016 by the National Core Team Analysis involving 13 officers from the states and 3 officers from the Epidemiology and Oral Health Research Section. This was followed by preparation, merging and editing of the Statistical Report. Prelimary findings of the survey shall be presented to the National Steering Committee in January 2017.

MONITORING AND EVALUATION OF ORAL HEALTH RESEARCH

Research outside of Ministry of Health Malaysia

A total of 16 research proposals from non-MoH agencies were reviewed between January to October 2016. The proposals were as follows:

1. Competency of UKM Dental Graduates from the Pespective of the Graduates and Their Employers' (application dated 24.11.2015 from Prof. Madya Dr. Badiah Baharin, Dental Faculty, UKM)

2. Developing Best Practice Guidelines for Oral Cancer Management in Malaysia (application dated 02.02.2016 from Dr. Aznilawati binti Abdul Aziz, Dental Faculty, UM)
3. Responsiveness to Change of the Malay-ECOHIS Following Treatment of Early Childhood Caries Under General Anaesthesia (application dated 02.02.2016 from Dr. Nor Azlina binti Hashim, Dental Faculty, UM)
4. Knowledge, Perceptions and Experiences of Government Dentists Regarding Shortened Dental Arch (application dated 18.02.2016 from Dr. Siti Kamilah binti Mohamad Kasim, Dental Faculty, UM)
5. *Pendidikan Pergigian, Sikap Profesional dan Tingkah Laku Terhadap Pesakit* "Autism Spectrum Disorder" *dan Berkeperluan Khas di Kalangan Doktor Pergigian Malaysia* (application dated 17.03.2016 from Ang Jinn Hau, 4th year student, Dental Faculty, UM)
6. Assessing the Validity of the Socio-Dental Model to Assess Orthodontic Treatment Need for the Malaysian Adolescent (application dated 04.04.2016 from Dr. Wan Nurazreena Wan Hassan, Dental Faculty, UM)
7. Impact of Orthodontic Treatment on the Oral Health Related Quality of Life of Adolescents (application dated 05.04.2016 from Dr. Wan Nurazreena Wan Hassan, Dental Faculty, UM)
8. Association between Mother Breastfeeding Practices and Early Childhood Caries in Shah Alam, Selangor (application dated 18.02.2016 from Prof. Dr. Sairah Abd. Karim, Management & Science University)
9. Temporomandibular Disorders and Orthognathic Surgery: A Prospective Study (application dated 08.04.2016 from Dr. Kathreena binti Kadir, Dental Faculty, UM)
10. *Persepsi Masyarakat dan Personel Pergigian Terhadap Pergigian Kosmetik Dari Sudut Pandangan Islam* (application dated 25.04.2016 from Dr. Faizah binti Abdul Fatah, USIM)
11. Awareness of Pre-Radiation Dental Assessment of Head and Neck Cancer Patients among Dentists in Malaysia and New Zealand (application dated 30.06.2016 from Adlin Aslina binti Suhaimi, University of Otago, New Zealand)
12. Assessing Change in Quality of Life (QoL) by Establishing the Minimal Importance Difference (MID) for Removable Partial Denture Theraphy (application dated 14.07.2016 from Prof. Madya Dr Roslan Saub, Dental Faculty, UM)
13. Dental Care Pathways for Geriatric Populations in ASEAN Countries – Clinicians Knowledge, Perceptions and Barriers Faced (application dated 08.08.2016 from Prof. Dr. Noor Hayati Abu Kasim, Kluster Penyelidikan Wellness, UM)
14. Comparing Cleft and Normal Adolescents' Perception of Teeth In Relation To Their Oral Health Related Quality Of Life (application dated 23.09.2016 from Dr. Zambri Mohamed Makhbul, Klinik Pergigian Cahaya Suria)
15. Factors of Outpatient Waiting Time Problem by Using Statistical Quality Analysis (application dated 19.09.2016 from Faranisa binti Ismayadi, Program Sarjana Muda Statistik Industri, Universiti Utara Malaysia)
16. *Permohonan Menjalankan Sabatikal Dan Kerjasama Penyelidikan Klinikal Di Hospital Raja Perempuan Zainab II* (Jabatan Bedah Mulut): Management of Maxillo-Facial Prosthetic –Case Report (application dated 27.10.2016 from Dr. Yanti Johari, Dental Faculty, USM)

The Oral Health Programme, MoH is a permanent member of the Medical Ethics Committee, Faculty of Dentistry, UM. The Head of the Epidemiology and Oral Health Research Section from Oral Health Programme attended research ethics meetings convened by this Committee. In 2016, a total of 3 meetings were held as follows; 29 February 2016, 26 May 2016, 23 August 2016 and 22 November 2016. Undergraduate and postgraduate research projects from the University were reviewed during the meeting.

In addition to these, more than a dozen desktop reviews for research proposals were also carried out by the Head of the Epidemiology and Oral Health Research Section MoH.

Oral Health Research within Ministry of Health Malaysia

- In 2016, oral health research submissions seeking approval from the Director General of Health for presentation and publication were reviewed accordingly and submitted as necessary.
- Meeting of Health System Research (HSR) State Advisory Committee was held on the 16 February 2016 at the Oral Health Programme MoH. The objective of the meeting was to brief the State Advisory Committee regarding the implementation of HSR at the state level, based on the approved Terms of Reference.
- Monitoring of research conducted by MoH oral health personnel until 2015 was done and the results were presented at *Mesyuarat Kaji Semula Sistem Pengurusan* on 25 August 2016.
- Monitoring of HSR projects conducted at the state level was undertaken in December 2016 (once a year).
- The Compendium of Abstracts 2015 was printed in December 2016 and distributed to authors/co-authors and relevant agencies in January 2017.
- Preparation of Compendium of Abstracts 2016 was initiated in October 2016 and will continue into 2017.

OTHER ORAL HEALTH RESEARCH ACTIVITIES

- Preparation for the collaborative study “The effectiveness of dental health home visits on caries prevention in young children” with the International Medical University (IMU) and UM continued into 2016 and a meeting was held on 10 March 2016 at IMU.

A list of kindergartens/preschools in Selangor was provided to IMU to facilitate the conduct of the study. Data collection was undertaken by IMU researchers in 2016. Input on National Oral Health Preschool Survey (NOHPS) 2015 on caries data among children in Selangor was given to IMU in December 2016.

- The reviewed and finalized Terms of Reference for State HSR was disseminated to State Deputy Directors of Health (Oral Health), Specialty Heads and all Section Heads in Oral Health Programme and external stakeholders in mid 2016.

- The Epidemiology and Oral Health Research Section also contributed input to the Clinical Practice Guidelines (CPG) MoH on Infective Endocarditis. The Head of Epidemiology and Oral Health Research Section was elected as the external reviewer for the document.
- In 2016, the Head of the Epidemiology and Oral Health Research Section also served as Jury at the 5th Selangor Research Day, held on 7-8 September 2017 in Sungei Buloh Hospital, Selangor.

HEALTH SYSTEMS RESEARCH (HSR) FOR ORAL HEALTH

Since 2016, health systems research projects at state level were fully conducted by states with regards to review of research proposals, approvals and monitoring. The national monitoring was carried out on data submitted by the states as in **Table 11**.

In 2016, a total of 123 active projects were identified by the states and institutions. Of the identified projects, 50 (40.6%) were presented and 33 (26.8%) were published as in **Table 12**.

Table 11: Status Report for HSR Projects by State / Institution for Year 2016*

State/Institution	No. of Active Research Projects State target = 3	No. of Presentation (oral/poster) State target = 3	No. of Publication State target = 1
Johor	7	6	1
Kedah	16	2	1
Sabah	6	0	0
Sarawak	3	1	0
Pahang	20	3	7
Perak	3	3	7
Terengganu	12	8	3
Kelantan	6	5	1
HKL/ Paediatric	2	2	0
Melaka	6	0	0
N. Sembilan	5	10	10
P. Pinang	10	1	1
FT KL	14	3	1
Selangor	2	0	1
Perlis	8	4	0
PPKK & KLPM	3	2	0
FT Labuan	0	0	0
ALL	**123**	**50**	**33**
Note: **without Jabatan Bedah Mulut HKL*			
No. of Active Research Projects: refer to new/on-going/completed in current year			

Table 12: Status Report for HSR Projects for Year 2016 - National Monitoring

No	Indicator	National	
		Target	Achievement
1	Number of active research project per year	10	123
2	Presentation (oral/poster)	10	50
3	Publication	3	33

ORAL HEALTH INFORMATION MANAGEMENT

TELEPRIMARY CARE AND ORAL HEALTH CLINICAL INFORMATION SYSTEM (TPC-OHCIS) PROJECT

The Ministry of Health collaborates with Ministry of Science, Technology and Innovation (MOSTI) under the Public Service Delivery Transformation (PSDT) initiative to develop Tele Primary Care and Oral Health Clinical Information System (TPC-OHCIS) which is the clinical information system to be used for clinics. MIMOS, a government owned company under MOSTI is the technology provider and developer while the MoH team comprises of Oral Health Programme, Family Health Development Division and Information Management Division.

In 2016, various change management and training activities were conducted to increase the readiness of the users for the system. Various standard operating procedures (SOPs) were drafted and 3 User Acceptance Tests sessions were conducted to test the system from the aspects of functionality, safety and usability. Below is the detail of the activities **(Table 13):**

Table 13: Activities related to TPC-OHCIS 2016

Date	Activities	Venue	No. of participants
15 August 2016	Overview of Teleprimary Care – Oral Health Clinical Information System (TPC-OHCIS)	Negeri Sembilan State Health Office	60 pax
19 August 2016	Training of Teleprimary Care – Oral Health Clinical Information System (TPC-OHCIS) administrators	Negeri Sembilan State Health Office	42 pax
22 - 26 August 2016	Familiarization for Core User Trainers	Negeri Sembilan State Health Office	60 pax
01 – 02 Nov 2016	Change Management - Concept & Business Re-engineering TPC-OHCIS	*Pusat Pakar Pergigian Zaaba, Seremban, Negeri Sembilan*	30 pax
15 & 16 Nov 2016	Echo train Concept & Business Re-engineering TPC-OHCIS- batch 1	*Pusat Pakar Pergigian Zaaba, Seremban, Negeri Sembilan*	60 pax

Image 1 & 2: Overview System (TPC-OHCIS)


OHCIS AND EKL (DENTAL)

The 3-year support and maintenance service for OHCIS and eKL (Dental) which began in June 2015 and had entered into second year contract in 2016. The contract covers two aplications i.e Oral Health Information Clinical System (OHCIS) and the eKL (Dental). Oral Health Clinical Information System (OHCIS) is an effort by MoH to improve and modernise the government oral health service. OHCIS is a client-based and patient centric integrated software solution which covers primary oral healthcare, secondary oral healthcare and school oral healthcare services. OHCIS was piloted in 10 clinics in Johor and 1 clinic in Selangor and expanded to Putrajaya Presint 18 Dental Clinic on 1 Mac 2015 for Primary Oral Health, Orthodontic and Periodontic services. The eKL (Dental) project was implemented in 2009 as part of the e-Government project to provide reminder via Short Messaging Services (SMS) to patients in Klang Valley 3 days before their appointments in the clinics.

In anticipation of the roll out of OHCIS to Jalan Fletcher Kuala Lumpur Clinic which will begin to operationalise in early 2017, training for the prospective system users and system administrators were conducted.

Below **(Table 14)** are the trainings that were conducted in November 2016:

Date	Activities	Venue	No. of staff trained
21 – 22 Nov 2016 (Batch1)	OHCIS user training for KKKL clinic dental staff	JKWPKL & Putrajaya state office	15 pax
23 – 24 Nov 2016 (Batch 2)	OHCIS user training KKKL clinic dental staff	JKWPKL & Putrajaya state office	14 pax
29 Nov 2016	OHCIS admin training for District dental officer and senior dental therapists	JKWPKL & Putrajaya state office	10 pax

CLINICAL DOCUMENTATION - SISTEM PENGURUSAN PESAKIT (CD SPP)

The development of clinical documentation (CD) modules in SPP enhancement project started in early 2016 and will be piloted at Hospital Raja Perempuan Bainun, Ipoh, Perak in 2018. Oral health hospital based specialties i.e Oral Maxillofacial Surgery, Paediatric Dentistry, Oral Pathology & Oral Medicine, Special Needs Dentistry and Forensic Odontology were included in the development of CD modules in this project. Subject matter experts from each of the hospital based dental specialties participated in the various requirement and design workshops organised by the SPP core team headed by the Medical Development Division.

PROJECT HIS @ KKM FASA 1

Oral Health Programme was involved in the HIS @ KKM Phase 1 Project which was led by the Medical Development Division. HIS @ KKM Phase 1 Project consists of 3 systems i.e Laboratory Information System (LIS), Central Sterile Supply Services Information System (CenSSIS) and Operating Theatre Management System (OTMS). However OHP is not involved in LIS as there is no dental laboratory devices that require integration.

PROJECT OHCIS ROLL-OUT *(PROJEK PELUASAN OHCIS)*

The allocation was given in 2015 under 10th MP and this project kicked off on 22 February 2016. The scope of the project includes upgrading of ICT infrastructure in 11 OHCIS dental clinics and ICT readiness for 54 dental clinics in 4 states i.e Selangor, Negeri Sembilan, Johor and Federal Territory Kuala Lumpur. The project is expected to be completed in 12 months with 2 years warranty.

ORAL HEALTH TECHNOLOGY

CLINICAL PRACTICE GUIDELINES (CPG)

The Oral Health Technology Section is the secretariat for the development of dental CPGs for the management of various oral conditions/diseases and works in collaboration with the Malaysian Health Technology Section (MaHTAS), MoH, Malaysia. In 2016, the status of CPGs are as in **Table 15.**

Table 15: Status of Clinical Practice Guidelines 2016

No	Title of CPG	Publication (Year)	Edition	Status
1	Management of Ameloblastoma	2015	1st edition	* Current
2	Management of Anterior Crossbite in Mixed Dentition	2013	2nd edition	* Current
3	Orthodontic Management of Developmentally Missing Incisors	2012	1st edition	* Current
4	Management of Chronic Periodontitis	2012	2nd edition	* Current
5	Management of Severe Early Childhood Caries	2012	1st edition	* Current
6	Management of Unerupted Maxillary Incisors	2006	2nd edition	Published and distributed
7	Management of Palatally Ectopic Canine	2004	2nd edition	Publication process
8	Antibiotic Prophylaxis in Oral Surgery for Prevention of Surgical Site Infection	2003	2nd edition	Published and distributed
9	Management of Condylar Fracture of the Mandible	2005	Review	In Progress
10	Management of Periodontal Abscess	2003	Review	Publication process
11	Management of Acute Orofacial Infection of Odontogenic Origin in Children	-	New topic	Approved for publication
12	Management of Unerupted and Impacted Third Molar	2005	1st edition	Due for Review
13	Management of Avulsed Permanent Anterior Teeth in Children	2010	2nd edition	Due for Review

** Current: Less than 5 years as of Dec 2016*

Approved Purchase Price List (APPL)

Activities in 2016 included, attending meetings coordinated by the Procurement and Privatisation Division, MoH discussing matters related to the supply of items to MoH by Pharmaniaga Logistics Sdn. Bhd. and APPL issues including delivery time, penalty on late delivery, product shelf life and complaints on products.

Technology Review

Literature search for scientific papers for technology review was done for Cone-beam Computed Tomography (CBCT). The guidelines on "The Use of Cone-beam Computed Tomography" was approved by the Principal Director of Oral Health on 30th June 2016 and distributed to the states on 5th October 2016. It was later uploaded on to the Oral Health Programme official website.

Activities Related to Minamata Convention on Mercury

The Oral Health Technology Section was also involved in the preparation of *Pelan Tindakan Negara sebagai Persediaan Ke Arah Meratifikasi Konvensyen Minamata Mengenai Merkuri* and in the development of *Garis Panduan Pengurusan Sisa Merkuri di Klinik* published by Engineering Services Division MoH.

ORAL HEALTHCARE

Oral Health Promotion
Community Oral Healthcare
Primary Oral Healthcare
Specialist Oral Healthcare

ORAL HEALTH PROMOTION

INTRA-AGENCY COLLABORATION

Media Talks (Radio/TV) in collaboration with Health Education Division (HED), MoH

In 2016, as part of oral health promotion activity, 6 media talks were held for public in TV and Radio **(Table 16).**

Table 16: Media Talks on Oral Health, 2016

Media	Topic	Speaker
Radio National FM	*Doktor Gigi Tidak Berdaftar*	Dr Elise Monerasinghe
TV1	*Hari Kesihatan Pergigian Sedunia* 2016	Dr Nurul Syakirin binti Abd Shukor
Radio Traxfm	Black Market Races	Dr Elise Monerasinghe
TV1	*Berhenti Merokok Usaha KKM dan Swasta*	Dr Sharol Lail bin Sujak
Astro 201	Oral Cancer Awareness	Dr Deeban Dass a/l Moganadass
Astro 231	Oral Cancer Awareness	Dr Deeban Dass a/l Moganadass

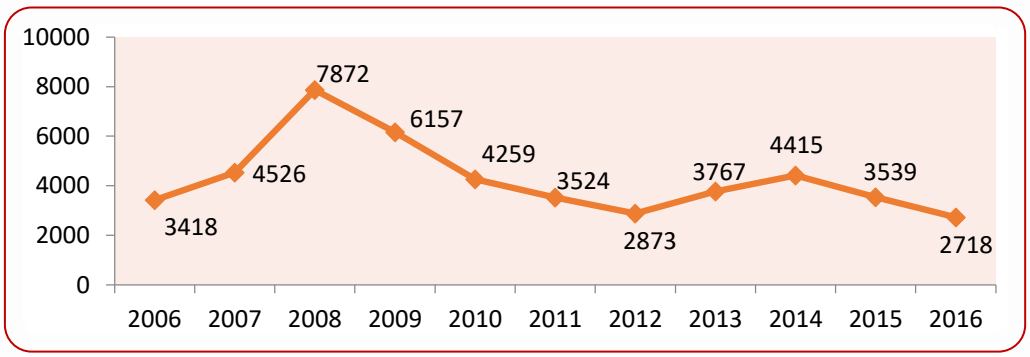
Source: Oral Health Programme, MoH 2016

INTER-AGENCY COLLABORATION

Oral Health Programme for Trainee Teachers

A total of 2,718 trainee teachers from 24 Teacher Training Institutes, Ministry of Higher Education participated in this programme. There has been a decrease in trainee teachers participating in the Oral Health Programme in 2016 **(Figure 2)**. This is due to the decrease of intake in the Degree Programme (*Kursus Perguruan Lepasan Ijazah/KPLI*).

Figure 2: Participation by Trainee Teachers, 2006-2016



Source: Oral Health Programme, MoH 2016

Participation in other Health Promotion Activities

This section participated in various events throughout the year **(Table 17).**

Table 17: Oral Health Exhibitions, 2016

No	Event	Date	Venue
1	World Oral Health Day 2016	20 March 2016	IOI City Mall, Putrajaya
2	*Majlis Rasmi Penutupan Kembara Kebajikan 1 Malaysia*	10 April 2016	*Dewan Serbaguna Hutan Melintang, Bagan Datok, Perak*
3	*Program Minggu Keselamatan Dan Kesihatan Perkerjaan, Kementerian Kesihatan Malaysia*	19 -23 June 2016	Ministry of Health, Putrajaya
4	*Pelancaran IGG Peringkat Kebangsaan 2016*	4 December 2016	*Dewan Tun Perak LHDN Air Keroh, Melaka*
5	*Karnival Jom Heboh 2016*	Jan - Dec 2016	Every state
6	*Program Singgah Santai @PNM*	22 October 2016	National Library

Source: Oral Health Programme, MoH 2016

Visitors to the Oral Health Programme

The Oral Health Programme welcomes visitors for the purpose of knowledge sharing and smart partnership. In 2016, OHP received visitors as tabulated **(Table 18).**

Table 18: Visitors to the Oral Health Programme, 2016

No	Visitors	Date	No of Visitors
1	Study tour from students of Lincoln University College	1 March 2016	12
2	Study tour from students of Lincoln University College	16 March 2016	11
3	Study tour from students of Lincoln University College	5 April 2016	12
4	Study tour from Year 4 students of Fakulti Pergigian UKM	29 September 2016	10
5	Study tour from Year 4 students of Fakulti Pergigian UKM	6 October 2016	10
6	Study tour from Year 4 students of Fakulti Pergigian UKM	20 Oktober 2016	10

Source: Oral Health Programme, MoH 2016

ORAL HEALTH INFORMATION DEVELOPMENT AND DISSEMINATION

Oral Health Education Materials

Posters 2016

Two (2) new posters were printed and distributed to the states. These were:

- *Penyakit Pergigian Sekolah Rendah*
- *Penyakit Pergigian Pra Sekolah*

Pamphlets 2016

Four (4) new pamphlets were developed and printed. All pamphlets were distributed to the states.

- *Kenali Doktor Gigi Anda*
- *Mengesan Kanser Mulut Panduan bagi Profesional Kesihatan*
- *Perubahan Warna Gigi*
- *Kerjaya dalam Bidang Pergigian (Pegawai Pergigian, Juruterapi Pergigian, Juruteknologi Pergigian & Pembantu Pembedahan Pergigian)*

Guidelines 2016

Two (2) new guidelines were developed, printed and distributed to the states. These were:

- *Panduan Teknik Bercerita untuk Pendidikan Kesihatan Pergigian*
- *Program Pencegahan dan Intervensi Merokok dalam Kalangan Pelajar Sekolah Menerusi Perkhidmatan Pergigian Sekolah (KOTAK)*

Module

Two (2) new modules were developed, printed and distributed to the states. These were:

- *i-GG Modules*
- *Modul Boneka*

Corporat Video of Oral Health Programme 2016

As part of the promotion strategy, a corporate video was developed to convey information on the organization structure and services of Oral Health Programme, MoH.

TRAINING

In 2016, several workshops were conducted as part of promotional activities as below:

Workshops for Ikon Gigi (i-GG) Program

As one of the efforts to increase public knowledge and awareness on the importance of oral health, a new program was developed named *Ikon Gigi* Programme. This program aims to establish dental volunteer networks as a medium to promote oral health. To ensure the effectiveness of the program, a workshop was held on the 6 - 8 May 2016 at Hotel Pudu Plaza, Kuala Lumpur. A group of 14 Dental Officers acts as facilitators to train 28 identified *Ikon Gigi*.

On the same note, another workshop was held entitled *Bengkel* Training of Trainers (TOT) *Fasilitator (iGG) Peringkat Negeri* on the 2 - 4 December 2016 at Hotel Bayview Melaka. Participants comprised of 50 Dental Officers from various states in Malaysia, in training to be facilitators for this program. These facilitators will further identify and train the iGG and act as mentor to ensure that the dental volunteers can spread the oral health messages to the community.

Bengkel Infografik-video Promosi Kesihatan Pergigian

This workshop has been held on 22 - 23 August 2016 at Oral Health Programme, MoH. 37 participants were selected to participate in this workshop. It aims to educate the participants on how to develop videos for educational and promotional purposes.

Bengkel Pemantapan Penggunaan Media Sosial Dalam Promosi Kesihatan Pergigian

In order to enhance the operation and quality of social media, a workshop has been conducted on the 7 - 9 December 2016 at Regency Hotel, KL. A total of 59 participants from various states in Malaysia was chosen to participate in this workshop.

COMMUNITY ORAL HEALTHCARE

FLUORIDATION OF PUBLIC WATER SUPPLY

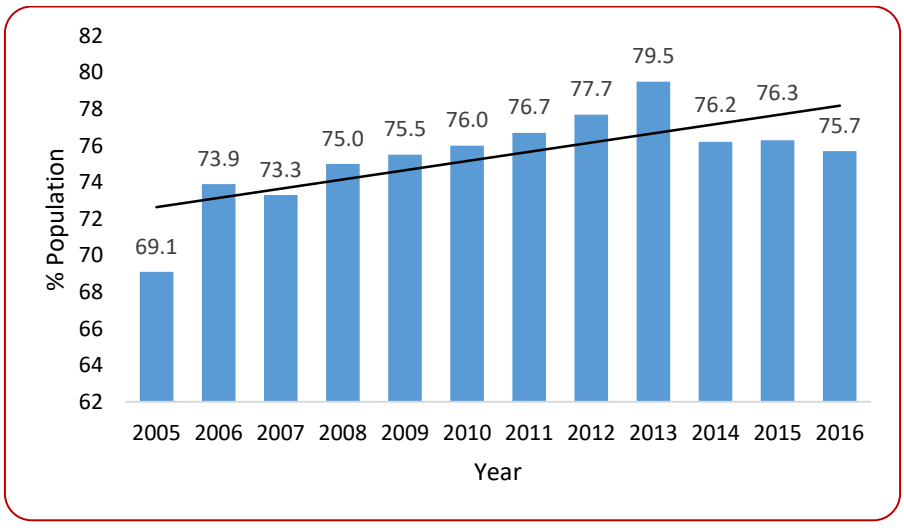
Population Coverage

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 and income or educational levels. However, the coverage and maintenance of optimum levels of fluoride at water treatment plants and reticulation points still remains a challenge for some states, in particular, Sabah, Sarawak, Kelantan and Pahang.

The trend on the estimated population receiving fluoridated water is generally on the increase from 2005 - 2013. However, there was a drop in coverage in 2014 (from 79.5% to 76.2%) and in 2016 (from 76.3% to 75.7%) **(Figure 3).**

The drop was due to a decline in population coverage for Pahang as a result of cessation of water fluoridation in majority of the water treatment plants in the state. The water authority in Pahang was corporatised in 2012. Since then, due to financial constraints, there has been no purchase of fluoride compounds.

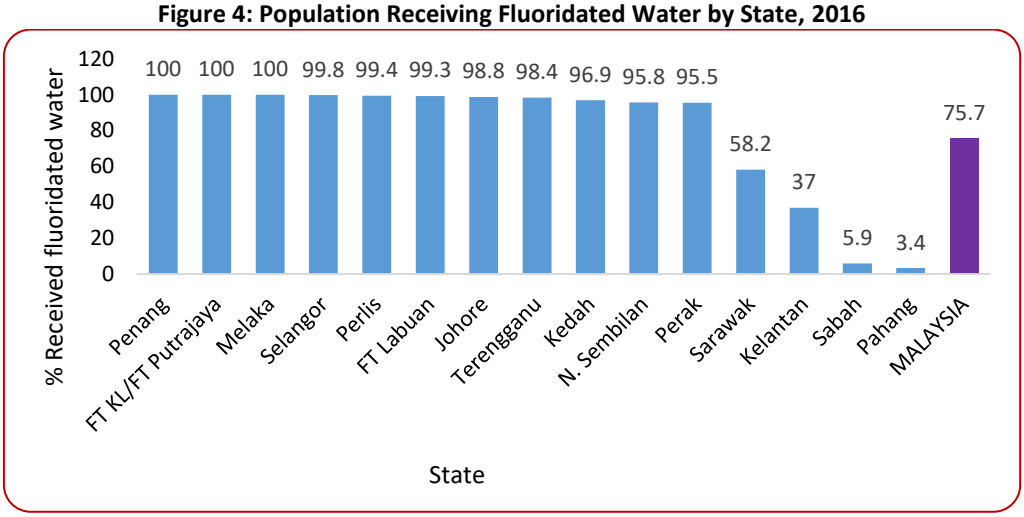
Figure 3: Population Coverage for Water Fluoridation Programme, 2005-2016



Source: State Oral Health Division, 2016

Two (2) states achieved less than 25% population coverage of fluoridated water – Sabah and Pahang, with Pahang being the lowest at 3.4 % **(Figure 4)**. Sabah achieved a population coverage of 5.9%.

Figure 4: Population Receiving Fluoridated Water by State, 2016



Source: State Oral Health Division, 2016

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 5.9% **(Figure 4).**

Water Treatment Plants (WTP)

In 2016, there were 493 Water Treatment Plants (WTPs) in Malaysia **(Table 5).** Majority (298, 60.5%) have been privatized.

Table 5: Water Treatment Plant by Sector, 2016

State	Government	Water Board	Private	Total
Perlis	0	0	3	3
Kedah	0	0	36	36
Pulau Pinang	0	0	8	8
Perak	0	39	5	44
Selangor	0	0	29	29
FT KL/ FTPutrajaya	0	0	3	3
N. Sembilan	0	0	23	23
Melaka	0	0	8	8
Johore	0	0	45	45
Pahang	0	0	75	75
Terengganu	0	0	12	12
Kelantan	0	0	33	33
Sabah	67	0	13	80
FT Labuan	4	0	1	5
Sarawak	78	7	4	89
Malaysia	**149 (30.2%)**	**46 (9.3%)**	**298 (60.5%)**	**493 (100.0%)**

Source: State Oral Health Division, 2016

A total of 311 (63.1%) have had fluoride feeders installed **(Table 6)**. Among those with feeders, 249 (80.1%) were active while 62 (19.9%) were inactive due to lack of resources to purchase fluoride compound or technical problems such as fluoride feeders that require repairs or replacement.

In 2016, all WTPs in Perlis, Penang, Selangor, Federal Territory Kuala Lumpur/Putrajaya, Melaka, Johor and Terengganu were producing fluoridated water. However, less than 50% of water treatment plants in Sarawak, Federal Territory Labuan (FT Labuan), Kelantan, Sabah and Pahang produce fluoridated water **(Table 6)**.

Table 6: WTP with Fluoride Feeders by State, 2016

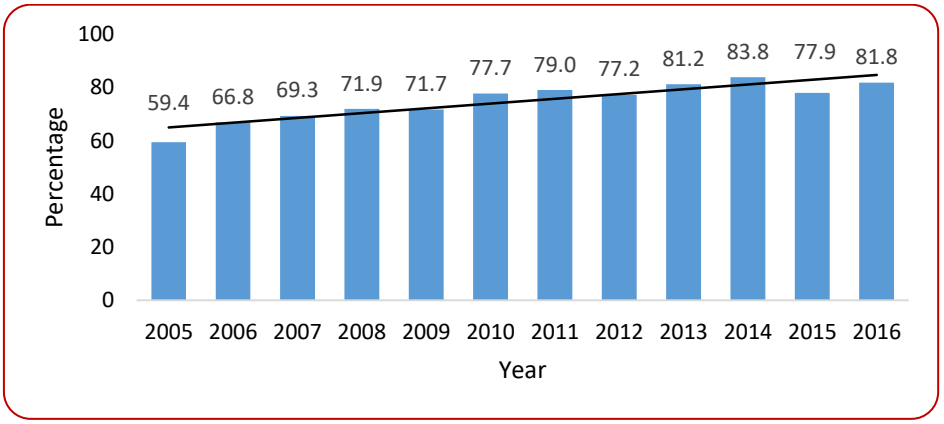
State	No. of WTP	WTP with Fluoride Feeder		WTP with Active Fluoride Feeder		WTP producing fluoridated water (%)
		No.	%	No.	%	
Perlis	3	3	100.0	3	100.0	100.0
Kedah	36	33	91.7	33	100.0	91.7
Penang	8	8	100.0	8	100.0	100.0
Perak	44	43	97.7	41	95.3	93.2
Selangor	29	29	100.0	29	100.0	100.0
FT KL/ FT Putrajaya	3	3	100.0	3	100.0	100.0
N. Sembilan	23	21	91.3	21	100.0	91.3
Melaka	8	8	100.0	8	100.0	100.0
Johore	45	45	100.0	45	100.0	100.0
Pahang	75	53	70.7	3	5.7	4.0
Terengganu	12	12	100.0	12	100.0	100.0
Kelantan	33	3	9.1	3	100.0	9.1
Sabah	80	11	13.8	10	90.9	12.5
FT Labuan	5	4	80.0	1	25.0	20.0
Sarawak	89	35	39.3	29	82.9	32.6
MALAYSIA	**493**	**311**	**63.1**	**249**	**80.1**	**50.5**

Source: State Oral Health Division, 2016

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 is an upward trend in conformance of readings to the recommended range for the years 2005 – 2016 **(Figure 5).** In 2016, 81.8% of readings at reticulation points conformed to the recommended range.

Figure 5: Conformance of Fluoride Level in Public Water Supplies to the Recommended Range (0.4-0.6ppm), 2005-2016



Source: State Oral Health Division, 2016

Nine out of 15 states, namely Perlis, Kedah, Penang, Perak, Selangor, FT Kuala Lumpur/Putrajaya, Negeri Sembilan, Johor and FT Labuan, complied with the National Indicator Approach (NIA) standards for the lower limit (not more than 25% of the readings below 0.4 ppm) and the upper limit (not more than 7% of readings exceeding 0.6 ppm) of fluoride level in public water supplies **(Table 7)**.

Table 7: Fluoride Level at Reticulation Points by State, 2016

States	Total Readings	Fluoride Readings					
		0.4 - 0.6 ppm		< 0.4 ppm (Std. < 25%)		> 0.6 ppm (Std. < 7%)	
		No.	%	No.	%	No.	%
Perlis	212	192	90.6	20	9.4	0	0.0
Kedah	1,444	1,406	97.4	29	2.0	9	0.6
Penang	372	367	98.7	5	1.3	0	0.0
Perak	1,948	1,748	89.7	195	10.0	5	0.3
Selangor	1,245	1,241	99.7	0	0.0	5	0.4
FT KL/FT Putrajaya	144	144	100.0	0	0.0	0	0.0
N. Sembilan	1,008	1,008	100.0	0	0.0	0	0.0
Melaka	356	245	68.8	103	28.9	8	2.2
Johore	2,016	1,969	97.7	47	2.3	0	0.0
Pahang	603	140	23.2	460	76.3	3	0.5
Terengganu	576	380	66.0	192	33.3	4	0.7
Kelantan	780	81	10.4	688	88.2	11	1.4
Sabah	388	261	67.3	127	32.7	0	0.0
FT Labuan	72	54	75.0	17	23.6	1	1.4
Sarawak	175	41	23.4	128	73.1	6	3.4
Malaysia	**11,339**	**9,277**	**81.8**	**2,011**	**17.7**	**52**	**0.5**

Source: Oral Health Programme (Quality Assurance Programme), MoH 2016

Six states did not comply with the standard for the lower limit (not more than 25% of the readings below 0.4 ppm) of fluoride level, highest in Kelantan with 88.2% non-compliance of reticulation readings.

Annual Operating Budget for the Fluoridation Programme

Government funds only the government-operated WTPs. In 2016, nearly RM1.3 million was spent on four (4) states for this programme **(Table 8).** Perak, Sabah and Sarawak received operating allocations up to the sum of RM1.16 Million. Perlis received an allocation of RM100,000.00 under *Dasar Baru* for purchasing of fluoride compound and maintenance. For Sarawak, RM92,916.00 was pulled back by the State Health Department of Sarawak for other activities. Meanwhile in Sabah, RM124,515.46 was used to strengthen Clinical Preventive Programmes such as Fluoride Mouth Rinse, Fissure Sealant and Flouride Varnish. Some government funds were used for monitoring fluoride levels at reticulation points in WTP operated by the private sector.

Table 8: Government Funded Fluoridation Programme by State, 2016

State	Annual Operating Budget		*Dasar Baru* (New Policy/One Off		Development Fund (10MP)		Total Allocation (RM)	Total Expenditure (RM)
	Allocation (RM)	Expenditure (RM)	Allocation (RM)	Expenditure (RM)	Allocation (RM)	Expenditure (RM)		
Perlis	-	-	100,000.00	100,000.00	-	-	100,000.00	100,000.00
Perak	500,000.00	499,842.00	-	-	-	-	500,000.00	499,842.00
Sabah	200,000.00	75,484.54	-	-	-	-	200,000.00	75,484.54
Sarawak	463,600.00	370,684.00	-	-	-	-	463,600.00	370,684.00
MALAYSIA	**1,163,600.00**	**946,010.54**	**100,000.00**	**100,000.00**	**-**	**-**	**1,263,600.00**	**1,046,010.54**

Source: State Oral Health Division, 2016

Interagency 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 2016. 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.

A few remedial actions have been taken to address issues raised during meetings with stakeholders. The procedure for monitoring of fluoride levels at reticulation points by oral health perseonnel has been improved and work processes for budget application and monitoring has been developed.

Training and Public Awareness

Recognizing that knowledge and understanding of water fluoridation is crucial, training is conducted each year for the health personnel as well as personnel from WTPs. Nationwide, 65 training sessions were conducted in 2016, including hands-on training on the use of colorimeters.

Research

Data collection for the study on 'Fluoride Enamel Opacities among 16-Year-Old Schoolchildren' was completed in November 2013. The management and analysis of data was done in 2014. Report writing began in 2014 and will be published in 2017.

CLINICAL PREVENTION

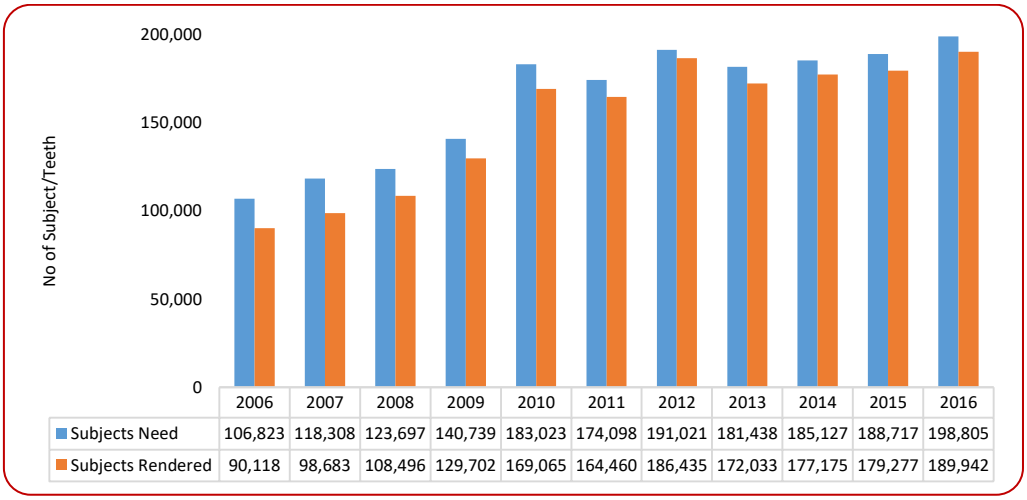
Fissure Sealant Programme

A 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 posteriors 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 2016, about 95.5% of schoolchildren needing fissure sealants (FS) were rendered fissure sealants under the School-based Fissure Sealant Programme **(Figure 6).** Overall, there is an increasing trend of subjects and teeth provided with fissure sealants from year 2006 to 2016 **(Figure 7).**

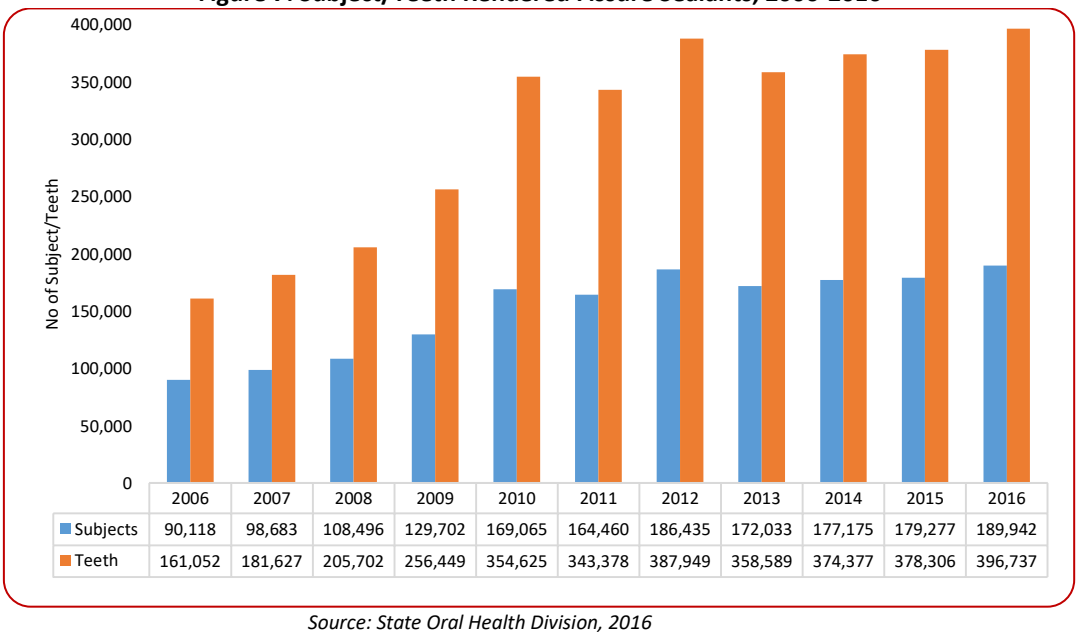
Figure 6: Treatment Need and Fissure Sealants Rendered, 2006-2016



	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Subjects Need	106,823	118,308	123,697	140,739	183,023	174,098	191,021	181,438	185,127	188,717	198,805
Subjects Rendered	90,118	98,683	108,496	129,702	169,065	164,460	186,435	172,033	177,175	179,277	189,942

Source: State Oral Health Division, 2016

Figure 7: Subject/Teeth Rendered Fissure Sealants, 2006-2016

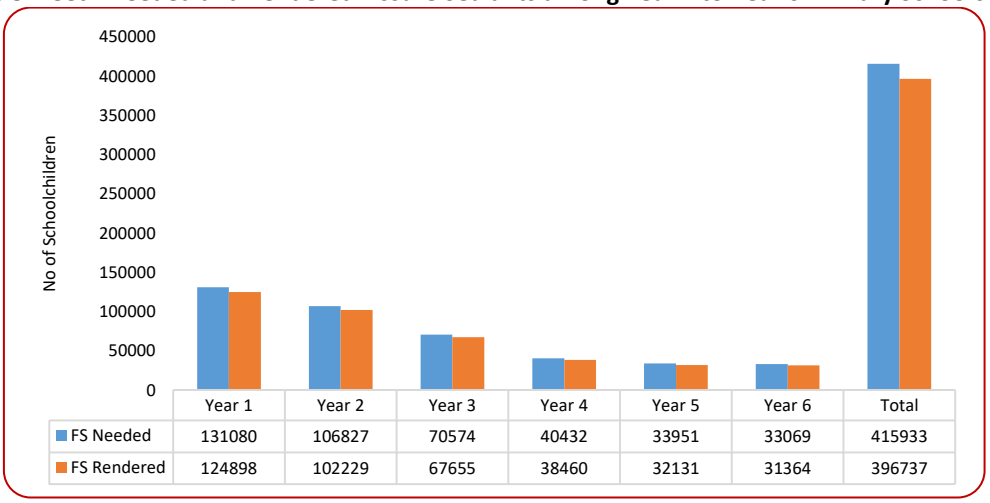


	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Subjects	90,118	98,683	108,496	129,702	169,065	164,460	186,435	172,033	177,175	179,277	189,942
Teeth	161,052	181,627	205,702	256,449	354,625	343,378	387,949	358,589	374,377	378,306	396,737

Source: State Oral Health Division, 2016

A total number of 415,933 teeth examined required fissure sealants. Of these, 95.4% were fissure-sealed and more than half were in year 1 and year 2 primary schoolchildren **(Figure 8).**

Figure 8: Teeth Needed and Rendered Fissure Sealants among Year 1 to Year 6 Primary Schoolchildren



Source: State Oral Health Division, 2016

Over the last 5 years, the percentage of children in need of fissure sealant and those rendered fissure sealant have increased from 94.6% in year 2012 to 95.5% in 2016 **(Table 9)**. The percentage of teeth in need of fissure sealant and rendered fissure sealant had increased from 94.6% in 2012 to 95.4% in 2016. Thus achieved target set, i.e. 95% of schoolchildren needing fissure sealants, received fissure sealants. Provision of fissure sealant by state is shown in **Table 10**.

Table 9: Provision of Fissure Sealants, 2010-2016

Year	No. of Children			No. of Teeth		
	Needed FS	Rendered FS		Needed FS	Rendered FS	
	n	n	%	n	n	%
2010	183,142	169,065	92.3	391,115	354,625	90.7
2011	174,218	164,460	94.4	363,861	343,378	94.4
2012	197,095	186,435	94.6	409,923	387,949	94.6
2013	181,706	172,033	94.7	379,401	358,589	94.5
2014	185,385	177,175	95.6	391,867	374,377	95.5
2015	188,717	179,277	95.0	398,633	378,306	94.9
2016	198,805	189,942	95.5	415,933	396,737	95.4

Source: State Oral Health Division, 2016

Table 10: Provision of Fissure Sealants by States, 2016

State	No. of Children			No. of Teeth		
	Needed FS	Rendered FS		Needed FS	Rendered FS	
	n	n	%	n	n	%
Perlis	2,896	2,896	100.0	5,147	5,145	99.9
Kedah	4,791	4,780	99.8	8,482	8,461	99.8
Pulau Pinang	8,490	8,436	99.4	17,282	17,171	99.4
Perak	14,672	14,672	100.0	31,723	31,720	100.0
FT KL/ FT Putrajaya	3,958	3,953	99.9	5,728	5,710	99.7
Selangor	10,261	9,875	96.2	17,509	16,810	96.1
N. Sembilan	2,465	2,453	99.5	5,020	4,997	99.5
Melaka	11,013	10,716	97.3	20,835	20,160	96.8
Johore	10,065	10,036	99.7	18,815	18,774	99.8
Pahang	9,462	9,402	99.4	15,396	15,288	99.3
Terengganu	14,161	13,994	98.8	26,866	26,546	98.8

Kelantan	40,855	38,300	93.8	87,529	82,399	94.1
PPKK & KLPM	1,554	610	39.3	3,546	1,066	30.1
Pen. Malaysia	**134,643**	**130,123**	**96.6**	**263,878**	**254,247**	**96.4**
Sarawak	13,711	12,709	92.7	26,368	24,932	94.6
Sabah	49,564	46,223	93.3	124,172	116,044	93.5
FT Labuan	887	887	100.0	1,515	1,515	100.0
MALAYSIA	**198,805**	**189,942**	**95.5**	**415,933**	**396,738**	**95.4**

Source: State Oral Health Division, 2016

The trend of decayed teeth among selected year 6 schoolchildren from 2004 until 2016 was also captured. The data shows that 66.0% - 73.3% caries experience were in posterior teeth and between 58.4% – 66.2% involved only the occlusal surface **(Table 11)**.

Table 11: Trend Data of Decayed Teeth among Year 6 Schoolchildren, 2004-2016

Year	No. of Teeth with Caries Experience (* D + F)	No. of teeth with occlusal caries experience (D + F)				Percentage of Caries in Anterior Teeth	
		All type (** Class I and II)		Class I only			
	N	n1	%	n2	%	N-n1	%
2004	436,840	288,382	66.0	255,270	58.4	148,458	34.0
2005	450,665	313,757	69.6	277,151	61.5	136,908	30.4
2006	455,964	323,174	70.9	291,583	63.9	132,790	29.1
2007	414,610	289,671	69.9	260,901	62.9	124,939	30.1
2008	430,798	292,397	67.9	256,954	59.6	138,401	32.1
2009	426,747	301,298	70.6	266,766	62.5	125,449	29.4
2010	409,324	287,626	70.3	258,963	63.3	121,698	29.7
2011	409,162	291,587	71.3	262,771	64.2	117,575	28.7
2012	441,440	297,460	67.4	284,107	64.4	143,980	32.6
2013	409,858	293,282	71.6	265,716	64.8	116,576	28.4
2014	362,116	265,286	73.3	234,934	64.8	96,830	26.7
2015	341,614	245,580	71.9	217,622	63.7	96,034	28.1
2016	326,614	238,989	73.2	216,141	66.2	87,625	26.8

Source: State Oral Health Division, 2016

* D: Carious tooth; F: Filled tooth

** Class I : Caries involves only the occlusal surface of the posterior tooth

Class II : Caries involves other surfaces and/or occlusal of the posterior tooth

Evaluation on trend of occlusal caries further justifies the need for fissure sealants. Thus, it is recommended that fissure sealant provision continues as an integral part of incremental care in primary schoolchildren aimed to prevent pit and fissure caries. With limited resources, priority should be given to high risk individuals and teeth.

Fluoride Varnish Programme

In order to further strengthen the Early Childhood Oral Healthcare programme, fluoride varnish (FV) programme was introduced for toddlers and piloted in Sabah, Kelantan, and Terengganu in 2011. Additional funds were allocated for the purchase of fluoride varnish for the pilot project. Data collection forms were further improved based on feedbacks from state coordinators. In 2016 a total of 32,203 (88.69%) high risk toddlers were rendered fluoride varnish in Kelantan, Terengganu and Sabah **(Table 12).**

Table 12: Fluoride Varnish Application, 2011-2016

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.	%
2011	4,337	1,650	38.04	6,141	5,612	91.39	2,989	2,975	99.53	13,467	10,237	76.02
2012	5,530	2,616	47.31	7,742	7,004	90.47	6,408	6,232	97.25	19,680	15,852	80.55
2013	5,816	2,875	49.43	11,269	10,333	91.69	12,147	11,380	93.69	29,232	24,588	84.11
2014	8,037	3,656	45.49	14,720	13,659	92.79	11,018	10,245	92.98	33,775	27,560	81.60
2015	33,596	5,496	16.36	13,004	11,981	92.13	9,676	7,764	80.24	56,276	25,241	44.85
2016	9,506	7,032	73.97	16,704	15,662	93.76	10,101	9,509	94.13	36,311	32,203	88.69

Source: State Oral Health Division, 2016

Compliance rates were low among children rendered FV in 2014, with only 23.06%, 8.84% and 6.34% in Kelantan, Sabah and Terengganu respectively completed recommended 4 times application in 2 years **(Table 13).**

Table 13: Compliance Rate for Fluoride Varnish Application Done for Cohort 2014-2016

State	Need FV	Rendered FV	With 2 times application		With 3 times application		With 4 times application		Compliance to six-monthly application (±1 month)	
	No.	**No.**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Terengganu	14,720	13,659	3,992	29.23	1,621	11.87	866	6.34	522	3.82
Kelantan	8,037	3,656	2,273	62.17	1472	40.26	843	23.06	705	19.28
Sabah	11,018	10,245	4,594	44.84	2,123	20.72	906	8.84	745	7.27
TOTAL	**33,775**	**27,560**	**10,859**	**39.40**	**5,216**	**18.93**	**2,615**	**9.49**	**1,972**	**7.16**

Source: State Oral Health Division, 2016

School-Based Fluoride Mouth Rinsing Programme

School-based fluoride mouth rinsing (FMR) programmes have been carried out in Sabah, Sarawak and Kelantan. In 2016, the programme was conducted for Year 2 to Year 6 children in selected schools in non-fluoridated areas in Kelantan, Sabah and Sarawak. In total, 83 schools and 22,875 students benefited from this programme **(Table 14).**

Table 14: Schools and Students Participating in FMR Programme, 2016

State	No of Schools participated			Total	No of student involved			Total
	Kelantan	Sabah	Sarawak		Kelantan	Sabah	Sarawak	
2010	7	44	25	**76**	1,204	21,641	5,585	**28,430**
2011	7	43	26	**76**	723	21,835	5,758	**28,316**
2012	7	46	30	**83**	765	23,835	5,077	**29,677**
2013	7	38	26	**71**	720	20,898	5,436	**27,054**
2014	7	47	24	**78**	557	27,579	4,076	**32,212**
2015	7	30	24	**61**	580	14,796	4,459	**19,835**
2016	6	54	23	**83**	673	18,029	4,173	**22,875**

Source: State Oral Health Division, 2016

There was an increase in the number of schools and schoolchildren involved in FMR programme in 2016. It is recommended that FMR Programme be continued in communities with no water fluoridation programme with vigilance monitoring by the oral healthcare professional.

NATIONAL BLUE OCEAN STRATEGY (NBOS) 2016

NBOS is a government initiative to ensure that services can be delivered to the people at a low cost, high impact and rapid execution. Ministry of Health (MoH) is one of the leading agencies in ensuring the successful delivery of services through NBOS initiatives. Thus, oral health services are also directly involved in the activities outlined. NBOS initiatives involving oral health services are as follows:

Type	Description	Year of Commence
NBOS 4	Rural Transformation Centre (RTC)	2012
NBOS 5	Urban Transformation Centre (UTC)	2012
NBOS 6	Organize Health Fairs for Sabah and Sarawak	2012
NBOS 7	1Malaysia Family Care	2013
NBOS 8	Mobile Community Transformation Centres (MCTC)	2014
NBOS 10	1Malaysia Civil Service Retirement Support	2014

Source: State Oral Health Division, 2016

NBOS 4: Rural Transformation Centre (RTC)

RTC aims to serve as 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 to develop optimum oral healthcare among the rural population. In 2016, there were 8 RTCs in the country, namely RTC Gopeng (Perak), RTC Wakaf Che Yeh (Kelantan), RTC Sungai Rambai (Melaka), RTC Kuala Pahang, Pekan (Pahang) and RTC Napoh, Jitra (Kedah), RTC Kulaijaya (Johor), 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 9,577 patients visited dental clinics in RTCs in 2016 **(Table 15)**.

Table 15: Oral health services in RTCs, year 2012-2016

Year	Dental clinics at RTCs		Patient Attendances
	No.	Location	
2012	3	Gopeng, Linggi, Wakaf Che Yeh	912
2013	4	Gopeng, Linggi, Wakaf Che Yeh, Pekan	1, 621
2014	6	Gopeng, Linggi, Wakaf Che Yeh, Pekan, Jitra, Kulaijaya	2, 519
2015	6	Gopeng, Wakaf Che Yeh, Pekan, Jitra, Kulaijaya, Sibuti	6,320
2016	8	Gopeng, Wakaf Che Yeh, Pekan, Jitra, Kulaijaya, Sibuti, Mid Layar, Sungai Rambai	9,577

Source: State Oral Health Division, 2016

NBOS 5: Urban Transformation Centre (UTC)

In 2016, there were 17 dental clinics operating at UTCs in the country namely UTC Ayer Keroh Melaka, UTC Pudu Sentral and UTC Mini Sentul in FT Kuala Lumpur, UTC Ipoh Perak, UTC Kuantan Pahang, UTC Kompleks MBAS and UTC Sungai Petani in Kedah, UTC Kota Baharu Kelantan, UTC Galeria Johor, UTC Kuala Terengganu, UTC Labuan, UTC Kota Kinabalu, UTC Keningau and UTC Tawau in Sabah, UTC Kuching, UTC Sibu and UTC Miri in Sarawak. A total of 219,934 patients attended the dental clinics in UTCs in 2016 compared to 128,179 in 2014 and 157,966 in 2015 **(Table 16)**.

Table 16: Oral health services in UTCs, year 2012-2016

Year	Dental clinics at UTCs		Patient Attendances
	No.	Location	
2012	2	Ayer Keroh Melaka, Pudu Sentral	3,983
2013	7	Ayer Keroh Melaka, Pudu Sentral, Kompleks MBAS, Ipoh, Mini Sentul, Kuantan	56, 889
2014	8	Ayer Keroh Melaka, Pudu Sentral, Kompleks MBAS, Ipoh, Mini Sentul, Kuantan, Kota Kinabalu	128,179
2015	9	Ayer Keroh Melaka, Pudu Sentral, Kompleks MBAS, Ipoh, Mini Sentul, Kuantan, Kota Kinabalu, Galeria Johor	157,966
2016	17	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	219,934

Source: State Oral Health Division, 2016

The increasing trend of patients attending the UTCs was due to the increase in the number UTC and also due to awareness of the public about the existence of these UTCs.

NBOS 6: Organize Health Fairs for Sabah and Sarawak

Ministry of Health (MoH) is the lead agency for this initiative together with Implementation Coordination Unit (ICU) of Prime Minister's Department, Ministry of Education (MOE), Ministry of Defense (MinDef), Ministry of Finance (MOF) and state government of Sabah and Sarawak for 'Organize Health Fairs for Sabah & Sarawak'. This initiative aims at providing various services for the convenience of the people in those states.

Under NBOS 6, oral health services delivered were oral health examination, screening for oral pre-cancer and cancer, filling, extraction, scaling and oral health promotion activities.

Table 17: Oral health activities conducted during Organise Health Fair in Sabah and Sarawak, 2012-2016

	Sabah			Sarawak		
	No. of Health Fair	No. of patients atttendance	No. of participants for Oral Health Talks	No. of Health Fair	No. of patients Atttendance	No. of participants for Oral Health Talks
2012	7	1,529	-	35	3,495	-
2013	3	273	80	12	857	-
2014	34	1,332	1,429	75	3,009	2,127
2015	74	5,189	615	176	10,174	4,369
2016	190	22,258	2,402	331	21,332	5,392

Source: State Oral Health Division, 2016

In 2016, a total of 521 health fairs were organised in Sabah and Sarawak with 43,590 patients seen; 22,258 in Sabah and 21,332 in Sarawak respectively **(Table 17)**.

NBOS 7: 1Malaysia Family Care

NBOS 7 aims to provide holistic support in terms of health and social to identified groups through collaboration with government and non-government agencies. One of the activities under this initiative is the provision of outreach oral healthcare at elderly institutions and the special needs (*PDK, Pusat Pemulihan Dalam Komuniti)* through mobile dental teams/clinics.

A total of 330 institutions for the elderly were visited and 6,903 patients were seen in 2016. The highest number of patients seen was in Perak (1,680) and the highest number of institutions visited was also in Perak (70) **(Table 18)**.
There were 564 institutions for the special needs visited in 2016, highest in Johor (84). A total of 12,235 patients were seen, highest in Johor (1,711) **(Table 19)**.

Table 18: Number of Elderly Patients Seen in Institution in 2016

State	Government Instituition		Private Institution		Total Patients Seen
	No. of Instituition	No. of Instituition Visited	No. of Instituition	No. of Instituition Visited	
Perlis	1	1	3	3	150
Kedah	3	3	18	18	397
Penang	2	2	38	38	1,116
Perak	4	4	66	66	1,680
Selangor	6	6	40	39	667
FT KL/ FT Putrajaya	11	4	25	7	217
N. Sembilan	0	0	22	22	360
Melaka	8	7	8	8	310
Johor	6	6	45	45	880
Pahang	7	3	19	19	300
Terengganu	5	5	1	1	216
Kelantan	3	3	5	5	198
Sabah	3	3	3	3	212
Sarawak	9	8	5	1	199
FT Labuan	0	0	0	0	1
Malaysia	**68**	**55**	**298**	**275**	**6,903**

Source: State Oral Health Division, 2016

Table 19: Number of Special Need Patients Seen in Institution in 2016

State	*PDK*		Non *PDK*		Total Patients Seen
	No. of Institution	No. of Institution Visited	No. of Institution	No. of Institution Visited	
Perlis	8	8	1	1	148
Kedah	38	38	4	4	1,110
Penang	22	22	2	2	591
Perak	39	39	21	20	1,243
Selangor	44	44	4	4	1,106
FT KL/ FT Putrajaya	41	12	0	0	291
N. Sembilan	44	44	2	2	880
Melaka	16	16	8	8	424
Johor	71	71	13	13	1,711
Pahang	45	43	4	3	718
Terengganu	44	44	1	1	766
Kelantan	40	40	1	1	753
Sabah	30	29	20	17	1,405
Sarawak	38	29	9	6	1,000
FT Labuan	2	2	1	1	89
Malaysia	**522**	**481**	**91**	**83**	**12,235**

Source: State Oral Health Division, 2016

NBOS 8: Mobile Community Transformation Centres (MCTC)

MCTC initiative was introduced in May 2014 and was organized by the National Strategic Unit (NSU), Ministry of Finance. The aim of this initiative is to assemble main services of various government agencies according to local needs and at identified location based on the concept of UTC/RTC. Oral health programme was involved in this initiative through invitation by NSU. There were 35 activities conducted in 2016 with a total of 2,933 patients **(Table 20)**.

Table 20: MCTC activites in 2016

Date	Location
28.01.2016	*Kota Bharu, Kelantan*
31.01.2016	*Teluk Air Tawar, Penang*
27-28.01.2016	*UniMAP, Perlis*
05.03.2016	*Pasir Akar, Besut, Terengganu*
19.03.2016	*Tanah Jajahan Machang, Kelantan*
28.03.2016	*Maran, Pahang*
08-09.04.2016	*Dataran Tasik Putih, Kluang, Johor*
30.04.2016	*Bandar Baru Merlimau Utara, Jasin, Melaka*
14.05.2016	*Permatang Damar Laut, Penang*
21.05.2016	*Pantai Peranginan Kelulut, Marang, Terengganu*
24.05.2016	*Pusat Konvensyen Taman Tamadun Islam, Pulau Wan Man, Terengganu*
27-28.05.2016	*Padang Sekolah Kebangsaan Gemang, Jeli, Kelantan*
04.06.2016	*Padang Awam Selising Pasir Putih, Kelantan*

12.06.2016	*Sayong Resort, Kuala Kangsar, Perak*
05-07.08.2016	*Dataran Kg. Kundur, Hulu Rembau, Negeri Sembilan*
06.08.2016	*Padang Awam, Perumahan Awam Cochrane, Kuala Lumpur*
07.08.2016	*Rumah Pangsa Sri Bandar, Port Dickson, Negeri Sembilan*
28.08.2016	*Sek. Men. Keb. Abi, Kangsar, Perlis*
03 – 04.09.2016	*Batu Gajah, Perak*
04.09.2016	*Dataran Rembau, Negeri Sembilan*
17.09.2016	*Sg Siput, Perak*
24-25.09.2016	*Kuala Rompin, Pahang*
24-25.09.2016	*UiTM, Arau, Perlis*
08.10.2016	*Dataran Lenggong, Lenggong, Perak*
08.10.2016	*Tanah Rata, Cameron Highland, Pahang*
11.10.2016	*Sekolah Jenis Kebangsaan Cina Jagoh, Segamat, Johor*
22.10.2016	*Malim Nawar, Kampar, Perak*
05.11.2016	*Dataran Pantai Penyabong, Mersing, Johor*
05.11.2016	*Padang Awam Felda Pasoh 4, Jelebu, Negeri Sembilan*
08.11.2016	*Dewan Jemerlang, Kampus INTAN Wilayah Selatan, Kluang, Johor*
12.11.2016	*Tapak Pekan Sehari Ayer Hitam, Jerlun, Kedah*
19.11.2016	*Pasar Komuniti dan Karavan (Pakar) Jengka, Pahang*
09-10.12.2016	*Dataran Perdagangan Parit Yaani, Batu Pahat, Johor*
11.12.2016	*Perkarangan Anjung Selera Parit Kassim, Batu Pahat, Johor*
10.12.2016	*Pangsapuri Indah 1A & 1B , Teluk Air Tawar, Butterworth, Penang*

Source: State Oral Health Division, 2016

NBOS 10: 1Malaysia Civil Service Retirement Support (1MCSRS)

The aim of this initiative is to improve the quality of service delivery to the pensioners. There are 5 strategic trusts for this initiative, i.e. healthcare advocacy, financial management, pensioners' wellbeing, re-employment guidance and entrepreneurship development.
Under healthcare advocacy, rapid lane (R-lane) for pensioner visiting healthcare facilities in the Ministry of Health was introduced in June 2014. In 2016, there were 566 dental clinics provided R-lane for pensioners and 10.9% of the pensioners used the R-lane provided **(Table 21)**.

Table 21: Patients using R-lane in 2016

Using of R-Lane	Age < 60 Years Old	Age ≥ 60 Years Old	Total
No. of patient	267,071	396,224	**663,295**
No. of pensioners	25,916	46,418	**72,334**
% Pensioners using R-Lane	9.7	11.72	**10.9**

Source: State Oral Health Division, 2016

PRIMARY PREVENTION & EARLY DETECTION OF ORAL PRE- CANCER & CANCER

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 Pre-Cancer and Cancer Programme since 1997 in collaboration with relevant agencies.

In 2016, 504 high-risk *kampung*/estates/communities were visited and 15,350 residents aged 20 years and above were screened for oral lesions. A total of 76,715 participants were given dental health education **(Table 22)**.

Table 22: Oral Cancer and Pre-cancer Screening and Prevention Programme, 2016

No. of estates/ villages visited		No. of patients screened	No. of Exhibitions held	Dental Health Education	
New	Repeat			No. of talks given	No. of participants
504	87	15,350	1,295	7,308	76,715

Source: State Oral Health Division, 2016

Among the screened patients, 28 were seen with suspected lesion and 15 were referred to oral surgeons for further investigation and management **(Table 23 & 24)**. Of these, 9 (60.0%) complied with referral to oral surgeons **(Table 23)**. Of the malignant cases detected with TNM staging reported from 2003 to 2016, 23.8% were detected at stage 1 and about 64.8% were detected at later stages **(Table 25 & 26)**. There is a need to improve patient's compliance for referral to prevent delayed treatment **(Table 25 & 26)**.

Table 23: Participants Screened and Referred by State, 2016

State	No. Examined		Total Attendance	No. With Lesion		No. Referred	No. Seen by Surgeons	
	New	Repeat		n	%		n	%
Perlis	0	0	0	0	0.0	0	0	0.0
Kedah	2,627	0	2,627	0	0.0	0	0	0.0
Penang	0	0	0	0	0.0	0	0	0.0
Perak	1,449	188	1,637	5	0.3	2	2	100.0
FT KL/ FT Putrajaya	0	0	0	0	0.0	0	0	0.0
Selangor	625	0	625	1	0.2	1	1	100.0
N. Sembilan	1,299	0	1,299	1	0.1	1	1	100.0
Melaka	653	0	653	1	0.2	1	1	100.0
Johor	3,052	0	3,052	2	0.1	0	0	0.0
Pahang	1,029	0	1,029	9	0.9	4	3	75.0
Terengganu	1,409	0	1,409	0	0.0	0	0	0.0
Kelantan	43	0	43	0	0.0	0	0	0.0
Pen. Malaysia	**12,186**	**188**	**12,374**	**19**	**0.2**	**9**	**8**	**88.9**
Sabah	2,164	0	2,164	5	0.2	5	0	0.0
Sarawak	812	0	812	4	0.5	1	1	100.0
FT Labuan	0	0	0	0	0.0	0	0	0.0
Malaysia	**15,162**	**188**	**15,350**	**28**	**0.2**	**15**	**9**	**60.0**

Source: State Oral Health Division, 2016

Table 24: Participants Screened and Referred, 2007-2016

Year	No. Examined		Total Attendance	No. With Lesion		No. Referred	No. Seen by Surgeons	
	New	Repeat		n	%		n	%
2007	3,606	111	3,717	88	2.4	76	50	65.8
2008	4,745	133	4,878	113	2.3	68	48	70.6
2009	7,131	102	7,233	128	1.8	105	47	44.8
2010	5,680	133	5,813	36	0.6	17	8	47.1
2011	7,036	19	7,055	55	0.8	16	5	31.3
2012	15, 887	156	16,043	37	0.23	29	15	51.7
2013	10, 542	39	10, 581	51	0.5	33	2	6.1
2014	10,763	231	10,994	59	0.54	39	17	43.6
2015	13,587	314	13,901	46	0.33	31	8	25.8
2016	15,162	188	15,350	28	0.18	15	9	60.0
TOTAL	**67,710**	**1,426**	**84,984**	**641**	**0.75**	**429**	**209**	**48.7**

Source: State Oral Health Division, 2016

Table 25: Clinical and Histological Diagnosis of Referred Cases, 2016

State	No. of Cases Seen by oral Surgeon	Clinical Diagnosis						TNM Staging				Histological diagnosis								Lesion Status		
		Leukoplakia	Erythroplakia	Lichen Planus	Sub Mucous Fibrosis	Suspicious of Oral	Other Pathology	Stage 1	Stage 2	Stage 3	Stage 4	Hyperkeratosis	Epithelial Dysplasia	Carcinoma In-situ	Invasive Squamous	Oral Lichen Planus	Oral Submucous	Other Malignancy	Benign Pathologies	Benign	Pre malignant	Malignant
Perak	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
Selangor	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	0	0
Negeri Sembilan	1	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Melaka	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0
Pahang	3	0	0	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	2	1	0
Pen. Malaysia	**8**	**0**	**1**	**4**	**0**	**2**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**1**	**0**	**4**	**1**	**1**
Sarawak	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Malaysia	**9**	**1**	**1**	**4**	**0**	**2**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**1**	**0**	**4**	**1**	**1**

Source: State Oral Health Division, 2016

Table 26: Clinical and Histological Diagnosis of Referred Cases, 2003 – 2016

Year	No. of Cases Seen by Oral Surgeon	Clinical Diagnosis						Staging				Histological Diagnosis							Lesion Status			
		Leukoplakia	Erythroplakia	Lichen Planus	Sub Mucous Fibrosis	Suspicious of oral cancer	Other Pathology	Stage 1	Stage 2	Stage 3	Stage 4	Hyperkeratosis	Epithelial Dysplasia	Carcinoma In-situ	Invasive Squamous Cell Carcinoma	Oral Lichen Planus	Oral Submucous	Other Malignancy	Benign Pathologies	Benign	Pre malignant	Malignant
2003	26	6	1	8	4	2	6	1	0	0	0	1	4	0	0	2	1	0	4	5	6	0
2004	19	3	1	3	1	2	10	0	0	3	0	0	0	0	3	0	0	0	0	0	1	2
2005	25	9	1	3	2	9	6	5	2	3	1	0	1	0	10	0	0	2	0	1	6	10
2006	34	1	1	6	1	18	7	7	1	5	7	0	0	0	17	3	0	1	4	3	2	19
2007	50	6	1	4	3	27	13	4	5	6	8	0	6	1	22	3	3	2	5	5	11	26
2008	48	2	1	0	1	35	7	4	2	8	13	0	5	2	20	8	0	2	2	3	6	32
2009	47	4	0	4	2	30	5	3	3	5	16	2	2	0	20	1	0	5	1	0	1	28
2010	8	1	0	2	0	1	4	0	0	1	0	0	2	0	1	0	0	0	0	0	3	1
2011	5	1	0	0	1	3	0	0	1	0	1	1	0	0	2	0	0	0	0	0	2	2
2012	16	3	2	1	2	6	2	0	0	0	2	0	0	0	2	0	0	1	3	4	2	4
2013	**2**	0	0	0	0	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	0
2014	17	3	1	1	0	1	11	0	0	0	0	0	0	0	0	0	0	0	0	12	1	0
2015	8	0	4	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	1	7	0
2016	9	1	1	4	0	2	1	5	0	0	0	0	0	0	1	2	0	1	0	4	1	1
Total	**314**	**40**	**14**	**37**	**18**	**136**	**76**	**29**	**14**	**31**	**48**	**4**	**20**	**3**	**98**	**19**	**4**	**14**	**20**	**40**	**49**	**125**

Source: State Oral Health Division, 2016

*Histological diagnosis only available for cases with biopsy done

Opportunistic Screening for Walk-in Patients

In 2016, a total of 88,947 patients were screened in the dental clinics **(Table 27),** 309 patients were seen with suspected lesion and 214 were referred to oral surgeons for further investigation and management **(Table 28 & 29)**. Of these, 129 (60.3%) complied with referral to oral surgeons

(Table 28). Higher number of malignant cases was detected among patients screened in the dental clinic compared to screening at high risk communities **(Table 25 & 29)**.

Table 27: Oral Cancer and Pre-cancer Screening for Walk-in Patients, 2016

No. of patients screened	No. of Exhibitions held	Dental Health Talks	
		No. of talks given	No. of participants
88,947	428	7,995	27,524

Source: State Oral Health Division, 2016

Table 28: Walk-in Patients Screened and Referred by State, 2016

State	No. Examined		Total Attendances	No. With Lesion		No. Referred	No. Seen by Surgeons	
	New	Repeat		n	%		n	%
Perlis	2,853	0	2,853	9	0.32	4	2	50.00
Kedah	34,248	0	34,248	8	0.02	6	3	50.00
Penang	4,341	0	4,341	11	0.25	9	7	77.78
Perak	5,715	0	5,715	55	0.96	27	13	48.15
FT KL/ FT Putrajaya	3,579	0	3,579	69	1.93	47	25	53.19
Selangor	2,969	0	2,969	30	1.01	30	16	53.33
N. Sembilan	1,464	0	1,464	1	0.07	1	1	100.00
Melaka	1,541	0	1,541	21	1.36	21	14	66.67
Johore	5,779	0	5,779	15	0.26	14	10	71.43
Pahang	1,747	6	1,753	11	0.63	4	1	25.00
Terengganu	8,241	0	8,241	10	0.12	7	4	57.14
Kelantan	6,523	0	6,523	11	0.17	11	11	100.00
Pen. Malaysia	**79,000**	**6**	**79,006**	**251**	**0.32**	**181**	**107**	**59.12**
Sabah	7,380	0	7,380	14	0.19	14	5	35.71
Sarawak	2,308	0	2,308	17	0.74	17	16	94.12
FT Labuan	253	0	253	27	10.67	2	1	50.00
Malaysia	**88,941**	**6**	**88,947**	**309**	**0.35**	**214**	**129**	**60.28**

Source: State Oral Health Division, 2016

Table 29: Clinical and Histological Diagnosis of Referred Cases (Walk-in patients), 2016

State	No. of Cases Seen by Oral Surgeon	Clinical Diagnosis						Staging				Histological diagnosis*							Lesion Status			
		Leukoplakia	Erythroplakia	Lichen Planus	Sub Mucous Fibrosis	Suspicious of oral cancer	Other Pathology	Stage 1	Stage 2	Stage 3	Stage 4	Hyperkeratosis	Epithelial Dysplasia	Carcinoma In-situ	Invasive Squamous Cell Carcinoma	Oral Lichen Planus	Oral Submucous Fibrosis	Other Malignancy	Benign Pathologies	Benign	Pre malignant	Malignant
Perlis	2	0	0	0	0	2	0	1	1	0	0	0	0	0	2	0	0	0	0	0	0	2
Kedah	3	0	0	0	0	2	0	1	1	0	0	0	0	0	1	0	0	1	0	0	0	2
Penang	7	0	0	0	0	6	1	0	3	1	1	0	0	0	4	0	0	1	0	0	0	7
Perak	13	1	0	1	0	6	5	1	0	1	2	1	0	0	4	2	0	0	0	7	1	5
Selangor	16	1	1	0	1	3	10	5	0	0	0	1	1	0	1	0	0	0	2	0	0	1

State	No. of Cases Seen by Oral Surgeon	Clinical Diagnosis						Staging				Histological diagnosis*							Lesion Status			
		Leukoplakia	Erythroplakia	Lichen Planus	Sub Mucous Fibrosis	Suspicious of oral cancer	Other Pathology	Stage 1	Stage 2	Stage 3	Stage 4	Hyperkeratosis	Epithelial Dysplasia	Carcinoma In-situ	Invasive Squamous Cell Carcinoma	Oral Lichen Planus	Oral Submucous Fibrosis	Other Malignancy	Benign Pathologies	Benign	Pre malignant	Malignant
FT KL/FT Putrajaya	25	2	0	2	0	7	8	1	0	0	0	0	3	3	0	2	0	2	9	4	0	2
Negeri Sembilan	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Melaka	14	0	0	2	0	5	7	0	0	0	0	0	0	0	3	0	0	3	0	0	1	2
Johor	10	1	0	0	1	4	4	3	0	1	1	3	0	1	2	0	0	0	2	0	0	3
Pahang	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Terengganu	4	0	0	0	0	3	1	2	0	0	0	0	0	0	3	0	0	0	1	0	0	0
Kelantan	11	0	0	1	0	2	8	1	0	3	0	0	0	0	2	0	0	0	0	0	0	2
Pen. M'sia	**107**	**5**	**1**	**6**	**2**	**41**	**45**	**15**	**5**	**6**	**4**	**5**	**4**	**4**	**23**	**4**	**0**	**8**	**14**	**11**	**2**	**27**
Sabah	5	0	0	0	0	4	1	0	0	2	2	0	0	1	3	0	0	0	1	1	0	4
Sarawak	17	3	0	2	0	11	1	1	4	0	6	1	0	0	10	3	0	0	1	3	4	10
FT Labuan	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0
Malaysia	**129**	**8**	**1**	**8**	**2**	**56**	**48**	**17**	**9**	**8**	**12**	**6**	**4**	**5**	**36**	**7**	**0**	**8**	**17**	**16**	**6**	**41**

Source: State Oral Health Division, 2016

**Histological diagnosis only available for cases with biopsy done*

Mouth Cancer Awareness Week

Mouth Cancer Awareness Week was held from 13 - 20 November 2016 aimed to increase oral cancer awareness among health professionals and the public. Activities include screening of 22,745 people, 649 awareness campaigns and counselling of 8,597 individuals on risk habits **(Table 30)**.

At the national level, Mouth Cancer Awareness Week was launched by the Principal Director of Oral Health, MoH Malaysia on 13 November 2016 at Taman Botani Negara Shah Alam, Selangor. The event was conducted in collaboration with Oral Cancer Research & Coordinating Center, Dental Faculties of Public and Private Universities (UM, UKM, UiTM, MAHSA, Segi University and IMU), Cancer Research Foundation (CARIF), Malaysia Association of Maxillo-facial Surgeons (MAOMS), Oral Health Programme and Ministry of Defense.

A 3.5 km walkathon, aerobics, quiz on oral cancer and flash mob dance were among the highlights in conjunction with the launch.

Table 30: Activities during Mouth Cancer Awareness Week by State, 2016

State	Oral Screening	Oral Health Education			Oral Health promotion (No. of activities held)				*Advice/ Counselling
		Talks			Radio Talk	Television Talk	Exhibition/ Campaign	Others**	No. of Participants
	Total Attendance	Group		Individual					
		No. Held	No. of Participants	No. Held					
Perlis	333	5	157	176	0	0	5	5	0
Kedah	2,888	130	2,458	1,365	0	0	75	2	1,760
Penang	536	32	427	101	0	0	16	0	206
Perak	1,510	102	1,192	1,281	0	0	69	5	311
Selangor	1,989	59	1,058	0	0	0	45	5	393

FT KL/ FT Putrajaya	4,170	202	2,642	1,624	0	0	15	15	1,671
N Sembilan	934	61	916	523	0	0	44	5	537
Melaka	482	7	92	251	0	0	52	6	108
Johor	840	60	1,392	333	0	0	38	9	363
Pahang	1,935	134	1,463	547	0	0	68	36	976
Terengganu	1,182	19	281	788	0	0	38	6	1,069
Kelantan	1,106	130	2,128	397	0	0	86	8	181
Sabah	2,009	89	3,348	414	0	0	51	13	364
Sarawak	2,283	113	2,287	344	0	0	38	4	658
FT Labuan	53	2	62	41	0	0	3	0	0
***** PPKK & KLPM**	495	0	0	495	0	0	6	2	0
Total	**22,745**	**1,145**	**19,903**	**8,680**	**0**	**0**	**649**	**121**	**8,597**

Source: State Oral Health Division, 2016
** Example: Stop smoking habits / chewing betel quid / drinking alcohol / others*
*** Example: MSE demonstration*
****Pusat Pergigian Kanak-Kanak & Kolej Latihan Pergigian Malaysia*

Training

In 2016, there were 162 trainings on primary prevention and early detection of oral cancer conducted by the states involving 2,935 dental officers. The highest number of training done was in Johor **(Table 31)**.

Table 31: Oral Cancer Related Courses Conducted by States, 2016

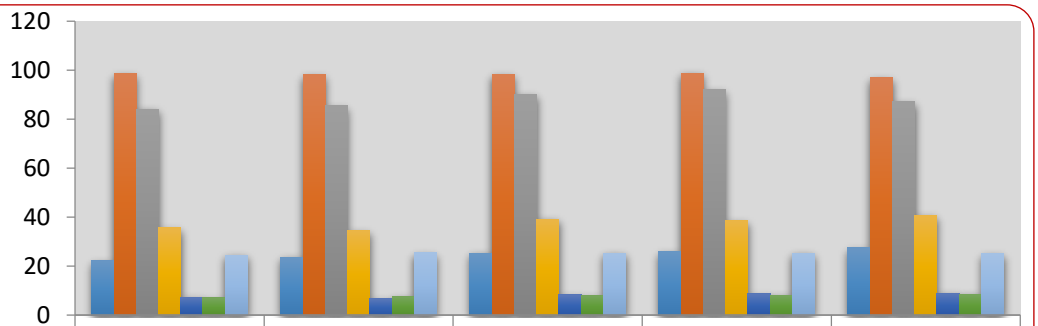
States	Oral Cancer Training	
	No. of courses conducted	No. of dental officers trained
Perlis	2	50
Kedah	4	156
Penang	2	26
Perak	34	656
FT KL/FT Putrajaya	5	239
Selangor	17	222
N. Sembilan	18	273
Melaka	5	123
Johor	35	292
Pahang	9	98
Terengganu	1	48
Kelantan	4	9
Pen. Malaysia	**136**	**2,192**
Sabah	20	584
Sarawak	5	158
FT Labuan	1	1
Malaysia	**162**	**2,935**

Source: State Oral Health Division, 2016

PRIMARY ORAL HEALTHCARE

The Oral Health Programme, MoH being the lead agency in the provision of oral healthcare to the population has been and continues to provide care to target groups which includes; toddlers (0 - 4 years), pre-school children (5 - 6 years), schoolchildren (7 - 17 years), children with special needs, antenatal mothers, adults and the elderly. Overall, the utilisation of primary oral healthcare service in MoH decreases from 25.3 % in 2015 to 25.1% in 2016 **(Figure 9).**

Figure 9: Percentage Utilisation, Primary Oral Health Services, MoH 2012-2016



	2012	2013	2014	2015	2016
Pre-School	22.2	23.6	25.2	25.9	27.5
Primary Sch.	98.5	98.1	98.4	98.8	96.8
Secondary Sch.	84	85.5	90.1	92.0	87.1
Antenatal	35.6	34.5	39.2	38.6	40.7
Adults	7.3	6.8	8.3	8.7	8.8
Elderly	7.1	7.6	8.0	8.2	8.5
Overall	24.5	25.6	25.2	25.3	25.1

Source: Health Informatics Centre, MoH 2016

The actual number of utilization of MoH primary oral healthcare services by target group over the years as shown in **Table 32**. Overall, there is increasing trend for all target groups except for secondary schoolchildren, a slight reduction in numbers from the previous year. The primary and secondary schoolchildren made up 59.3% among those who utilised MoH primary oral healthcare services in 2016. With the introduction of NBOS activities and with increasing number of dental graduates joining the MoH, has contributed to more outreach services for adults and elderly.

Table 32: Utilisation of Primary Oral Healthcare by Category of Patients, 2012-2016

Year	Pre-School	Primary School	Secondary School	Antenatal	Adults	Elderly	Special Children	Overall
2012	778,674	2,762,362	1,886,058	199,493	1,357,237	173,580	44,018	7,201,422
2013	829,710	2800209	1,940,643	204,351	1,379,228	192,429	46,673	7,393,243
2014	893,544	2,795,879	1,929,388	225,389	1,499,105	211,992	50,571	7,605,868
2015	924,920	2,757,792	1,934,031	221,444	1,588,623	226,039	54,686	7,707,535
2016	1,001,064	2,785,178	1,933,640	225,843	1,702,521	249,966	57,881	7,956,093

Source: Health Informatics Centre, MoH 2016

EARLY CHILDHOOD ORAL HEALTHCARE FOR TODDLERS

Under the *PERMATA Negara* programme, 1082 (87.3%) of the 1239 *Taska Permata* were visited in 2016 and 16.3% of toddlers were examined. Cursory examination of the oral cavity for toddler through - 'lift-the-lip' - is done in settings such as child care centres or Maternal and Child Health clinics. Clinical preventive measures such as fluoride varnish were instituted where required.

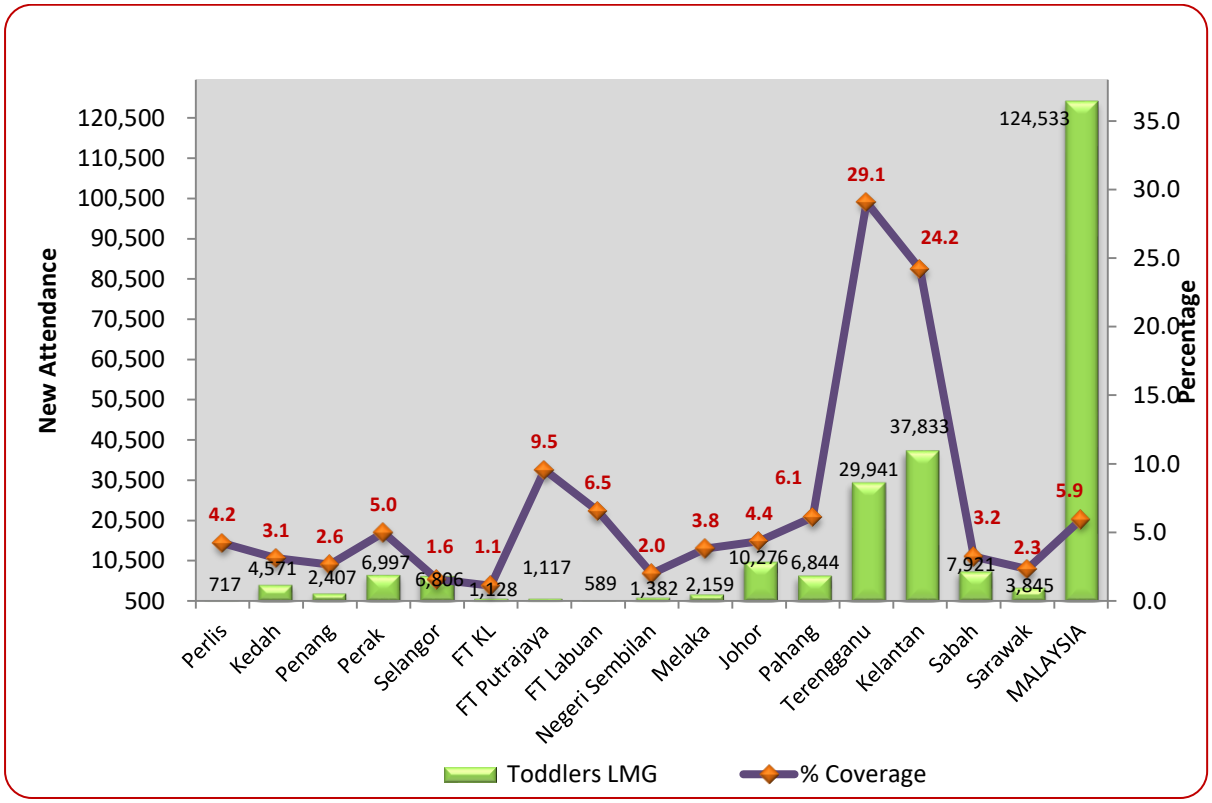
Table 33: *Taska Permata* and Toddlers Covered, 2012-2016

Year	Total Taska Permata	No. of Taska Permata Covered	% Taska Covered	Total No. of Toddlers	No. of Toddlers Covered	% Toddlers Covered
2012	381	340	89.23	1,996,700	6,101	0.31
2013	812	360	44.33	2,006,700	7,021	0.35
2014	936	732	78.20	2,019,300	329,356	16.31
2015	1282	1061	82.70	2,047,400	349,193	17.05
2016	1239	1082	87.32	2,096,700	341,664	16.29

Source: Health Informatics Centre, MoH 2016

In 2016, an overall of 5.9% (124,533) of the toddler population were given toothbrush drill. The state of Terengganu has recorded the highest coverage (29.1%) followed by Kelantan (24.2%) and FT Putrajaya (9.5%) **(Figure 10).**

Figure 10: Coverage of Toddlers Given Toothbrush Drills by State, 2016



Source: Health Informatics Centre, MoH 2016

ORAL HEALTHCARE FOR PRESCHOOL CHILDREN

In 2016, there were a total of 21,272 kindergartens or preschool institutions in Malaysia, which includes 16,807 Government and 4,465 Private. The coverage of kindergartens nationwide 2012-2016 as tabulated in **Table 34.**

Table 34: Coverage of Kindergartens, 2012-2016

Year	Total Kindergartens	Government Kindergartens	Private Kindergartens	% Government Kindergartens Coverage	% Private Kindergartens coverage
2012	19,840	15,717	4,123	97.0	90.4
2013	19,190	15,220	3,970	95.5	95.8
2014	20,473	16,232	4,241	95.5	95.3
2015	20,930	16,615	4,315	96.0	95.9
2016	21,272	16,807	4,465	97.0	95.6

Source: Health Informatics Centre, MoH 2016

A total of 1,001,064 pre-school children aged 0 – 6 years of age were given primary oral healthcare which is 1.6% increase in coverage from year 2015 **(Table 35).**

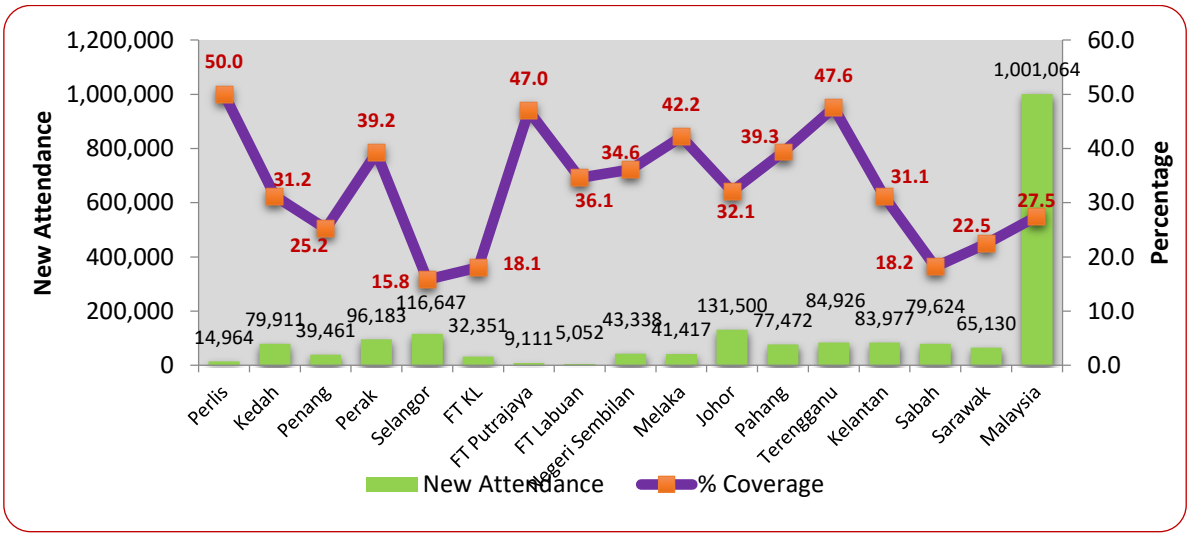
Table 35: Coverage of preschool children, 2012-2016

Year	Estimated Preschool Pop. (0-6 years of age)	No. of Preschool Children Covered (0-6 years of age)	% Coverage
2012	3,515,900	778,674	22.1
2013	3,522,500	829,710	23.6
2014	3,543,000	893,544	25.2
2015	3,573,400	924,920	25.9
2016	3,637,700	1,001,064	27.5

Source: Health Informatics Centre, MoH 2016

The state of Perlis (50.0%), Terengganu (47.6%) and FT Putrajaya (47.0%) **(Figure 11)** recorded the highest coverage of pre-school children in 2016.

Figure 11: Preschool Children Receiving Primary Oral Healthcare by State, 2016



Source: Health Informatics Centre, MoH 2016

ORAL HEALTHCARE FOR SCHOOLCHILDREN

The 7-surface Gingival Index for Schoolchildren (GIS) was approved for use at the *Mesyuarat Jawatankuasa Dasar dan Perancangan Kesihatan Pergigian Bil*. 1/2013 and was implemented in 2014. GIS was aimed to evaluate the gingival status of schoolchildren based on scientific evidence. The 7–surface GIS was found to be equally sensitive to the 12 –surfaces of 6 index teeth. GIS also can be done in less time. The index tooth are visually examined for obvious presence of gingivitis and or calculus and the GIS score categories are: GIS score 0= No gingivitis, No calculus; GIS score 1 = No gingivitis, with calculus; GIS score 2= With gingivitis, No calculus; GIS score 3= With gingivitis, With calculus. The GIS score for primary and secondary school children are as in **Table 36 and Table 37.**

Table 36: GIS score for Primary Schoolchildren, 2016

Year	New attendances	GIS 0 (%)	GIS 1 (%)	GIS 2 (%)	GIS 3 (%)
2016	2,629,005	2,036,310 (77.5)	128,316 (4.9)	324,031 (12.3)	140,347 (5.3)

Source: Oral Health Programme, MoH 2016

Table 37: GIS score for Secondary Schoolchildren, 2016

Year	New attendances	GIS 0	GIS 1	GIS 2	GIS 3
2016	1,923,699	1,346,571 (70.0)	128,733 (6.7)	239,033 (12.4)	209,368 (10.9)

Source: Oral Health Programme, MoH 2016

It was noted that 77.5% of primary schoolchildren and 70.0% of secondary schoolchildren are having GIS score 0.

Primary schoolchildren

Dental nurses and supporting teams are entrusted with the oral healthcare for primary schoolchildren under the Incremental Dental Care Programme. Overall, the coverage of primary schools showed an increasing trend from 95.9% in 2013 to 96.9% in 2016 **(Table 38).**

Table 38: Coverage of Primary Schools, 2012-2016

Year	Total No. of Primary Schools	No. of Primary Schools Covered	% Coverage of Primary Schools
2012	7792	7469	95.9
2013	7807	7485	95.9
2014	7816	7472	95.6
2015	7828	7511	96.1
2016	7847	7606	96.9

Source: Health Informatics Centre, MoH 2016

Majority of the states have achieved above 98% coverage of primary schools in 2016 with the exception of Sabah (90.1%) and Sarawak (91.7%) **(Table 39)**.

Table 39: Coverage of Primary Schools by States, 2012 – 2016

State	Percentage of Coverage of Primary Schools				
	2012	2013	2014	2015	2016
Perlis	100.0	100.0	100.0	100.0	100
Kedah	99.1	100.0	100.0	100.0	100
Pulau Pinang	99.6	100.0	100.0	100.0	100
Perak	99.4	99.7	99.2	99.4	100
Selangor	99.8	99.7	98.8	99.5	99.4
FTKL	100.0	100.0	100.0	100.0	100
FT Putrajaya	100.0	100.0	100.0	100.0	100
N. Sembilan	100.0	100.0	100.0	100.0	100
Melaka	100.0	100.0	100.0	94.9	100
Johor	100.0	100.0	100.0	100.0	100
Pahang	99.6	100.0	100.0	100.0	99.8
Terengganu	99.7	100.0	99.5	99.5	100
Kelantan	98.8	99.5	98.8	98.1	99.8
FT Labuan	100.0	100.0	100.0	100.0	100
Sabah	83.5	82.4	79.6	88.2	90.1
Sarawak	90.0	89.9	91.7	88	91.7
MALAYSIA	**95.9**	**95.9**	**95.6**	**96.1**	**96.9**

Source: Health Informatics Centre, MoH 2016

In terms of primary schoolchildren, the coverage has exceeded 98% over the past 5 years, with 98.9% of primary schoolchildren examined in 2016 **(Table 40).**

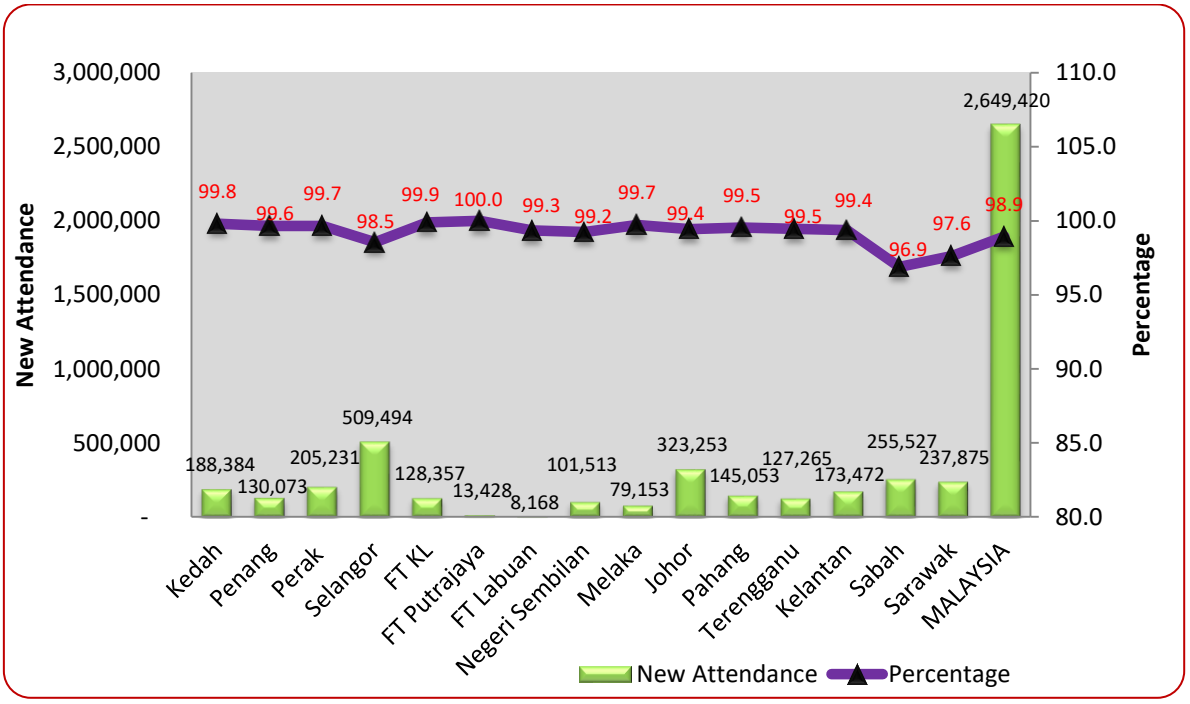
Table 40: Coverage of Primary Schoolchildren, 2012-2016

Year	Total Pop of Primary Schoolchildren	No of Primary Schoolchildren Covered	% Coverage
2012	2,805,153	2,762,362	98.5
2013	2,746,364	2,694,533	98.1
2014	2,707,876	2,664,738	98.4
2015	2,686,750	2,654,585	98.8
2016	2,677,950	2,649,420	98.9

Source: Health Informatics Centre, MoH 2016

Majority of states has achieved 98% and more of primary schoolchildren coverage except for Sabah (97.6%) and Sarawak (96.9%) **(Figure 12)**.

Figure 12: Number & Percentage of Primary Schoolchildren Receiving Primary Oral Healthcare by State, 2016



Source: Health Informatics Centre, MoH 2016

Over the years, the percentage of primary school children rendered orally-fit (Case Completion), No Treatment Required (NTR) and maintained caries-free have increased. In 2016, out of those examined, 63.7% were NTR, 35.8% were Caries-free and 97.9% were Case Complete **(Table 41).**

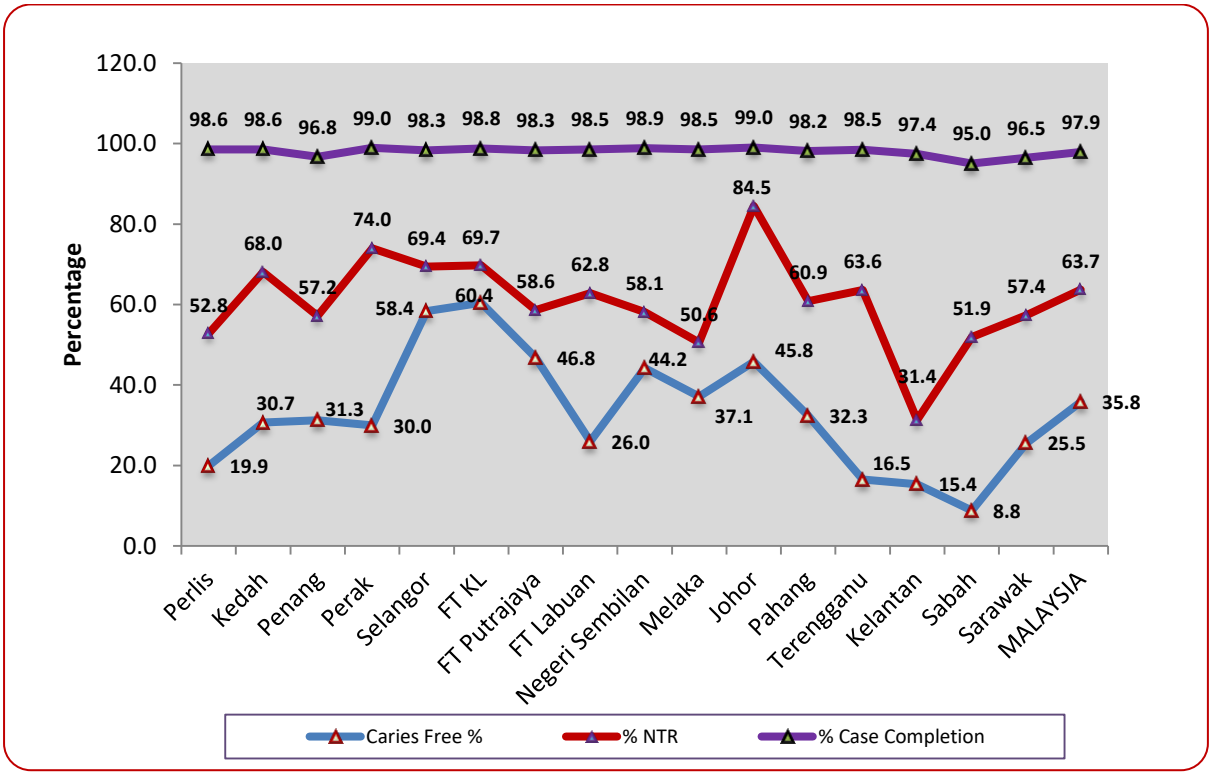
Table 41: Percentage Primary Schoolchildren Orally-Fit, NTR and Caries-free, 2012-2016

Year	No of Primary Schoolchildren Covered	% Case Completion	% No Treatment Required (NTR)	% Maintained Caries-free
2012	2,762,362	97.4	67.1	33.9
2013	2,694,533	97.5	67.4	33.9
2014	2,664,738	97.7	61.5	34.4
2015	2,654,585	96.4	64.0	35.4
2016	2,649,420	97.9	63.7	35.8

Source: Health Informatics Centre, MoH 2016

In 2016, all states achieved 95.0% and above for Case Completion. Johor has achieved the highest percentage of NTR (84.5%) followed by Perak (74.0%) and FTKL (69.7%). Overall, Caries-free was 35.8%. FTKL reported the highest achievement for Caries-free status (60.4%) followed by Selangor (58.4%) **(Figure 13)**.

Figure 13: Oral Health Status of Primary Schoolchildren by State, 2016



Source: Health Informatics Centre, MoH 2016

Secondary Schoolchildren

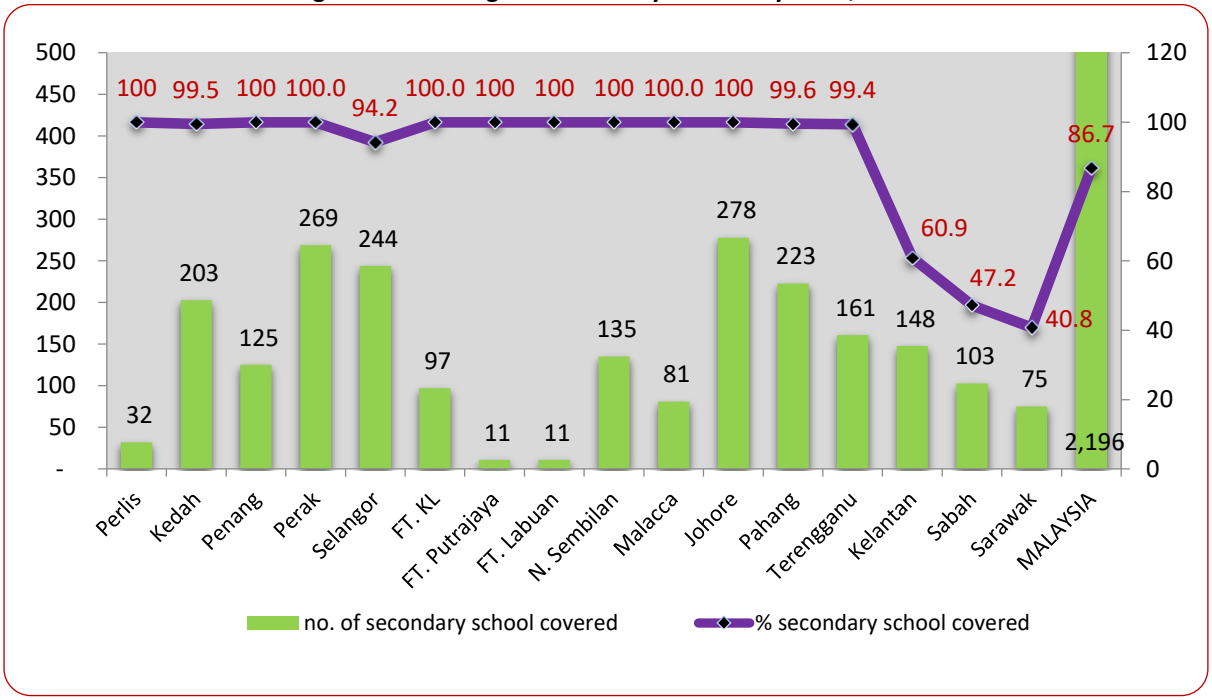
With more dental officers to provide daily outpatient services in the clinics, dental nurses now shoulder more responsibilities for the secondary school dental service. The coverage of secondary schools showed an increase over the years with 86.7% of the secondary schools covered in 2016 **(Table 42)**.

Table 42: Coverage of Secondary Schools, 2012-2016

Year	Total No. of Secondary Schools	No. of Secondary Schools Covered	% Coverage of Secondary Schools
2012	2438	1898	77.9
2013	2470	1982	80.2
2014	2477	2019	81.5
2015	2508	2096	84.0
2016	2558	2196	86.7

Source: Health Informatics Centre, MoH 2016

Figure 14: Coverage of Secondary Schools by State, 2016



Source: Health Informatics Centre, MoH 2016

Majority of the states has achieved above 94% of secondary school coverage in 2016 except for Kelantan (60.9%), Sabah (47.2%) and Sarawak (40.8%) **(Figure 14)**. However, there was an increasing trend over the years in these three states **(Table 43)**.

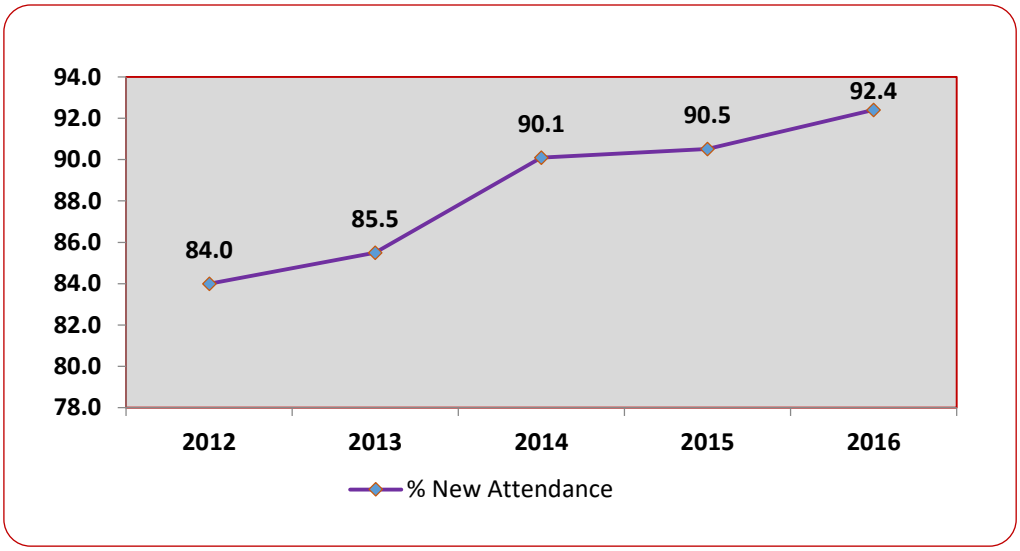
Table 43: Percentage Secondary School Coverage under Incremental Dental Care by State, 2012-2016

State	Percent Secondary Schools Covered				
	2012	**2013**	**2014**	**2015**	**2016**
Perlis	100.0	100.0.	100.0	100.0	100.0
Kedah	92.0	93.6	94.7	97.9	99.5
Pulau Pinang	97.6	99.2	99.2	97.6	100.0
Perak	99.2	99.6	97.3	98.9	100.0
Selangor	82.8	83.3	79.6	92.5	94.2
FTKL	100.0	100.0	100.0	100.0	100.0
FT Putrajaya	100.0	100.0	100.0	100.0	100.0
N.Sembilan	100.0	100.0	100.0	100.0	100.0
Melaka	100.0	100.0	100.0	92.6	100.0
Johor	100.0	100.0	100.0	100.0	100.0
Pahang	100.0.	1000	97.7	99.5	99.6
Terengganu	75.5	87.2	96.0	96.2	99.4
Kelantan	42.8	49.8	50.8	52.9	60.9
FT Labuan	100.0	100.0.	100.0	100.0	100.0
Sabah	31.0	29.2	35.9	44.8	47.2
Sarawak	15.4	24.7	29.3	31.4	40.8
MALAYSIA	**77.9**	**80.2**	**81.5**	**84.1**	**86.7**

Source: Health Informatics Centre, MoH 2016

Overall, 92.4% of secondary schoolchildren were seen in 2016, an improvement from previous year by 1.9% **(Figure 15).**

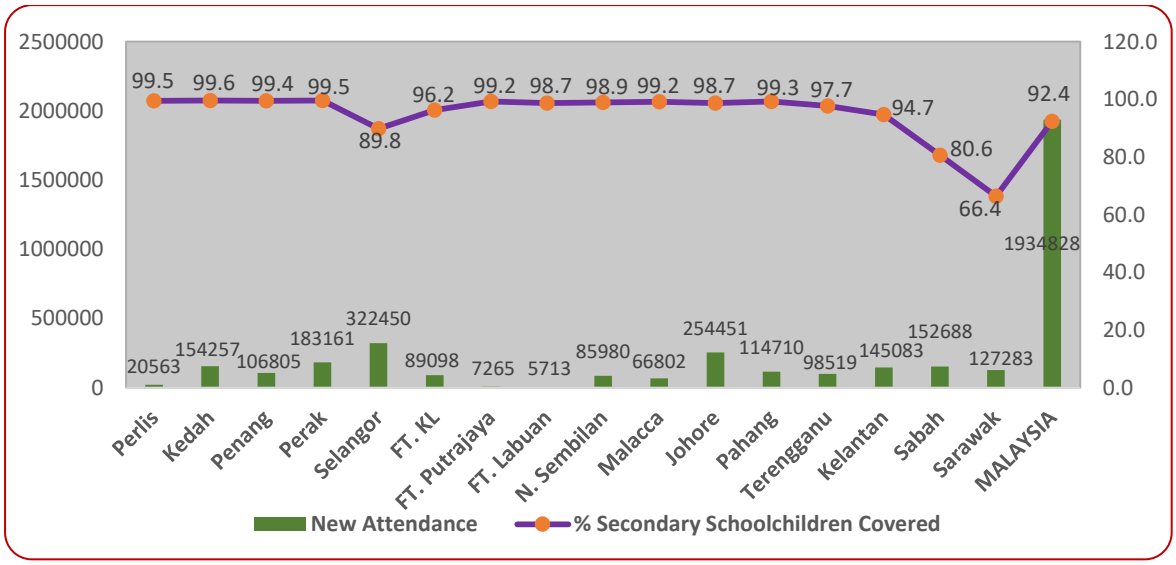
Figure 15: Coverage of Secondary Schoolchildren, 2012-2016



Source: Health Informatics Centre, MoH 2016

Three states – Selangor (89.8%), Sabah (80.6%) and Sarawak (66.4%) recorded below the average coverage of secondary schoolchildren **(Figure 16).**

Figure 16: Secondary Schoolchildren Receiving Primary Oral Healthcare by State, 2016



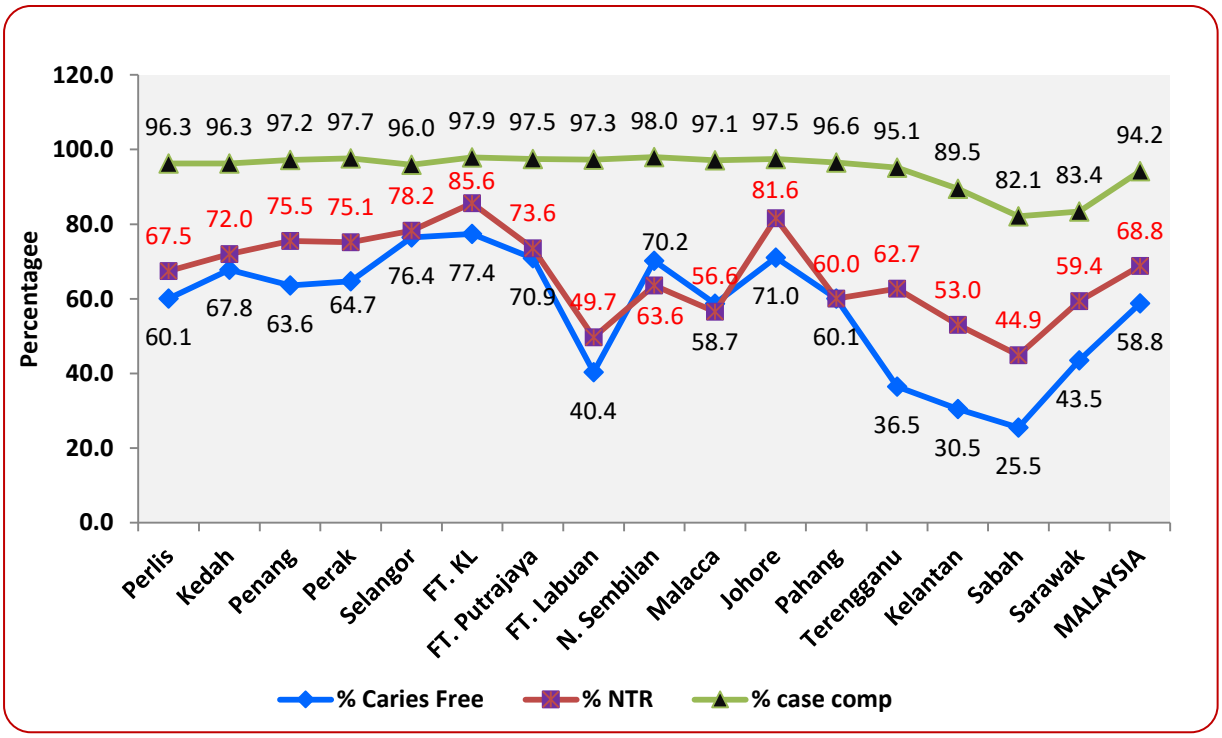
Source: Health Informatics Centre, MoH 2016

Table 44: Percentage Secondary Schoolchildren Orally-Fit, NTR and Caries-free, 2012-2016

Year	No of Secondary Schoolchildren Covered	% Case Completion	% No Treatment Required (NTR)	% Maintained Caries-free
2012	1,842,661	93.4	77.3	57.0
2013	1,805,591	92.8	77.1	56.2
2014	1,929,388	93.1	66.8	57.5
2015	1,802,582	94.1	68.2	56.0
2016	1,934,828	94.2	68.8	58.8

Over the years there was an improvement in percentage of NTR, Caries-free and Case Completion of secondary schoolchildren **(Table 44).** In 2016, 94.2% of secondary schoolchildren were rendered orally-fit while 68.8% were NTR and 58.8% were Caries-free. The state of Sabah has recorded the lowest percentage of case completion (82.1%) among secondary schoolchildren **(Figure 17).**

Figure 17: Oral Health Status of Secondary Schoolchildren, 2016

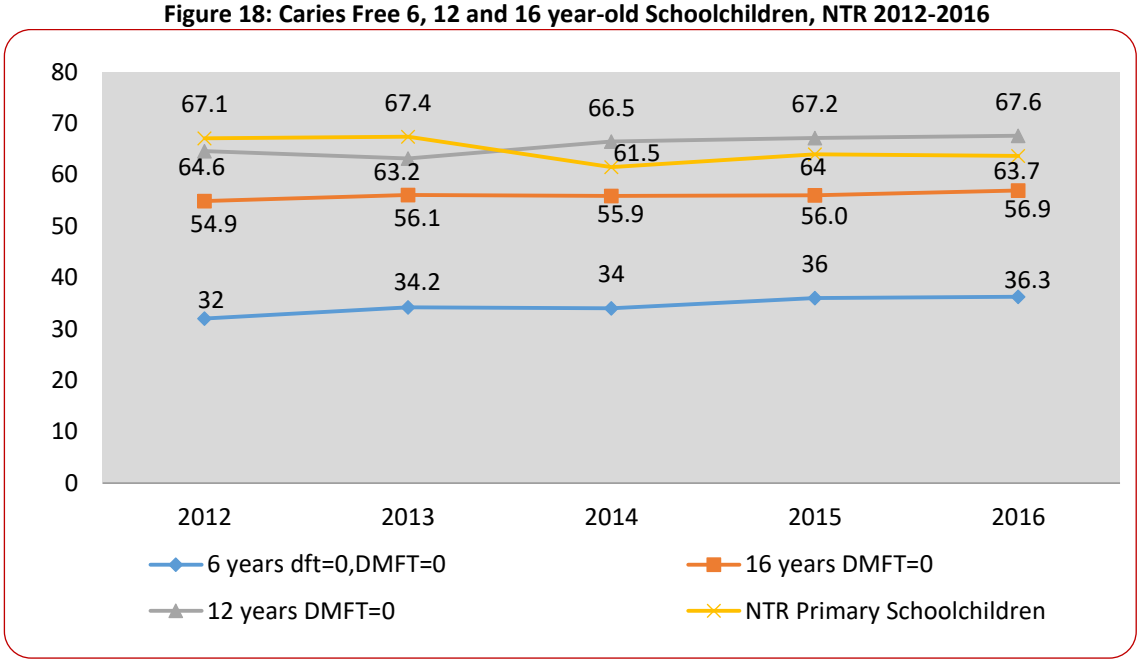


Source: Health Informatics Centre, MoH 2016

Impact Indicators - Caries-free 6, 12 and 16 year-old Schoolchildren

Overall, the percentage of caries-free among 6, 12 and 16 year-olds schoolchildren has shown a slight increase in 2016. However there is a slight reduction of NTR among primary schoolchildren **(Figure 18)**.

Figure 18: Caries Free 6, 12 and 16 year-old Schoolchildren, NTR 2012-2016



Source: Health Informatics Centre, MoH 2016

FT Kuala Lumpur showed the highest percentage of caries-free among 16-year-olds (75.8%) while the state of Sabah (21.7%) reported the lowest **(Table 45)**. The states of Negeri Sembilan has reported a drop in percentage (0.8%) of caries-free among 16-year-olds from 69.4% in 2015 to 68.6% in 2016.

Table 45: Percentage of Caries Free 16-year olds by State 2012 – 2016

State	2012	2013	2014	2015	2016
Perlis	58.1	56.8	54.6	56.9	57.8
Kedah	64.3	65.5	66.3	66.4	67.3
Pulau Pinang	55.3	56.8	59.3	58.6	60.0
Perak	56.3	59.2	59.9	60.8	63.0
Selangor	70.4	72.3	73.3	72.6	75.7
FT Kuala Lumpur	71.5	73.4	74.8	74.8	75.8
FT Putrajaya	71.8	67.7	72.8	68.2	70.0
N Sembilan	63.1	66.6	66.0	69.4	68.6
Melaka	52.0	53.3	52.4	53.7	56.3
Johor	62.7	64.8	66.6	67.9	68.8
Pahang	45.2	46.0	46.6	46.5	47.2
Terengganu	37.0	38.0	33.9	32.5	33.1
Kelantan	26.0	27.5	25.7	25.4	26.6
FT Labuan	34.1	35.7	36.3	34.5	35.3
Sabah	18.4	19.2	18.4	21.0	21.7
Sarawak	51.8	41.6	40.1	42.5	42.7
MALAYSIA	**54.9**	**56.1**	**55.9**	**56.0**	**56.9**

Source: Health Informatics Centre, MoH 2016

The mean DMFT score for 12-year-olds and 16-year-olds has reduced from year 2015 **(Table 46)**.

Table 46: Mean DMFT Score for 12 and 16-year-olds, 2012-2016

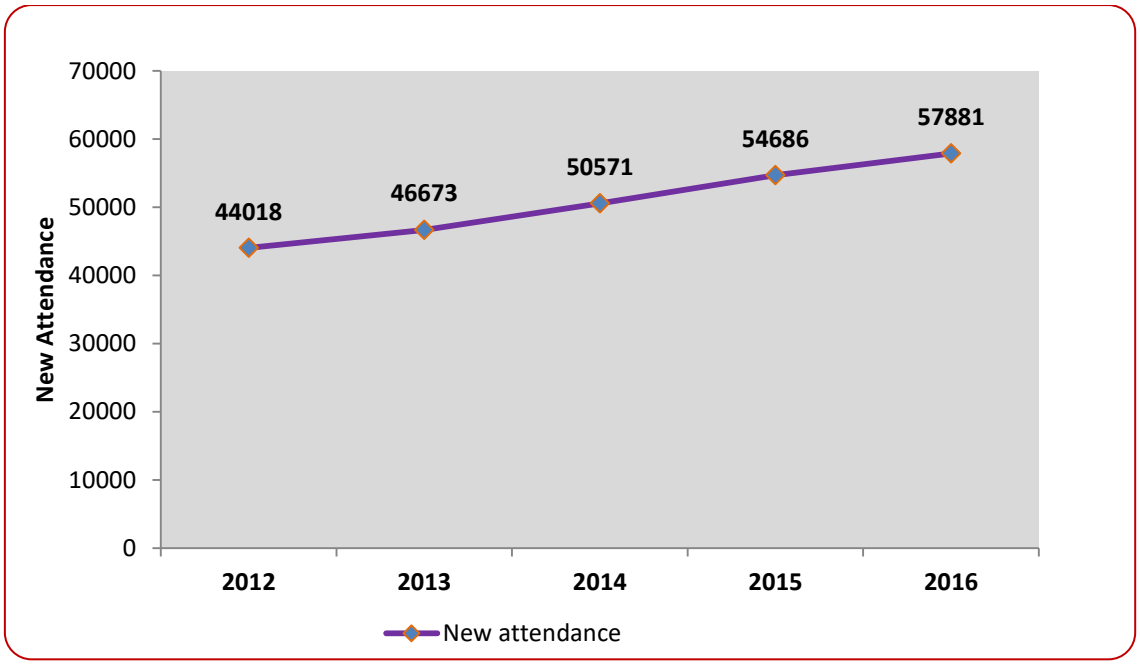
Age Group	2012	2013	2014	2015	2016
12-year-olds	**0.89**	**0.91**	0.85	0.85	0.79
16-year-olds	**1.32**	**1.30**	1.35	1.35	1.34

Source: Health Informatics Centre, MoH 2016

Oral Healthcare for Children with Special Needs

The number of children with special needs utilising primary oral healthcare services has been increasing steadily over the years. This was mainly due to the initiatives under the National Blue Ocean Strategy 7 (NBOS 7) which prioritised healthcare to special needs children, the elderly and single mothers. In 2016, a total of 57,881 special needs children received primary oral healthcare **(Figure 19).**

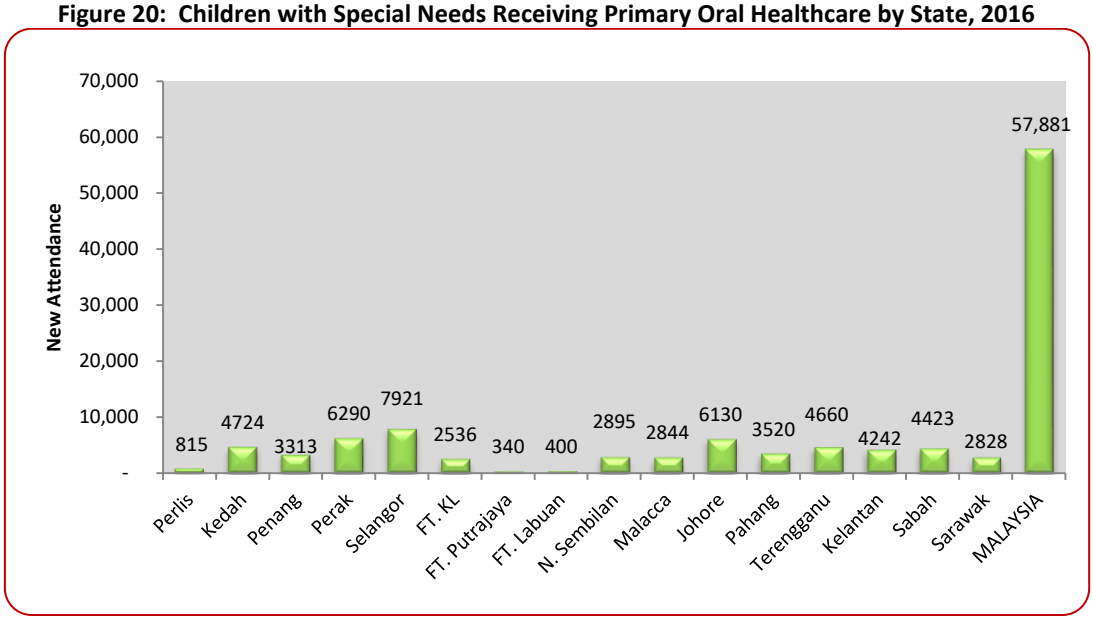
Figure 19: Children with Special Needs Receiving Primary Oral Healthcare, 2012-2016



Source: Health Informatics Centre, MoH 2016

The highest number of special needs children was seen in Selangor followed by Perak and Johor **(Figure 20).**

Figure 20: Children with Special Needs Receiving Primary Oral Healthcare by State, 2016

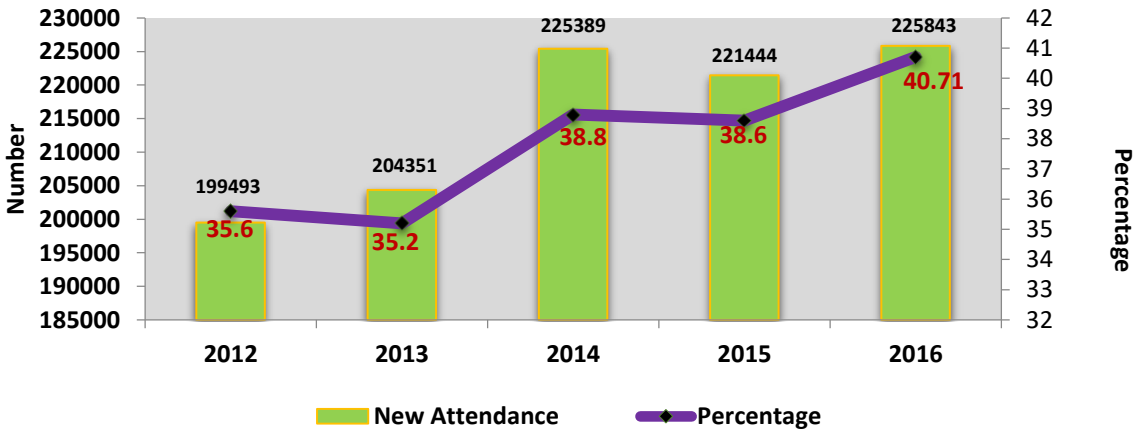


Source: Health Informatics Centre, MoH 2016

ORAL HEALTHCARE FOR ANTENATAL MOTHERS

More efforts has been taken to increase the attendance of antenatal mothers at dental clinics by way of referrals from health clinics or from Mother and Child Health clinics. This is to ensure that mothers as agents of change would get the essential awareness on oral health as well as to also render them orally-fit. There was an increase in antenatal mothers utilising primary oral healthcare in 2016 as compared to the previous year **(Figure 21).**

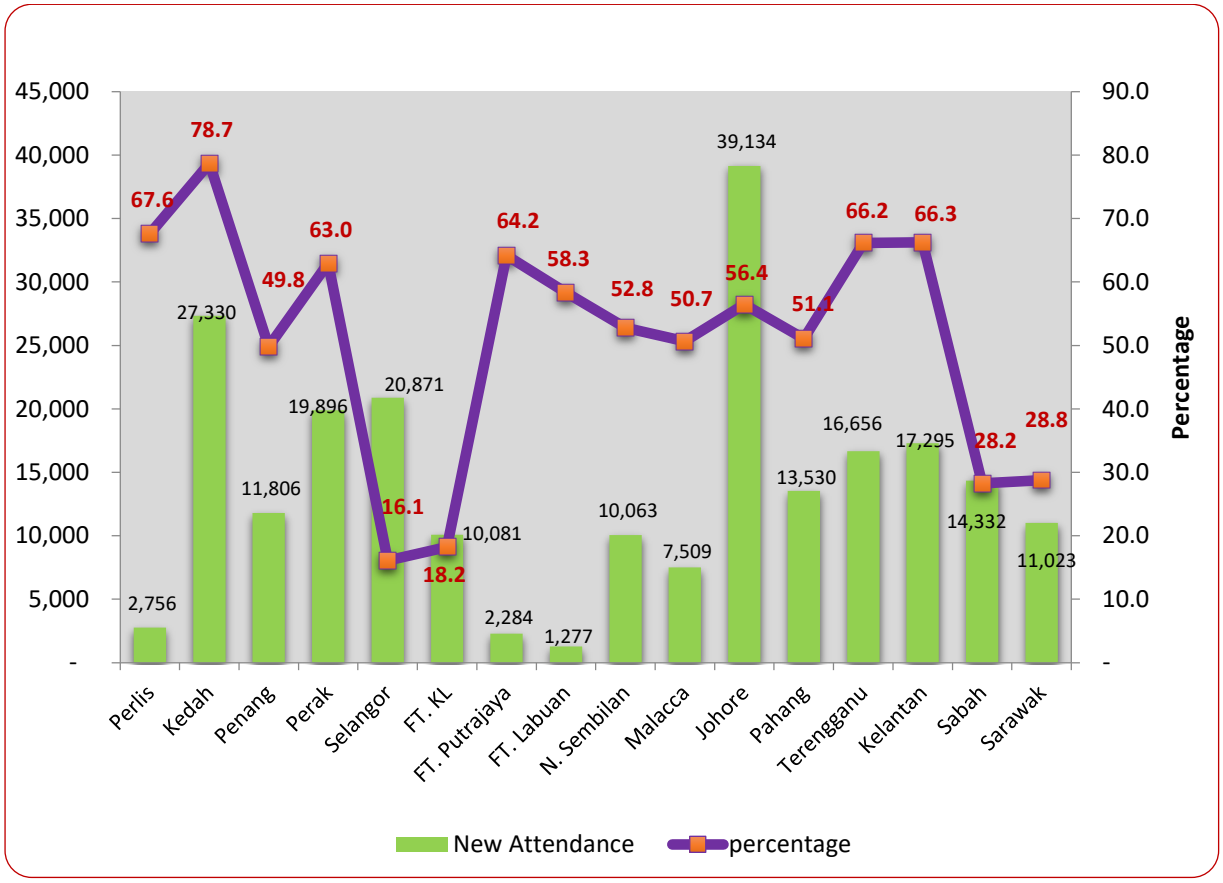
Figure 21: Coverage of Antenatal Mothers, 2012-2016



Source: Health Informatics Centre, MoH 2016

The highest percentage of antenatal mothers who sought dental care was in Kedah (78.7%) followed by Perlis (67.6%) **(Figure 22)**.

Figure 22: Antenatal Mothers Receiving Primary Oral Healthcare by State, 2016



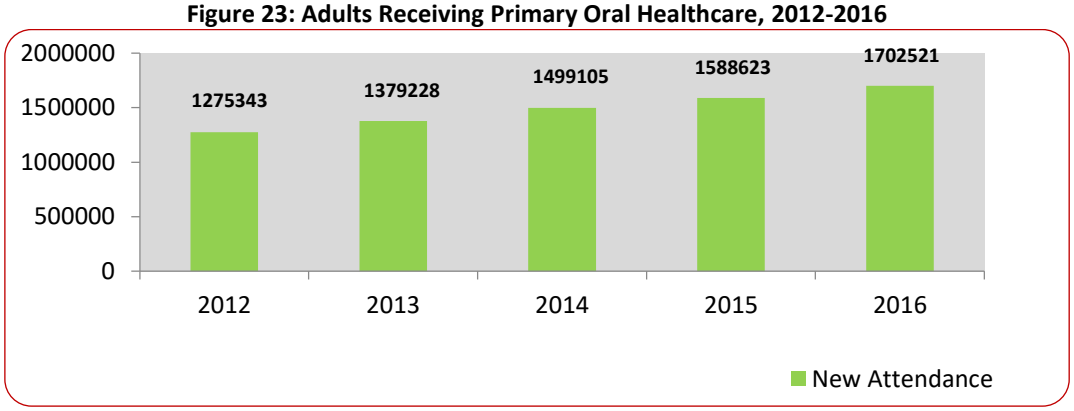
Source: Health Informatics Centre, MoH 2016

ORAL HEALTHCARE FOR ADULTS

The oral health services were also provided through new initiatives such as the Urban Transformation Centers (UTCs) and Rural Transformation Centers (RTCs). UTCs operate on extended hours from 8.00 am to 10.00 pm. In 2016, a total of 219,934 people utilised 17 UTCs and 9,577 people utilized 8 RTCs compared to 157,966 people utilized 9 UTCs and 6,320 people utilized 7 RTCs respectively in 2015.

The demand for oral healthcare among adults is steadily increasing. Hence, the number of dental clinics providing daily outpatient services has been included as one of the Key Performance Indicators (KPI) for the Oral Health Programme. Efforts have been made to accommodate the need among adults and to date 75.9% (504/664) of dental clinics with 2 or more dental officers offer daily outpatient services. In 2016, adults utilisation of primary oral healthcare increased by 7.2% from 2015 **(Figure 23).**

Figure 23: Adults Receiving Primary Oral Healthcare, 2012-2016



Source: Health Informatics Centre, MoH

The Oral Health Programme has established 21 clinics (acronym KEPP) in 2013 which offer endodontic treatment. Identified dental officers were trained to undertake endodontics on anterior and posterior teeth using rotary instruments. In 2016, a total of 2,127 endodontic cases were seen and completed in these KEPPs **(Table 47)**.

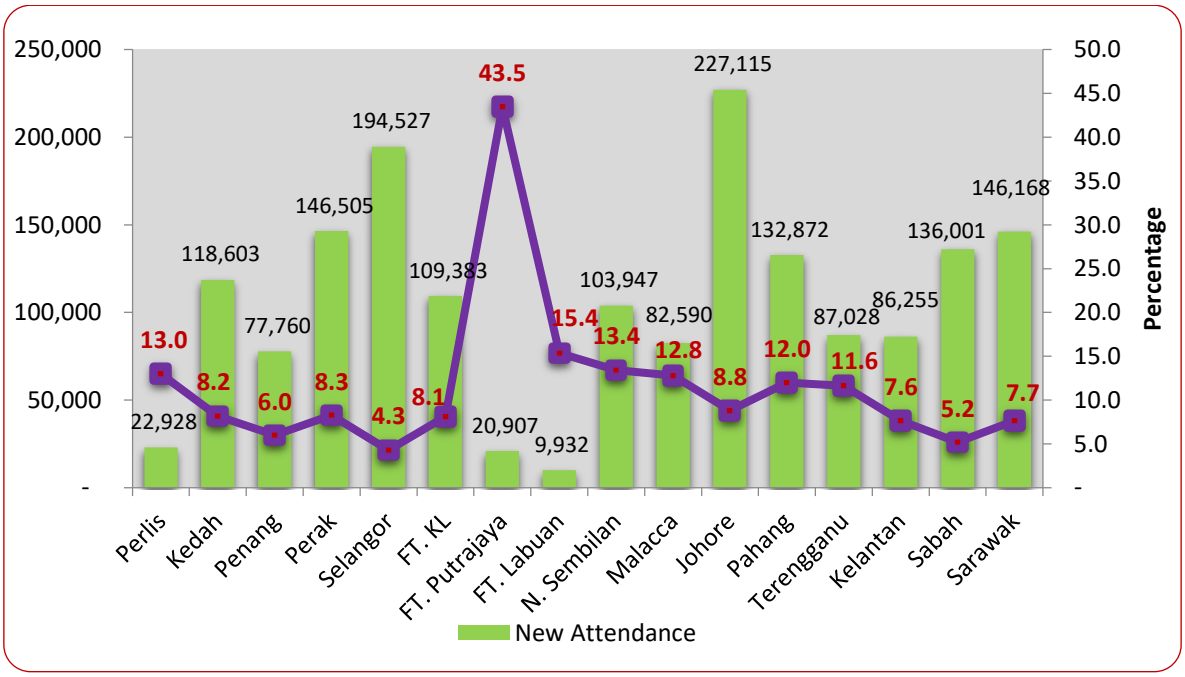
Table 47: Completed Endodontic Cases in KEPP, 2014-2016

Year	Number of Completed Endodontic Cases				Total
	Anterior	Premolar	Molar	Retreatment	
2014	582	278	403	16	1,279
2015	852	468	744	63	2,127
2016	899	543	1170	99	2,711

Source: Oral Health Programme, 2016

Overall, 7.7% of the adult population aged 18 - 59 years received primary oral healthcare in 2016. FT Putrajaya recorded the highest percentage while Selangor recorded the lowest **(Figure 24)**.

Figure 24: Adults Receiving Primary Oral Healthcare by State, 2016

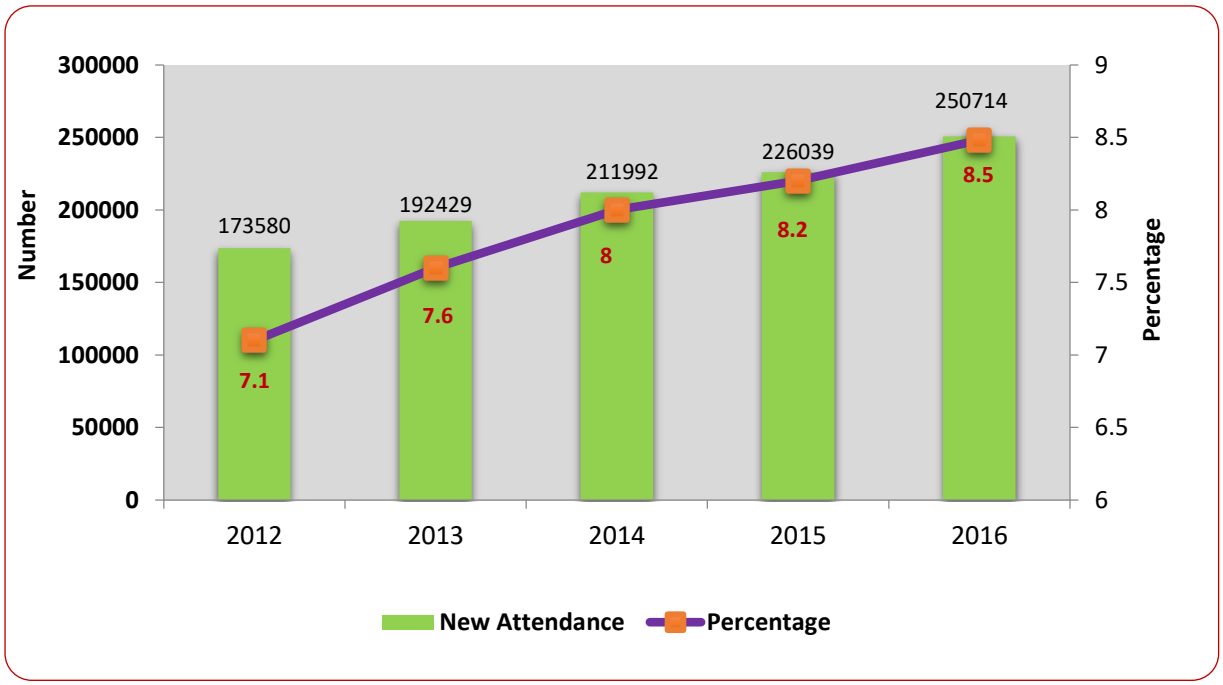


Source: Health Informatics Centre, MoH

ORAL HEALTHCARE FOR THE ELDERLY

In 2016, 8.5% (250,714) of the estimated elderly population received oral healthcare under the MoH **(Figure 25).** Of these, 19,165 were rendered dental care in 331 elderly institutions.

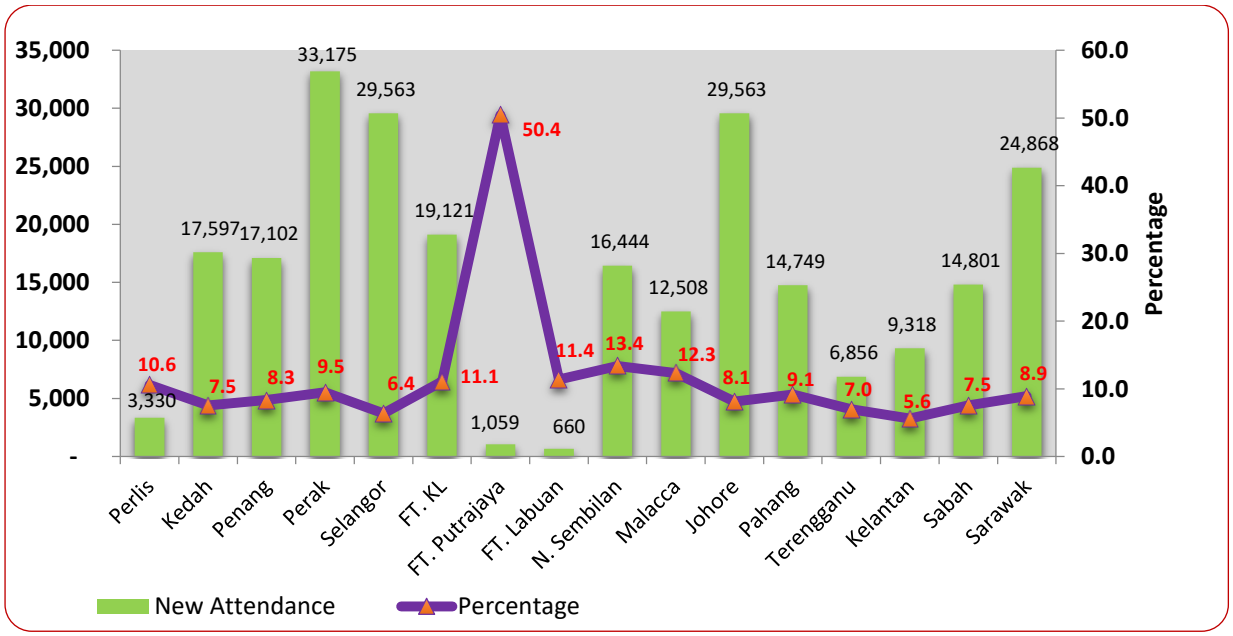
Figure 25: Elderly Population Receiving Primary Oral Healthcare, 2012-2016



Source: Health Informatics Centre, MoH 2016

The highest coverage of elderly was in FT Putrajaya (50.4%), followed by Negeri Sembilan (13.4%) and Melaka (12.3%) **(Figure 26)**.

Figure 26: Elderly Population Receiving Primary Oral Healthcare by State, 2016



Source: Health Informatics Centre, MoH 2016

Despite an increase in the elderly population utilising oral healthcare facilities, their oral health status is still far from satisfactory. Only 40.3% of 60-year-olds had 20 or more teeth **(Table 48)**. This is far from the targeted goal of 60% in the National Oral Health Plan 2011-2020.

Table 48: Oral Health Status of the Elderly, 2016

Age group (years)	Average no. of teeth present		Edentulous (%)		With 20 or more teeth (%)	
	2015	2016	2015	2016	2015	2016
60	15.7	15.8	8.2	7.8	40.0	40.3
65	13.8	14.0	11.6	11.1	30.1	31.1
75 and above	10.1	10.4	22.3	21.4	18.7	19.5

Source: Health Informatics Centre, MoH 2016

WORKLOAD OF DENTAL PROVIDERS, 2016

The workload of the dental providers was collected and kept in the Health Information Management System (HIMS)-Oral Health Subsystem which began in 1981. These data serve as the basis for monitoring performance and as input 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 year 2016 are as below **(Table 49)**.

Table 49: Workload of Dental Officers and Dental Therapist by Dental Procedure, 2016

Dental Procedure	Dental Officer	Dental Therapist	Total
Restoration	1,282,992	1,563,313	2,846,305
Scaling	384,608	636,973	1,021,581
Periodontal cases	616	-	616
Fissure sealant	20,424	455,500	475,924
Tooth extraction	1,381,042	412,902	1,793,944
Surgical extraction	7,269	-	7,269
Abscess Management	176,260	-	176,260
Endodontic	16,673	-	16,673
Crown & Bridges	840	-	840
Partial Denture	73,982	-	73,982
Full Denture	62,352	-	62,352
Total	**3,407,058**	**3,068,688**	**6,475,746**

Source: Health Informatics Centre, MoH 2016

SPECIALIST ORAL HEALTHCARE

DENTAL SPECIALTY DISCIPLINES

There are eight (8) clinical dental specialities and one (1) non-clinical dental specialty recognised in the MoH. Five (5) of the clinical specialties are hospital-based. In 2016, there 228 clinical dental specialists and 93 Dental Public Health Specialists in the MoH **(Table 50).**

Table 50: Number of Dental Specialists in MoH, 2012-2016

Year Discipline	2012	2013	2014	2015	2016
Clinical Dental Specialists					
Hospital-based					
Oral Surgery	48 (*3)	55(*3)	56(*4)	60(*3)	64(*1)
Paediatric Dentistry	29	33	35	39	38
Oral Medicine & Pathology	9	9	10	11	11
Special Needs Dentistry	2	2	3	3	4
Forensic Dentistry	1	1	1	1	1
Non-hospital-based					
Orthodontics	34 (*6)	46 (*4)	48(*3)	47(*1)	52(*1)
Periodontics	21	24	29	34	34
Restorative Dentistry	17	20	20	20	24
Total Number of Clinical Dental Specialists	**161 (*9)**	**190 (*7)**	**202**	**215(*4)**	**228(*3)**
Non- Clinical Dental Specialists					
Dental Public Health Specialist	122	119	121	109	93(*1)

Source: Facts That Figure, Oral Health Programme, MoH 2016 (Not inclusive of postgraduates undergoing specialty gazettement)
**Contract Dental Specialists*

Three (3) additional specialist services were established in five (5) facilities in 2016 **(Table 51).**

Table 51: New Specialty Services Established, 2016

Specialty	Hospital / Dental Facilities
Special Needs Dentistry	*Hosp. Raja Perempuan Zainab II Kota Bharu*
Orthodontics	*KP Taman Universiti, KP Manjung*
Periodontics	*KP Simpang Lima*

Source: MoH Dental Specialists Mapping 2016

Dental Specialist Meetings

Dental Specialist Meetings are organized annually for each discipline to discuss Annual Plans of Action, Achievements, Key Performance Indicators, National Indicator Approaches, Patient Safety Indicators and issues pertaining to each specialty. In 2016, ten (10) dental specialists meetings were held inclusive of a Combined Dental Specialists Meeting **(Table 52).**

Table 52: Dental Specialist Meetings, 2016

Specialty	Date	Place
Dental Public Health	24 – 26 Mar 2016	*Hotel Royal, Kuala Lumpur*
Oral Surgery	28 – 30 Mar 2016	*Hotel Premiere, Klang Selangor*
Forensic Dentistry	28 – 30 Mar 2016	*Hotel Premiere, Klang Selangor*
Paediatric Dentistry	27 – 29 April 2016	*Hotel Vivatel, Kuala Lumpur*
Periodontics	09 – 11 May 2016	*Hotel Premiere, Klang Selangor*
Orthodontics	15 – 17 May 2016	*Hotel Best Western I-City, Shah Alam Selangor*
Oral Pathology Oral Medicine	20 May 2016	*Program Kesihatan Pergigian, KKM*
Restorative Dentistry	01 - 03 June 2016	*Hotel Premiere, Klang Selangor*
Special Needs Dentistry	01 - 03 June 2016	*Hotel Premiere, Klang Selangor*
Combined Dental Specialist Meeting	16 – 18 Nov 2016	*Hotel Concorde, Shah Alam Selangor*

Image 5: Combined Dental Specialist Meeting Hotel Concorde, Shah Alam, Selangor, 16-18 November 2016

Monitoring of Specialist Oral Healthcare

The dental specialists' workload is reflected as number of patients seen in a year. There was an increase in workload for majority of specialties **(Table 53).**

Table 53: Workload per Dental Specialists by Discipline, 2012-2016

No.	Specialty	Workload				
		2012	2013	2014	2015	2016
1	Oral and Maxillofacial/ Oral Surgery	1:2,950	1:3,182	1: 3,843	1: 3,823	1: 3,954
2	Paediatric Dentistry	1:3,144	1:3,400	1: 2,676	1 : 2,427	1 : 2,730
3	Oral Pathology and Oral Medicine	1:816	1:828	1: 848	1: 744	1: 869
4	Orthodontics	1: 2,362	1:2,788	1: 3,689	1: 4,083	1: 4,055
5	Restorative Dentistry	1:1,495	1:1,376	1: 1,658	1 : 1,732	1 : 1,439
6	Periodontics	1:1,627	1:1,222	1: 1,368	1 : 1,312	1 : 1,491

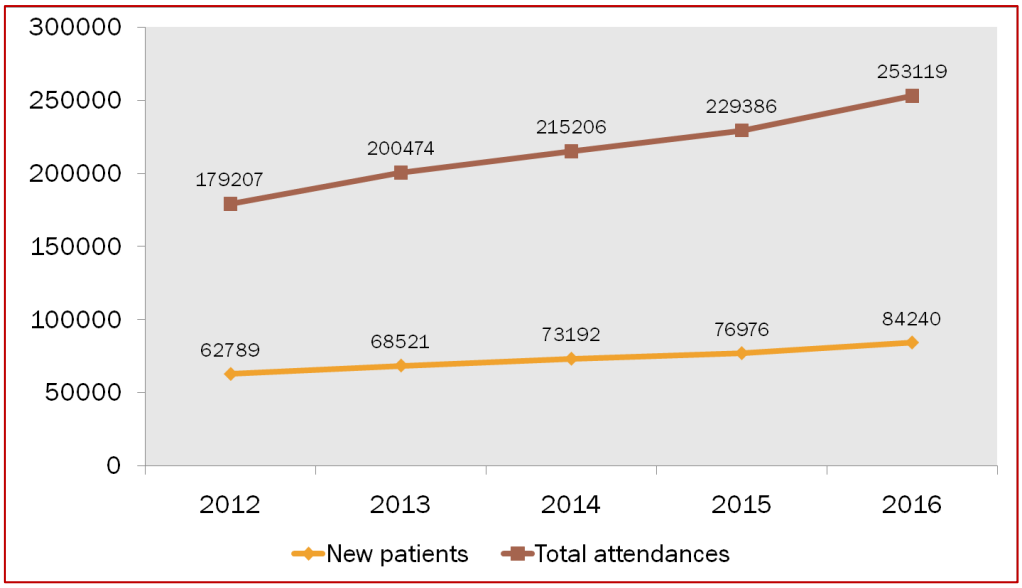
Source: Oral Health Programme, MoH 2016

HOSPITAL-BASED CLINICAL DENTAL SPECIALTIES

Oral and Maxillofacial / Oral Surgery

There was an increasing trend in new patients and total attendance over the last 5 years for Oral and Maxillofacial / Oral Surgery (2012 - 2016) **(Figure 27).**

Figure 27: Total Attendance and New Patients, Oral and Maxillofacial/Oral Surgery (2012 - 2016)



Source: Health Informatics Centre, MoH 2016

Of all oral surgeries performed in 2016, 90.9% (24,263) were minor surgical cases. Majority of the minor surgeries were pre-prosthetic and pre-orthodontic procedures, removal of impacted teeth, biopsies, excision or ablative surgeries and removal of retained or displaced roots. Major surgery cases accounted for 9.1% (2,423) which consisted of surgical removal of malignant lesions, primary or secondary facial reconstruction, cleft lip and palate repair, orthognathic surgery and distraction osteogenesis **(Table 54)**

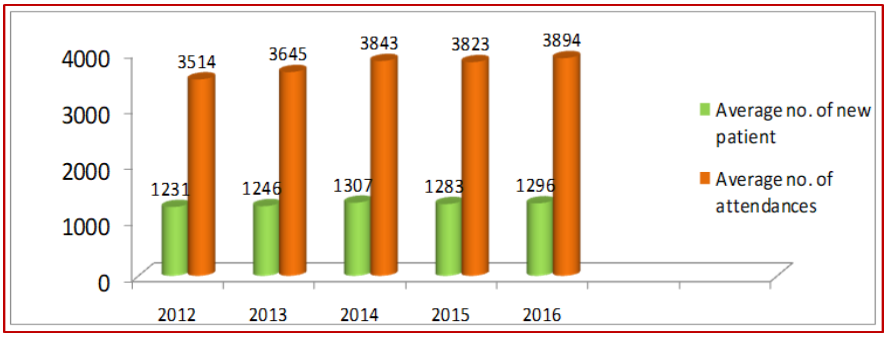
Table 54: Surgeries Performed by Oral Surgeons, 2015

Type of Cases	No.	%
Minor Surgery	24,263	90.9%
Major Surgery	2,423	9.1%

Source: Health Informatics Centre, MoH 2016

In 2016, the mean number of patients seen by an Oral Surgeon was 3,894, each patient making an average of three visits **(Figure 28).**

Figure 28: Mean Number of Patients Seen Per Oral Surgeon, 2012-2016

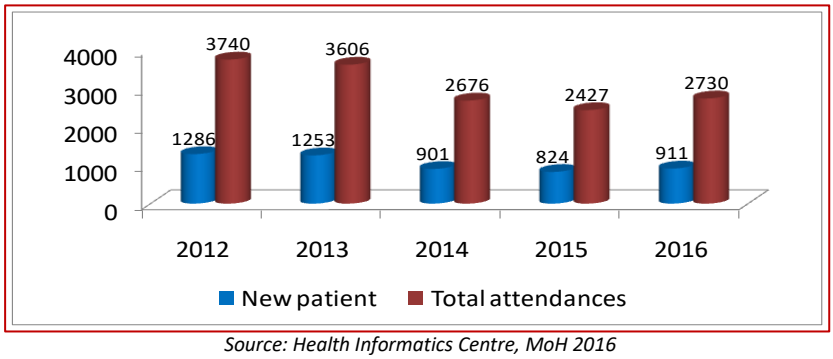


Source: Health Informatics Centre, MoH 2016

Paediatric Dental Specialty

Paediatric Dental Specialists attend to children below 17 years. There was an increase in new and total attendance in 2016 compared with 2015 **(Figure 29).**

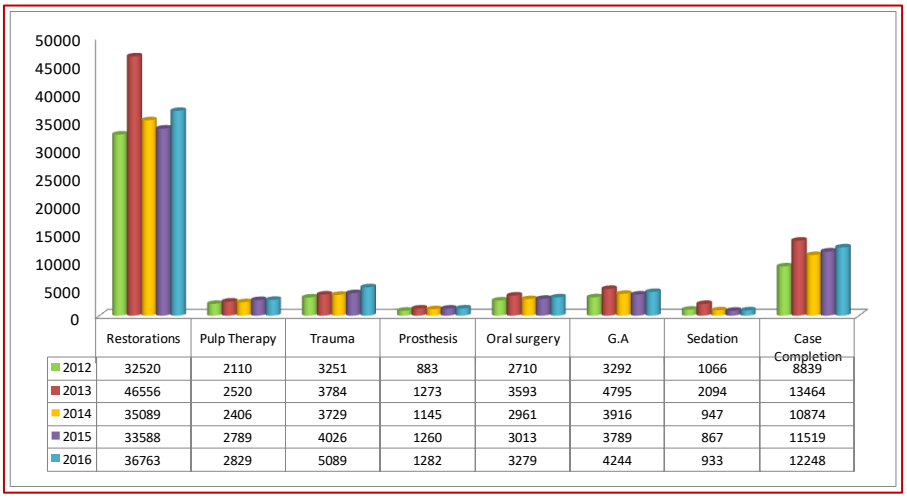
Figure 29: New Patients and Total Attendance for Paediatric Dental Specialty, 2012-2016



Source: Health Informatics Centre, MoH 2016

About 90 percent of the treatment rendered by Paediatric Dental Specialists in 2016 were restorations **(Figure 30),** some was done under general anaesthesia or sedation. Each patient made an average of 3 visits a year.

Figure 30: Treatment Rendered by Paediatric Dental Specialists, 2016

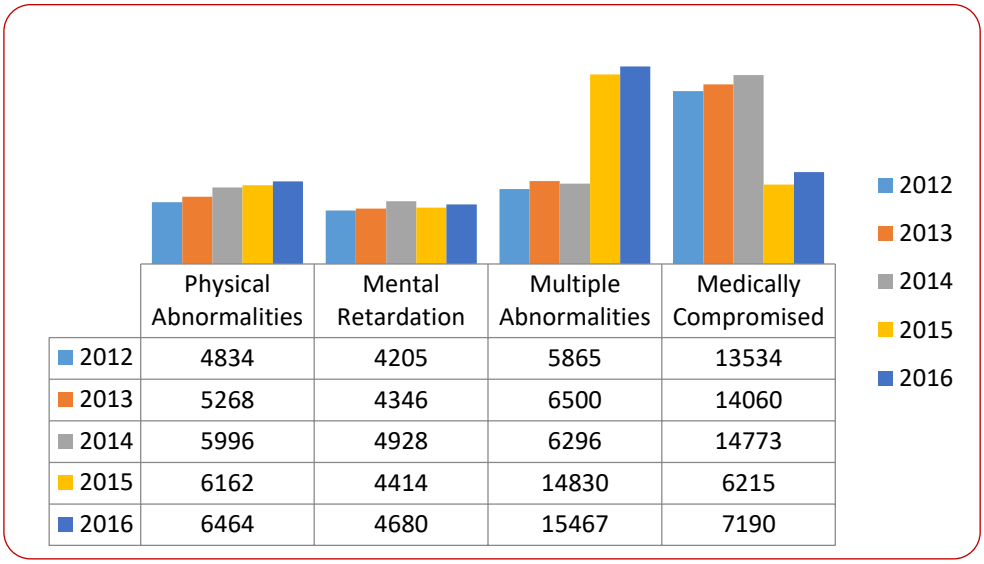


	Restorations	Pulp Therapy	Trauma	Prosthesis	Oral surgery	G.A	Sedation	Case Completion
2012	32520	2110	3251	883	2710	3292	1066	8839
2013	46556	2520	3784	1273	3593	4795	2094	13464
2014	35089	2406	3729	1145	2961	3916	947	10874
2015	33588	2789	4026	1260	3013	3789	867	11519
2016	36763	2829	5089	1282	3279	4244	933	12248

Source: Health Informatics Centre, MoH 2016

Paediatric Dental Specialists also manages children with special needs. These patients are categorised as those with physical abnormalities, mental retardation, multiple abnormalities and/or those who are medically-compromised. There was an overall increase in cases, especially children with multiple abnormalities and medically-compromised **(Figure 31).**

Figure 31: Dental Paediatric Patients Based on Conditions, 2012-2016



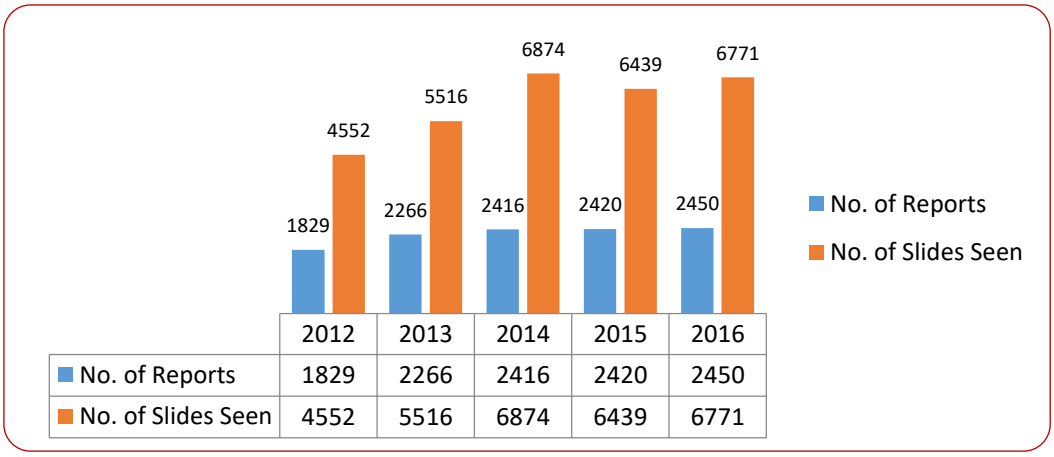
	Physical Abnormalities	Mental Retardation	Multiple Abnormalities	Medically Compromised
2012	4834	4205	5865	13534
2013	5268	4346	6500	14060
2014	5996	4928	6296	14773
2015	6162	4414	14830	6215
2016	6464	4680	15467	7190

Source: Health Informatics Centre, MoH 2016

Oral Medicine and Oral Pathology

In 2016, the average cases for Oral Medicine and Oral Pathology (OMOP) specialists had increased to 869 per specialist as compared to 744 in the previous year. There was an increase in the number of reports issued (1.2%) and the number of slides (5.2%) seen by the OPOM specialists in 2016 as compared to 2015 **(Figure 32).**

Figure 32: Reports Issued and Slides Seen Per OPOM Specialist (2012-2016)



	2012	2013	2014	2015	2016
No. of Reports	1829	2266	2416	2420	2450
No. of Slides Seen	4552	5516	6874	6439	6771

Source: Health Informatics Centre, MoH 2016

Special Needs Dentistry

Special Needs Dentistry (SND) services began in early 2011. Currently, there are five SND Specialists in Ministry of Health, based in Kuala Lumpur Hospital (HKL), Kajang Hospital, Seberang Jaya Hospital, Queen Elizabeth Hospital, Kota Kinabalu, Sabah and Hospital RPZ II, Kota Bharu Kelantan. The SND unit in Rehabilitative Hospital, Cheras (*Hospital Rehabilitasi Cheras)* was operated on visiting basis. MoH is expecting one SND Specialist in 2018 and a few more SND Specialists in the following years.

Forensic Odontology

The Forensic Odontology Unit in the MoH was established in Hospital Kuala Lumpur with one (1) specialist working closely with the General Forensic Department in Kuala Lumpur Hospital. In 2016, this unit held a Forensic Odontology Course for oral health personnel of the MoH with the objective of forming local Disaster Victim Identification (DVI) Teams in the MoH.

The Central DVI team (based in HKL) was involved in a few major disaster identification mission, such as:

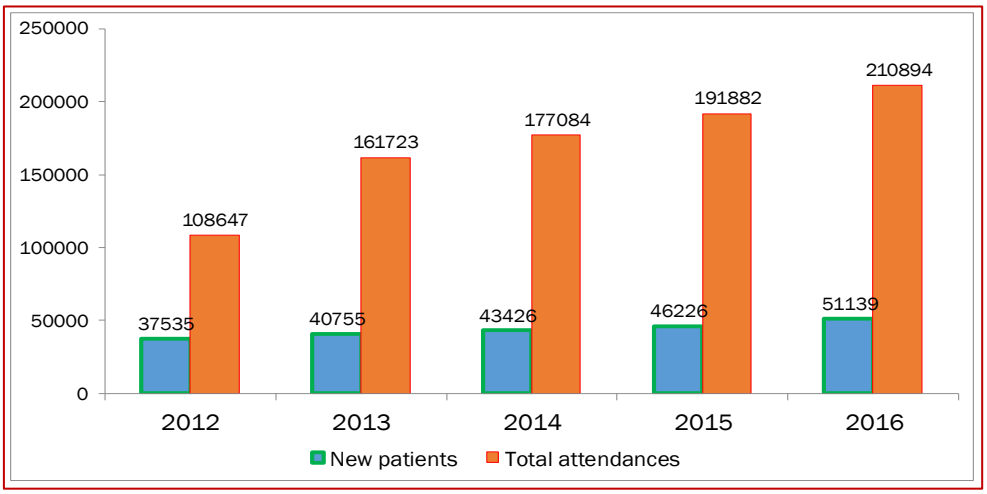
- Sarawak helicopter crash on 5 May 2016. The identification process has been carried out in Kuching for six days, from 6-11 May 2016
- Ops Reunites together with ATM, to identify fallen Australian soldiers and family served in Malaysia. The identification process was done in Kem Terendak Melaka from 16-20 May 2016.

NON HOSPITAL-BASED CLINICAL DENTAL SPECIALTIES

Orthodontics

The demand for orthodontics treatment has been on the rise over the last few years. Total attendance has increased by 9.9% in 2016 as compared with 2015.

Figure 33: New Patients and Total Attendance for Orthodontics, 2012-2016



Source: Health Informatics Centre, MoH 2016

Over the years there has been a gradual increase of cases on the waiting lists (Consultation II). Concurrently, there has been an increase in completion of active treatment cases and patients issued with removable and fixed appliances. In 2016, a total of 9,666 patients were treated with fixed appliances and 7,159 patients with removable appliances **(Table 55).**

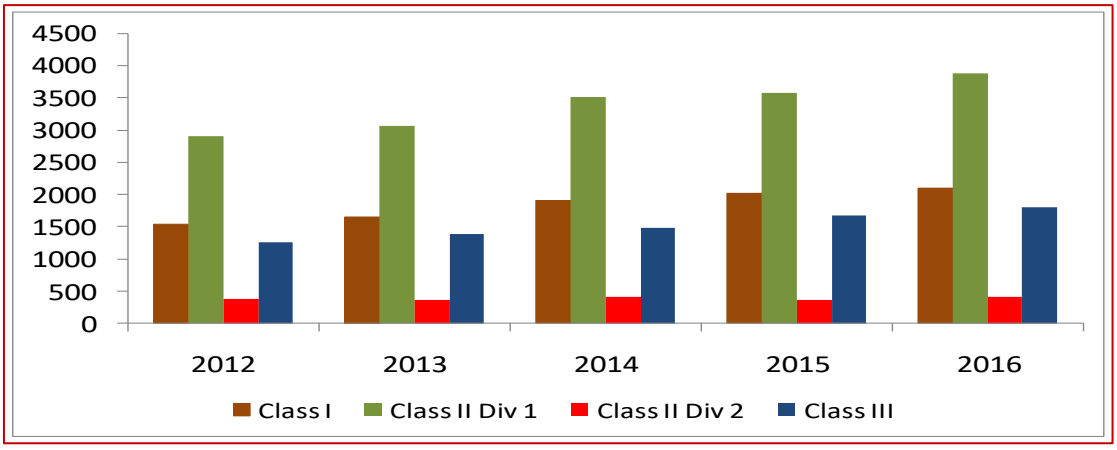
Table 55: Items of Care for Orthodontic Cases, 2012-2016

Items of Care		2012	2013	2014	2015	2016
Consultation	I	11,542	12,117	12,130	12,315	13,643
	II	6,079	6,474	7,306	7,643	8,206
Removable Appliances	No. of Patients	5,373	5,669	6,069	6,495	7,159
Fixed Appliances	No. of Patients	6,733	7,471	8,291	1,014	9,666
Number of active treatment cases		16,879	19,380	22,340	24,528	31,389
Active treatment completed		2,951	3,314	3,623	3,971	4,665

Source: Health Informatics Centre, MoH 2016

Majority of cases seen was malocclusion Class II Div I. There was an increasing trend in Class II Div 1, Class 1 and Class III cases as compared to the previous year **(Figure 34).**

Figure 34: Types of Malocclusion Seen, 2012-2016

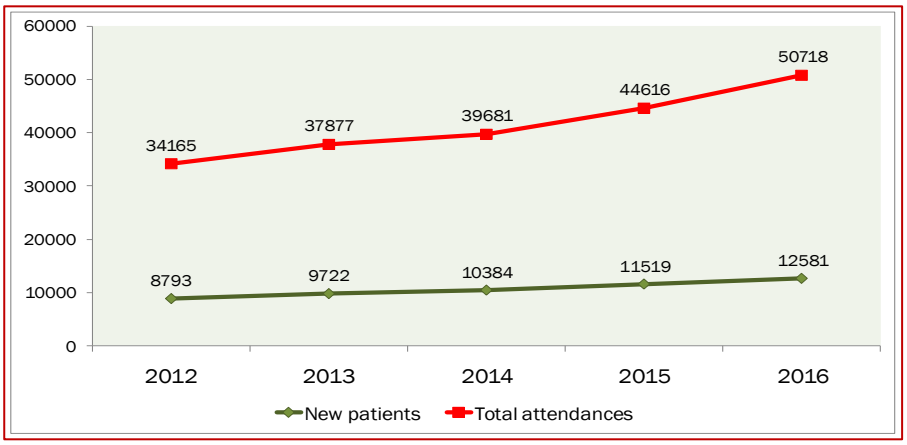


Source: Health Informatics Centre, MoH 2016

Periodontics

The trend for new patients and total attendance per Periodontist has increased in the last 5 years **(Figure 35).**

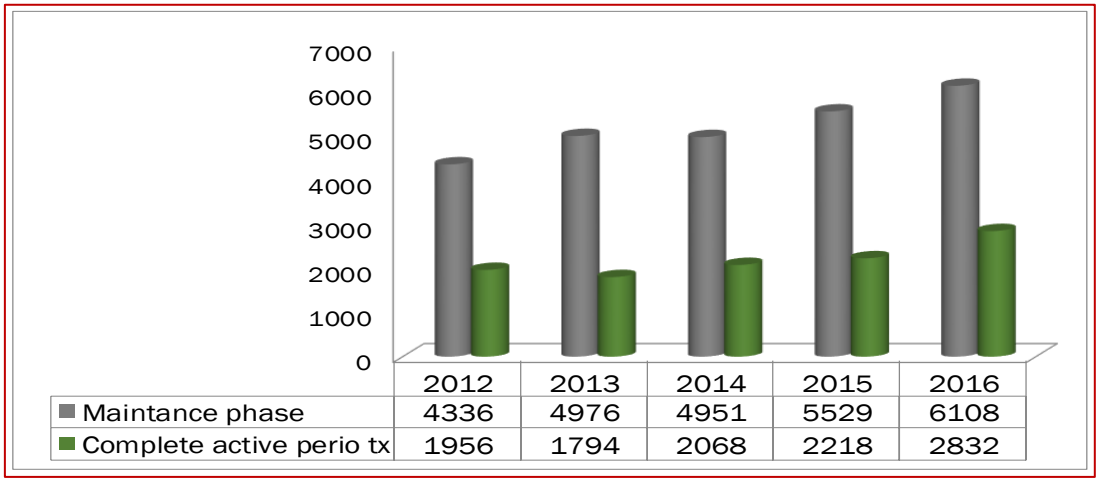
Figure 35: New Patients and Total Attendance for Periodontics Specialist Care, 2012-2016



Source: Health Informatics Centre, MoH 2016

The number of Periodontics patients in maintenance phase was increased in 2016 as compared to 2015 **(Figure 36).**

Figure 36: Cases in Maintenance Phase and Completed Cases, 2012-2016

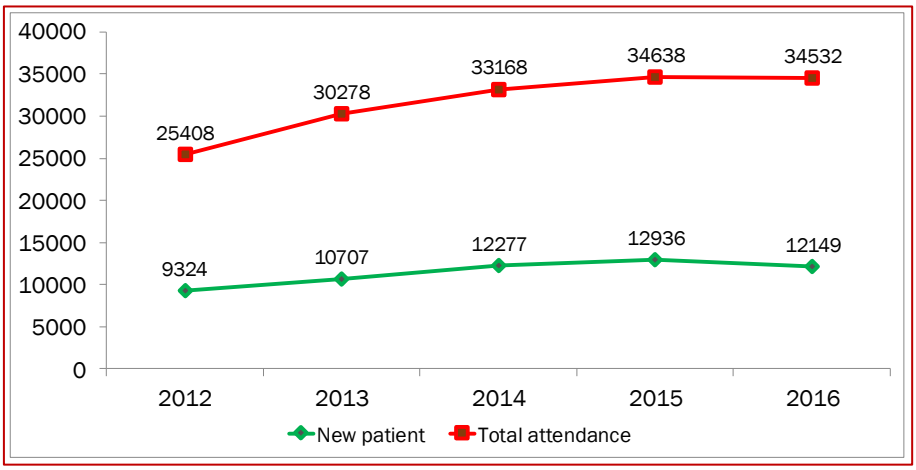


Source: Health Informatics Centre, MoH 2016

Restorative Dentistry

New patients and total attendance in Restorative Specialty Clinics was reduced in 2016 compared to 2015 **(Figure 37).** Reason for reduction of referral cases to restorative unit was the implementation of referral protocol using RDITN (Restorative Dentistry Index of Treatment Need) since November 2015. The complexity of endodontic and prosthodontic cases were segregated and only complex cases were referred to the specialist.

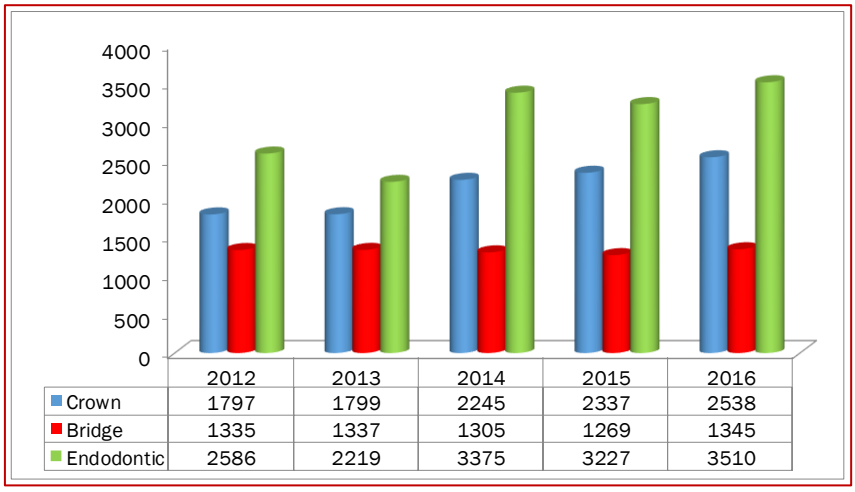
Figure 37: New Patients and Total Attendance for Restorative Dental Specialists, 2012 -2016



Source: Health Informatics Centre, MoH 2016

There was an increase in endodontic, crown and bridge cases in 2016. Among these, endodontic cases contributed the highest number of cases.

Figure 38: Type of Restorative Cases, 2012-2016



Source: Health Informatics Centre, MoH 2016

NON CLINICAL DENTAL SPECIALTY: DENTAL PUBLIC HEALTH DENTISTRY

In the MoH, the Dental Public Health Specialists (DPHS) take on the administration of the whole MoH programme, from management of its activities, issues of human resource and funding, regulation and enforcement, clinical affairs, research and epidemiology, inter sectoral collaboration and challenges that face the dental profession, within and outside the country. DPHS also play a pivotal role in decisions made through the Malaysian Dental Council and matters pertaining to professional associations. Hence, this whole Annual Report covers almost all activities undertaken under the role and function of the DPHS.

Oral Health Practice & Development Division

Accreditation and Globalisation
Oral Health Professional & Auxiliary Practice
Legislation and Enforcement
Quality Improvement Initiatives

ACCREDITATION AND GLOBALISATION

ACCREDITATION OF DENTAL PROGRAMMES

Guidelines for the Accreditation of Dental Degree Programmes

Draft of the revised guidelines for the Accreditation of Undergraduate Dental Degree Educational Programmes has been prepared by the Working Committee led by Professor Emeritus Dato' Dr Wan Mohamad Nasir bin Wan Othman.

Starting early 2016, in accordance with the Malaysian Qualification Agency (MQA) Act 2007, the MQA Council has directed that accreditation of programmes which are not under the jurisdiction of any professional body (which includes Dental Auxiliary programmes) will be managed by MQA. Hence, the guidelines for Dental Auxiliary Programmes were provided to MQA for revision.

Establishment of Rating System

The draft on rating system for each of the seven (7) 'Areas of Quality Assurance' required for accreditation of undergraduate dental degree programme has been developed by a working committee led by Professor Dr Mohamed Ibrahim bin Abu Hassan. The draft is expected to be completed by next year and will be piloted.

Dental Moratorium Review

A workshop was conducted at the Royale Bintang Hotel, Seremban Negeri Sembilan on 6-8th November 2016. Six working groups were formed to review the status of actions taken as outlined in the Dental Moratorium paper. At the end of the workshop, a draft report based on the groups' findings was prepared. The report of the proceeding will be presented at the Joint Technical Accreditation Committee meeting.

Accreditation Visits to Institutions of Higher Education Conducting Dental Programmes

- **Provisional Accreditation for approval of a new dental programme**

The accreditation process for Institut Latihan Kesihatan Angkatan Tentera (INSAN) Dental Surgery Assistant (DSA) Diploma Programme and MAHSA DSA Diploma Programme was provided to MQA. The final draft of the Standards and Criteria for Accreditation of DSA Diploma Programme has been developed and sent to MQA Council for endorsement.

• **Second Accreditation Monitoring Visit**

The Second Accreditation Monitoring Visit for Lincoln University College (LUC) Doctor of Dental Surgery programme was conducted on the 26-27 January (at Kelana Jaya and Mayang campus) and 4 February 2016 (at Kota Bharu Learning Centre). LUC was instructed to take corrective actions on the areas of concern raised in the panel's report.

• **Full Accreditation**

Full Accreditation evaluation visit for SEGi University Bachelor of Dental Surgery programme was conducted on 7-8 March 2016. The programme was given Full Accreditation status for a period of 3 years starting from 2 June 2016 – 1 June 2019.

• **Additional/Follow up monitoring visit**

Follow up evaluation visit to AIMST University was conducted on the 5 April 2016 to evaluate the remedial actions taken by AIMST University on the areas of concern raised by the panel. The Full Accreditation period for AIMST Bachelor of Dental Surgery programme was extended for 3 years from 12 February 2016 – 11 February 2019.

• **Evaluation visit for Increase Student Intake**

Application for increase of student intake from 75 to 100 students per year was received from MAHSA University with additional 25 students specifically international students. An evaluation visit by the panel of assessors was conducted on 2 December 2016. Based on the panel's finding, MDC on the 113th Meeting on 22 February 2016 rejected the application.

Joint Technical Accreditation Committee (JTAC) Meetings

In 2016, a total of five meetings were held as shown in the table below:

JTAC meeting	Date
1/2016	11 February 2016
2/2016	13 April 2016
3/2016	23 June 2016
4/2016	5 August 2016
5&6/2016	29 November 2016

Reports/Documents for Presentation at the Joint Technical Accreditation Committee (JTAC) Meeting

In 2016, a total of 6 panel assessment reports were presented at the JTAC meetings for opinion and recommendations from JTAC members. The details are as shown below:

JTAC meeting	No. of Reports Presented
1/2016	2 – MAHSA (increase intake), LUC (2nd surveillance visit)
2/2016	2 – SEGi (Full Accreditation), AIMST (Follow-up visit)
3/2016	1 – IMU (evaluation on corrective action by IMU)
4/2016	1 – LUC (evaluation on corrective action by LUC)

The Joint Technical Accreditation Committee Recommendations to the Malaysian Dental Council

In 2016, a total of 6 proposal papers based on JTAC recommendations were made and prepared to be presented at MDC meetings for approval as shown below:

MDC meeting	No. of Papers submitted
113th meeting	3 (MAHSA, LUC, MCE)
114th meeting	2 (AIMST, SEGi)
115th meeting	1 (LUC – corrective action)

Submissions of Decisions on Accreditation by the Malaysian Dental Council to the Malaysian Qualifications Agency

In 2016, a total of 5 decisions on Higher Education Provider (HEP) accreditation applications made by the MDC were submitted to the MQA as shown below:

HEP	Date of letter to MQA
MAHSA (increase intake)	2 March 2016
LUC (2nd Surveillance)	2 March 2016
SEGi (Full Accreditation)	15 June 2016
AIMST (Reaccreditation)	10 June 2016
LUC (corrective action)	16 August 2016

STUDENT ATTACHMENTS AT MoH DENTAL FACILITIES

Memorandum of Agreement with Higher Education Provider on the use of MoH Facilities for Students Field Training

In 2016, five MoAs (renewal) were signed between International Medical University (IMU), AIMST, *Universiti Islam Antarabangsa* (UIAM), Melaka-Manipal Medical College (MMMC) and *Universiti Sains Islam Malaysia* (USIM) thus allowing them to continue using MoH dental facilities for the next 5 years for the training of their undergraduate dental degree students.

Placements of Undergraduate Students for Field Training

In 2016, (4) applications received from local institutions of higher education for posting of their undergraduate students at MoH dental facilities were processed and approved; *Universiti Teknologi*

MARA (UiTM), SEGi University, Universiti Kebangsaan Malaysia (UKM) and *Universiti Islam Antarabangsa Malaysia* (UIAM).

Elective Postings by Undergraduate Students from Foreign Universities

In 2016, a total of 45 applications received from foreign university students for elective posting at MoH dental facilities were processed.

Attachments of Postgraduate Dental Students for Training at MoH Facilities

In 2016, a total of (4) applications received from Universiti Malaya (UM), *Universiti Sains Malaysia* (USM) and UKM for postgraduate posting were processed.

GLOBALISATION AND LIBERALISATION OF HEALTHCARE SERVICES

ASEAN Joint Coordinating Committee on Dental Practitioners (AJCCD)

3 AJCCD Meetings were held in 2016:

- 16th AJCCD Meeting – Bangkok, Thailand from 27-29 January 2016
- 17th AJCCD Meeting – Vientiane Lao PDR on 18 May 2016
- 18th AJCCD Meeting – Ho Chi Minh City, Viet Nam on 26-27 September 2016

Technical input were given on the following:

- AEC 2025 Strategic Action Plan (AJCCD-related parts)
- AJCCD Work Plan 2016 – 2025
- ASEAN Minimum Common Competency Standards for Dental Undergraduate Education
- ASEAN Dental Practice Standards
- Mechanism to enhance mobility of ASEAN dentists
- Updating of AJCCD database

Health Tourism

Technical input has been provided during meetings held by Malaysian Society for Quality Healthcare (MSQH) for the development of Dental Clinics Accreditation Standards and the Operational Policies for implementation of dental clinic accreditation programme.

ORAL HEALTH PROFESSIONAL & AUXILIARY PRACTICE

The oral health workforce in the Ministry of Health consists of dental officers (including dental specialists), dental auxiliaries (dental therapists, dental technologist and dental surgery assistant), training staff (tutors) and support staff (attendants, administrative staff and drivers).

COMPOSITION OF THE ORAL HEALTH WORKFORCE

There were 16,667 posts for oral health personnel in the Ministry of Health in 2016, an increase of 2.8% from 16,218 in 2015. Out of 16,667 posts, 4,177 (25.1%) were dental officers' posts, of which 95.0% were filled **(Table 56).**

Table 56: Oral Health Personnel in MoH, 2014 – 2016

CATEGORY	2014			2015			2016		
	Post	Filled	% vac	Post	Filled	% vac	Post	Filled	% vac
Dental Officer	3,692	3,274	11.3	3,692	3,492	5.4	4177	3969	4.97
Dental Therapist	2,972	2,655	10.6	2,972	2,716	8.58	2,951	2,774	6.0
Dental Nurse (Tutor)	41	12	70.7	43	10	76.7	38	8	78.9
Dental Technologist	1003	928	7.47	1,003	945	5.68	1,003	924	7.87
Dental Technologist (Tutor)	21	5	76.2	19	4	78.9	18	3	83.3
Dental Surgery Assistant	4,024	3,581	10.9	3,978	3,731	6.0	3,978	3,761	5.38
Others	4,493	4,162	7.4	4,511	4,190	7.0	4,502	4,005	11.0
TOTAL	**16,246**	**14,617**	**10.0**	**16,218**	**15,088**	**6.96**	**16,667**	**15,444**	**7.33**

Source: Oral Health Programme, MoH 2016

vac= vacant

Distribution of Dental Officers and Dental Specialists

Starting 2012, more officers have been posted to Sabah and Sarawak to address the state's needs. However, of the 244 posts allocated for clinical dental specialists, only 202 (82.8%) were filled. Posts for clinical dental specialists are quite flexible as posts are often 'borrowed' between disciplines to cater for new postgraduates re-joining the workforce **(Table 57).**

Table 57: Dental Officers and Clinical Dental Specialists in MoH, 2016

State	Dental Officers			Clinical Dental Specialists			Dental Public Health Specialists		
	Post	Filled	% vac	Post	Filled	% vac	Post	Filled	% vac
Peninsular Malaysia	3216	3066	4.66	211	204	3.31	88	85	3.41
Sabah	281	253	9.96	13	14	0	4	5	0
FT Labuan	13	12	7.69	0	0	0	0	0	0
Sarawak	329	316	3.95	20	11	45.0	2	3	0
Total	**3839**	**3647**	**5.00**	**244**	**229**	**6.14**	**94**	**93**	**1.06**

Source: Oral Health Programme, MoH 2016

Vac= vacant

New Posts Approved

A total of 485 new dental officers' post was created in year 2016 to enable new dental graduates to undergo Compulsory Service **(Table 58).** Restructuring of the Oral Health Programme was approved effective from 1 April 2016 with an additional third division and one (1) grade JUSA C post to reflect the function of the programme.

Table 58: New Posts Approved, 2016

CATEGORY OF PERSONNEL	NO. OF POST APPROVED
Dental Specialist	
• Grade UG41/44/48/52/54	0
Dental Officer	
• Grade UG41/44/48/52/54	485
ICT Officers *(Pegawai Teknologi Maklumat)*	
• Grade F44	0
Dental Therapist	
• Grade U29/32 • Grade U32 • Grade U36 • Grade U38 • Grade U40	0 0 0 0 0
Dental Technologist	
• Grade U29/U32 • Grade U32 • Grade U36 • Grade U40	- 48 (traded off) 0 0 0
Dental Surgery Assistant	
• Grade U17/U22 • Grade U22 • Grade U24	0 0 0
Support Staff	
• Assistant Executive Officer (*Penolong Pegawai Tadbir)*	0
• Administrative Assistant *(Pembantu Tadbir N17/N22)*	0
• Attendants (*Pembantu Perawatan Kesihatan Gred U3/U12)*	0
• Drivers *(Pemandu Kenderaan Bermotor R3/R6)*	0
TOTAL	437

Source: Oral Health Programme, MoH 2016

PROMOTION EXERCISES

In 2016, a total of 325 dental officers from various grades were promoted; 25 officers were promoted to grade UG54 and 56 officers to grade UG52 **(Table 59).**

Table 59: Promotion Exercise for Clinical Specialist and Dental Officer, 2016

Category	Grade										Total
	Khas A	Khas B	Khas C (KUP)	JUSA A	JUSA B	JUSA C	UG54	UG52	UG48	UG44	
Clinical Specialist	-	1	3	-	1	2	-	-	1	-	8
Dental officer	-	-	-	-	-	-	25	56	94	142	317
Total	**-**	**1**	**3**	**-**	**1**	**2**	**25**	**56**	**95**	**142**	**325**

Source: Oral Health Programme, MoH 2016

A total of 18 dental auxiliaries from various categories was also promoted **(Table 60).**

Table 60: Promotion Exercises for Dental Auxiliaries, 2016

Category	Grade								Total
	U40	U38	U36	U32	KUP U32	U29	U24	U22	
Dental Therapist	0	1	22	35	37	0	0	0	95
Dental Technologist	1	0	9	14	15	0	0	0	39
Dental Surgery Assistant	0	0	0	0	0	0	0	14	14
Total	**1**	**1**	**31**	**49**	**52**	**0**	**0**	**14**	**148**

Source: Oral Health Programme, MoH 2016

DENTAL SPECIALTIES IN THE MINISTRY OF HEALTH

There are nine dental specialty disciplines recognised under the Oral Health Programme. These are Oral Surgery, Orthodontics, Periodontology, Paediatric Dentistry, Oral Pathology & Oral Medicine, Restorative Dentistry, Special Needs Dentistry, Forensic Dentistry and Dental Public Health.

Number of Dental Specialists

The number of dental specialists in MoH reduced from 324 in 2015 to 322 in 2016 due to attrition. Among these were 93 Dental Public Health Specialists in MoH in 2016 **(Table 61).** In 2016, 32 dental officers with various post graduate qualifications reported for duty and were posted according to the need for specialist service as mapped.

Table 61: Number of Dental Specialists in MoH, 2016

Discipline	Oral Surgery	Orthodontic	Periodontic	Paediatric Dentistry	Oral Pathology & Oral Medicine	Restorative Dentistry	Special Needs Dentistry	Forensic Odontology	Dental Public Health	Total
2010	45	32	19	25	8	14	0	0	129	**272**
2011	45	25	20	27	9	16	0	0	118	**260**
2012	48	34	21	29	9	17	2	1	116	**276**
2013	54	38	24	33	9	19	2	1	111	**291**
2014	56	48	29	35	10	20	3	1	114	**302**
2015	60	47	34	39	11	20	3	1	109	**324**
2016	64	52	34	39	11	24	4	1	93	**322**

Source: Oral Health Programme, MoH 2016
(Excluded Specialist under Gazzetment)

NETT GAIN/LOSS OF DENTAL OFFICERS

In 2016, a total of 880 new dental officers joined the MoH, while 270 left the service for various reasons, with a nett gain of 610 in the MoH. There was a steady nett gain of dental officers from 2005 to 2014, however a decrease in nett gain of dental officers was recorded in 2015 as the compulsory service was further reduced to 1 year **(Table 62).**

Table 62: Nett Gain/Loss of Dental Officers in MoH, 2005-2016

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Joined MoH	145	179	232	215	222	297	415	514	693	604	504	880
Left MoH	**56**	**78**	**107**	**84**	**81**	**104**	**105**	**96**	**129**	**219**	**281**	**270**
Retired (Compulsory)	7	10	20	9	2	10	13	3	1	16	12	7
Retired (Optional)	9	5	2	0	2	5	2	3	5	4	9	9
Resigned	32	48	73	54	54	72	82	89	122	198	260	252
Released with Permission	6	14	10	20	23	16	7	0	0	0	0	0
Other Reasons	2	1	2	1	0	1	1	1	1	1	0	2
Nett Gain/Loss	**89**	**101**	**125**	**131**	**141**	**193**	**310**	**418**	**564**	**385**	**223**	**610**

Source: Oral Health Programme, MoH 2016

DENTAL OFFICERS ON CONTRACT WITH THE MINISTRY

Generally, there has been a declining trend of contract officers in MoH with the revised policy for employment since 2012 **(Table 63).**

Table 63: Recruitment of Contract Dental Officers in MoH, 2010 - 2016

YEAR	MALAYSIANS			NON - CITIZENS					
	Retiree			Non-Spouse			Spouse		
	Posts	Filled	% Filled	Posts	Filled	% Filled	Posts	Filled	% Filled
2010	80	39	48.7	80	43	53.7	20	15	75
2011	80	37	46.2	80	35	43.7	20	12	60
2012	80	36	45.0	80	24	30.0	20	10	50
2013	80	15	18.7	80	2	2.5	20	10	50
2014	80	14	17.5	80	1	1.3	20	11	55
2015	80	17	21.2	80	1	1.2	20	14	70
2016	80	11	13.7	80	0	0.0	20	9	45

Source: Oral Health Programme, MoH 2016

Human Resource Activity

Activities related to career advancements and welfare of dental professionals and auxiliaries in 2016 were as follows:

1. Restructuring of the Oral Health Programme organization approved effective from 1 April 2016 with the addition of third division and one (1) grade JUSA C post to reflect the function of the programme.
2. Implementation of Service Circular 1/ 2016 effective from 1 April 2016;
   - Dental Surgery Assistant scheme upgraded to U19/U24/U26/U28
   - Dental Nurse nomenclature changed to Dental Therapist
   - New scheme code UG for dental officer
3. A total of 485 new dental officers' post created in year 2016 to enable new dental graduates to undergo Compulsory Service.
4. 32 dental officers with various post graduate qualifications reported for duty and were posted according to the need as stated in the specialist service as mapped.
5. Claims for *'Bayaran Insentif Tugas Kewangan'* approved and paid to the qualified Dental Surgery Assistant.
6. Claims for *'Bayaran Insentif Merawat Pesakit Jiwa, Tibi dan Kusta'* approved and were paid to the qualified Dental Surgery Assistants effective from 1 May 2016.
7. System e-Dentist was established to enable new dental officers to choose their posting on-line. The system was open for the first time on 19 December 2016 for the intake of 526 newly appointed contract dental officers.
8. 4 out of 11 dental officer cadre post were filled up with full time dental officers to treat inmates.
9. A total of 229 *'Pekerja Sambilan Harian'* (PSH) was approved for Oral Health Programme to address the shortage of Dental Surgery Assistants nationwide.

LEGISLATION AND ENFORCEMENT

The Legislation and Enforcement Unit has the responsibility of all activities pertaining to legislation, enforcement, safety and health. Its main functions are:

LEGISLATION

- drafting laws and regulations pertaining to the practice of dentistry and matters relating to the practice of dentistry;
- giving input relating to the effect of other laws on the practice of dentistry;
- drafting and reviewing guidelines for the use of dental practitioners;

ENFORCEMENT

- ensuring compliance to Malaysian Dental Council guidelines in private dental clinics;
- facilitating registration and licensing of private healthcare facilities under the Private Healthcare Facilities and Services Act 1998 (Act 586);
- verifying applications and recommending private dental clinics for registration under the Private Healthcare Facilities and Services Act (Act 586) together with the Control of Medical Practice Unit;
- ensuring that the post-registration inspection of private dental clinics is carried out;
- ensuring that the provisions of the various Acts under the Ministry of Health Malaysia are adhered to by all dental practitioners and in all dental clinics;
- carrying out enforcement activities under the Private Healthcare Facilities and Services Act 1998 (Act 586);
- carrying out investigations and others activities as required by Malaysian Dental Council under the Dental Act 1971;
- investigating into complaints against private dental clinics;
- co-ordinating the enforcement activities in the various states

SAFETY AND HEALTH

- co-ordinating the Health and Safety audits in the Ministry of Health Malaysia dental clinics;
- monitoring the achievement of the Patient Safety Goals in Ministry of Health Malaysia facilities.

REVIEW OF THE DENTAL ACT 1971

Dental Bill

The amendments to the Dental Act 1971 were completed and presented to the Hon. Minister of Health in 2012. The Dental Bill was sent to the Legal Advisor's office in January 2013 and to the Attorney General's Chambers for vetting in November 2013. In 2014 there were 3 discussions with the legal advisors office regarding the Dental Bill and 1 with the Attorney General's office, and in 2015 there were 2 discussions with the legal advisors office and 3 with the Attorney General's office. In 2016 there were 8 discussions with the Attorney General's office and the Bill was expected to go to Parliament in 2017

Dental Regulations

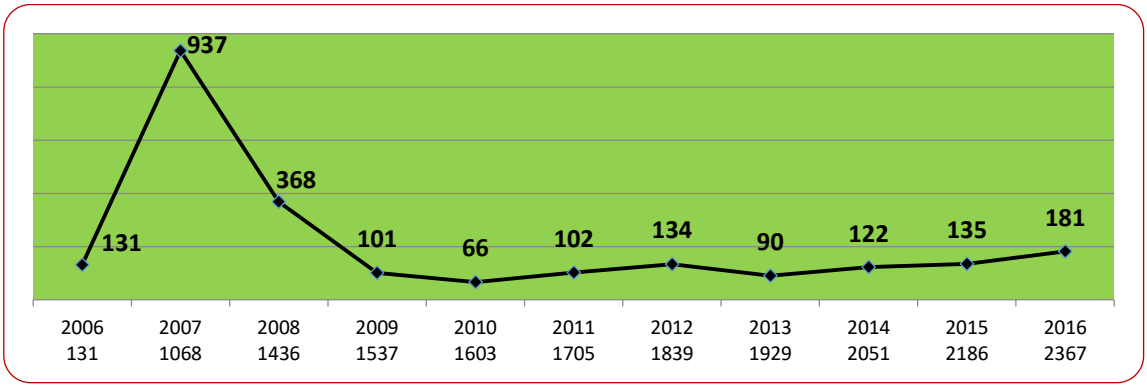
The first meeting to draft of the new Dental Regulations was held on 11 November 2013 and the draft was completed on 30 June 2014. The Regulations will be completed for approval of the Hon. Minister of Health after approval of the Dental Bill by Parliament.

ENFORCEMENT ACTIVITIES

Registration of Dental Clinics

The registration of private dental clinics began on 1 May 2006, in which year 809 clinics applied for registration and 131 (16.2%) of the applications were approved.
By the year 2009 all clinics which had submitted complete applications had been registered, and this brought the total number of registered private dental clinics to 1,537. Since then the number of registered clinics has been steadily increasing and by the beginning of 2015 a total of 2,186 clinics had been registered **(Figure 39).**

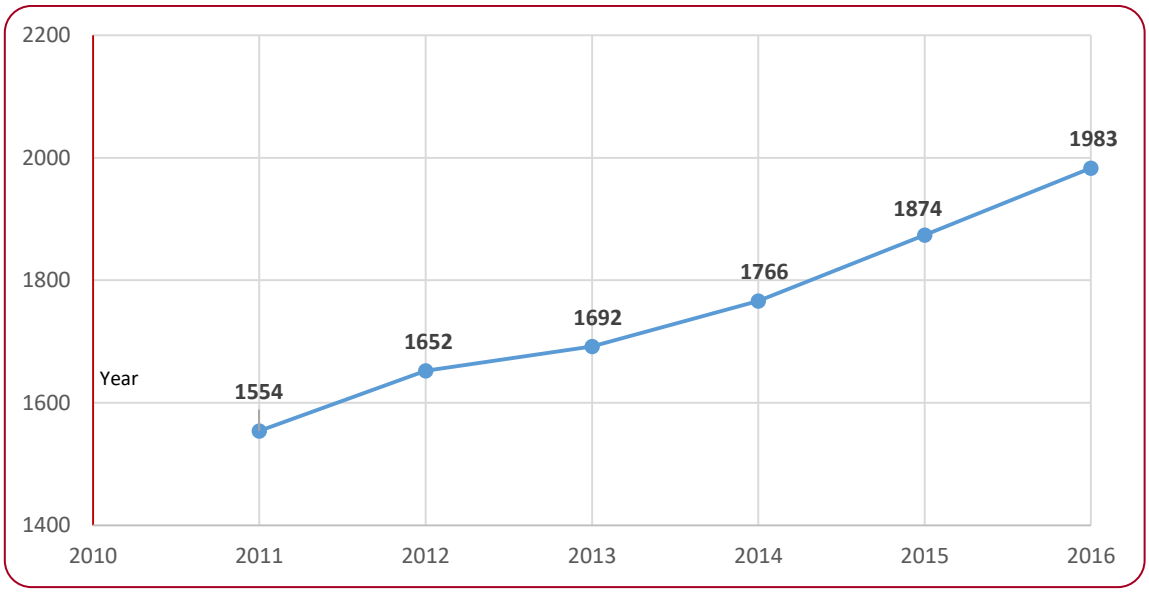
Figure 39: Number of Applications for Registration of Private Dental Clinics Approved, 2006 – 2016



Source: Oral Health Programme, MoH 2016

In 2016 a further 181 applications were approved, bringing the total number of clinics which have been registered to 2,367. By the end of 2016, there were 1,983 operating dental clinics. This represents a 7.3% increase in the number of operating dental clinics in the past year and a 21.7% increase in the last 4 years **(Figure 40).**

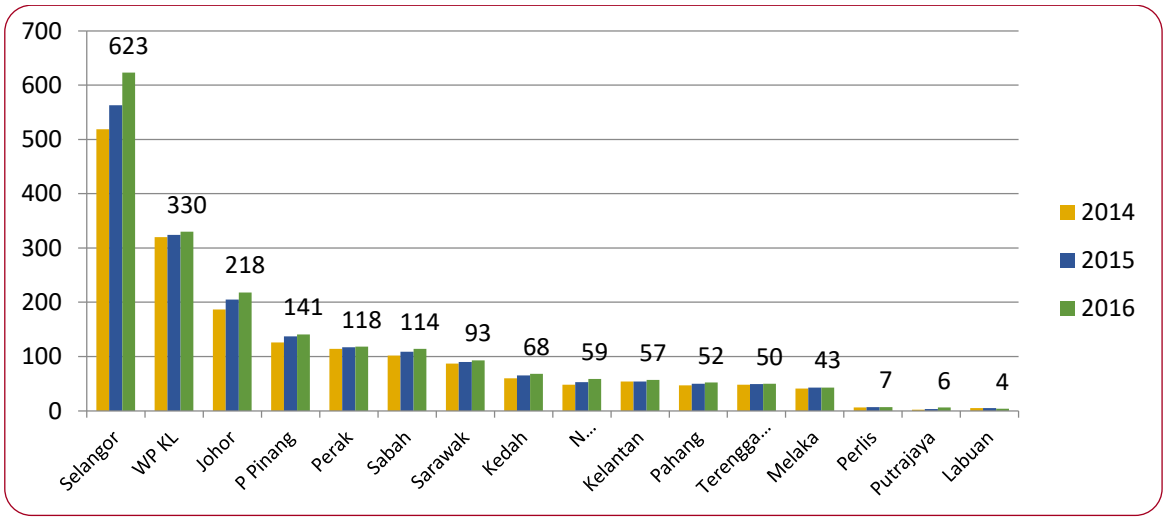
Figure 40: Total Number of Operating Dental Clinics, 2011 – 2016



Source: Oral Health Programme, MoH 2016

The number of operating private dental clinics by state is shown below **(Figure 41),** with Selangor having the highest number of clinics (623) and a steady rate of growth, while the growth in FT KL has increased significantly in the last year.

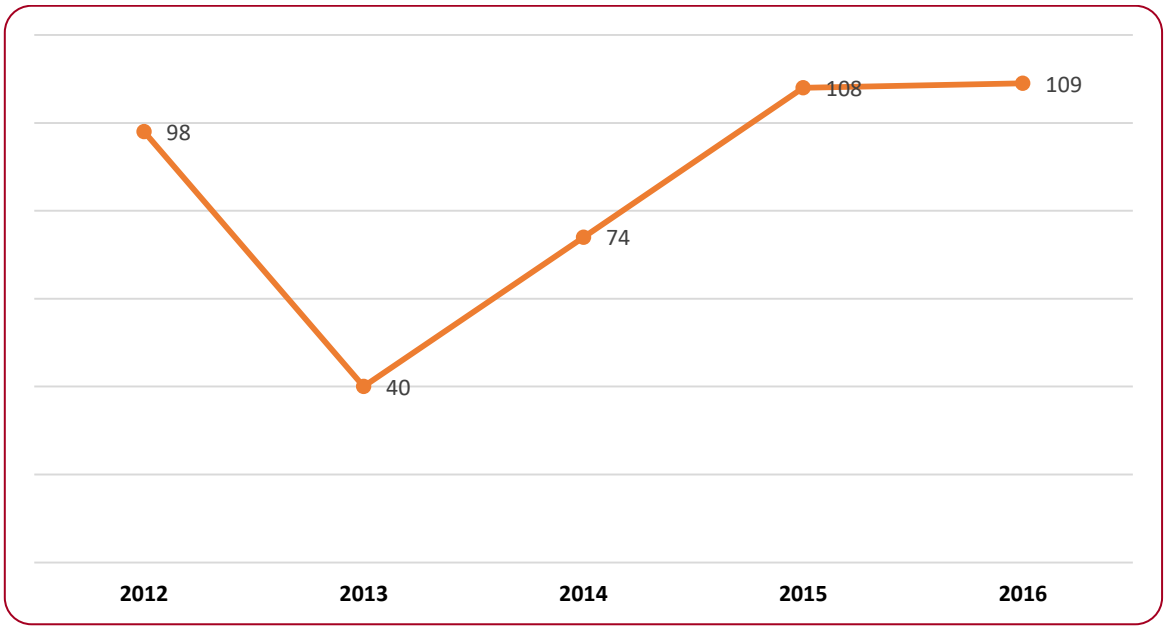
Figure 41: Number of Operating Dental Clinics by State, 2014 – 2016



Source: Oral Health Programme, MoH 2016

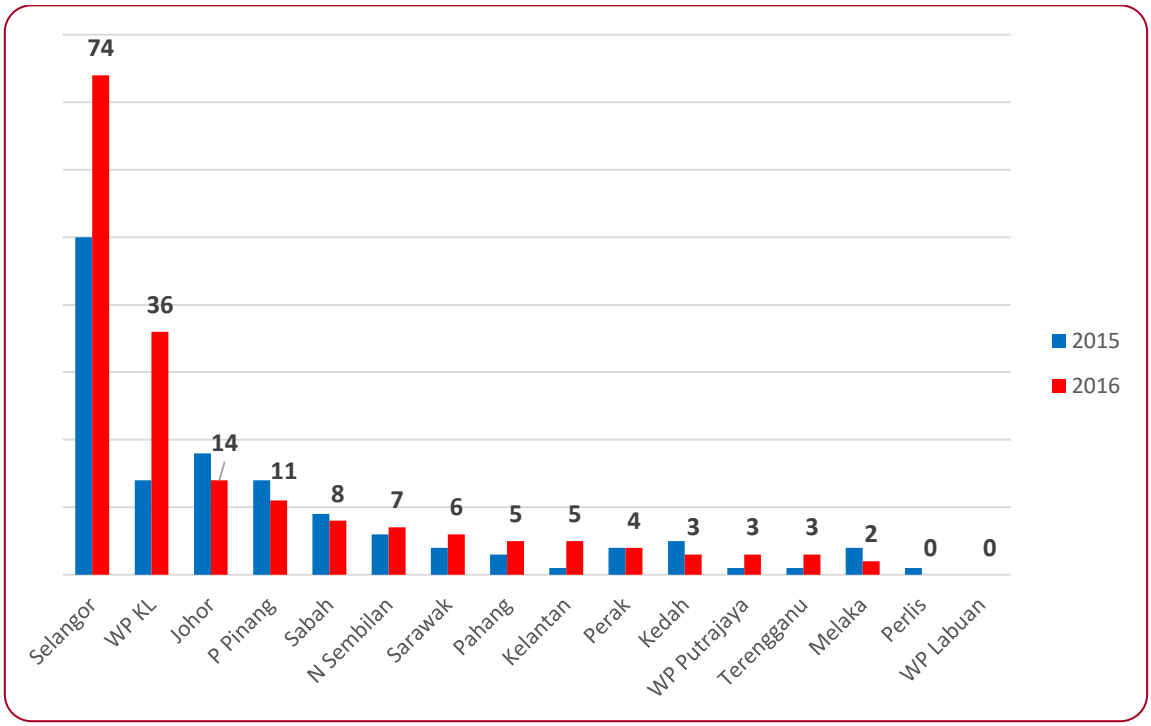
This year 181 applications for registration were approved and 36 registrations were withdrawn or cancelled and 36 clinics were found to have been closed. This resulted in an overall increase of 109 clinics, compared to 108 in 2015 **(Figure 42 and 43).**

Figure 42: Increase in Number of Private Dental Clinics, 2012 - 2016



Source: Oral Health Programme, MoH 2016

Figure 43: Number of Private Dental Clinics registered by State, 2015-2016



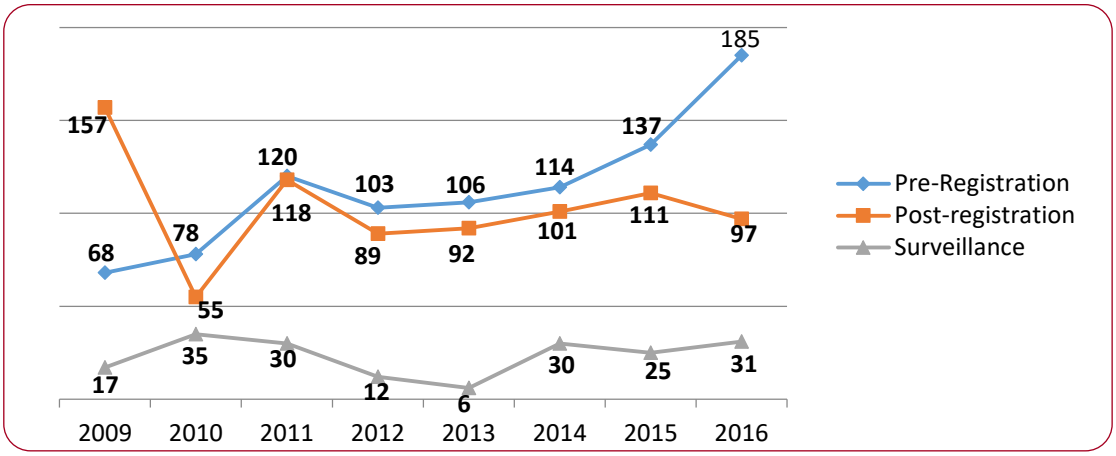
Source: Oral Health Programme, MoH 2016

There was a significant increase in the number of clinics registered in Selangor, FT Kuala Lumpur, Kelantan, FT Putrajaya and Terengganu. There was no increase in the number of clinics in Perlis and Melaka, and the number of clinics in FT Labuan decreased by 1.

INSPECTION OF DENTAL CLINICS

By the end of 2016, 282 pre and post-registration inspections had been carried out and 31 clinics with non-compliance had been revisited. The number of pre and post- registration visits and the number of surveillance visits over the past seven years is shown below **(Figure 44).**

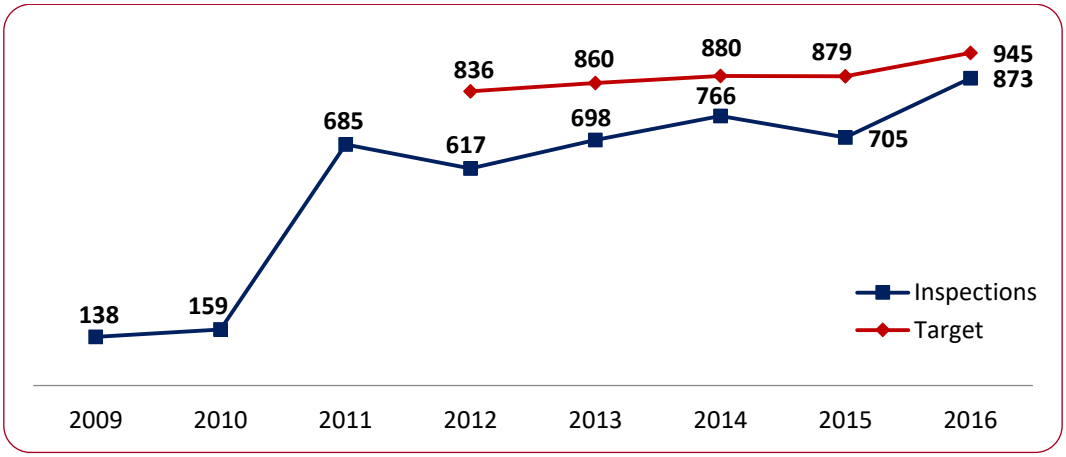
Figure 44: Number of pre-registration, post-registration and surveillance inspections, 2009-2016



Source: Oral Health Programme, MoH 2016

Every year certain registered private dental clinics in each state are monitored based on the number of clinics in the state and the size of the state. Moreover, the clinics which had complied at the inspection for the past 2 years, were not inspected in 2016. The number of monitoring inspections carried out over the past 8 years is shown in **Figure 45**. In 2016, 873 of the registered clinics were re-visited for a routine inspection.

Figure 45: Number of monitoring inspections, 2009 - 2016



Source: Oral Health Programme, MoH 2016

ILLEGAL DENTISTRY

Other than the complaints against registered dental clinics, complaints and information is also received regarding unregistered clinics and 'practitioners' offering braces. These cases are handled as unregistered clinics and are prosecuted under the Private Healthcare Facilities and Services Act 1998 (PHFSA). In 2016 a total of 8 cases were heard in court in 7 states (Kedah, Perak (2), FT KL, Melaka, Johor, Terengganu and Sarawak). All the cases were prosecuted under Section 4(1) of the PHFSA, and 5 of the cases involved 'fake braces'. In all the cases the accused was found guilty and a total of RM170,000 was collected in fines and one of the accused was jailed as she could not pay the fine. A summary of the cases is below in **Table 64**.

Table 64: Summary of Prosecutions, 2009 - 2016

Year	No of Cases	State	Offence	Punishment
2009	1	Perak	Unregistered clinic	Fined RM9,000
2012	1	Johor	Unregistered practitioner	Fined RM20,000
2013	1	Johor	Unregistered practitioner	Fined RM20,000
2013	4	FT KL & Putrajaya	Unregistered practitioner	NFA*
2014	2	Johor	Unregistered practitioner	Fined RM10,000
		P Pinang	Unregistered practitioner	Fined RM120,000
2015	6	FT KL & Putrajaya (3)	Unregistered practitioner	DNAA
		FT KL & Putrajaya	Fake Braces	Fined RM30,000
		Melaka	Fake Braces	DNAA
		Terengganu	Fake Braces	Fined RM20,000
2016	8	Kedah	Fake Braces	Fined RM25,000
		Perak	Unregistered clinic	Fined RM30,000
		Perak	Unregistered practitioner	Fined RM25,000
		FT KL & Putrajaya	Fake Braces	Jailed 2 months
		Melaka	Fake Braces	Fined RM30,000
		Johor	Unregistered practitioner	Fined RM20,000
		Terengganu	Fake Braces	Fined RM25,000
		Sarawak	Fake Braces	Fined RM15,000

Source: Oral Health Programme, MoH 2016

*NFA = No further action **DNAA = Discharge not amounting to acquittal

A pamphlet informing the public of the dangers of seeking treatment at unregistered clinics or from unregistered practitioners was produced by the Oral Health Promotion Section.

ENFORCEMENT OFFICERS

In 2017 there were 41 enforcement officers in the states and 2 in the Oral Health Programme, Ministry of Health Malaysia. These 43 officers carried out all the duties and functions of the national and state legislation and enforcement units, the registration and inspection of clinics under the Private Healthcare Facilities and Services Act as well as coordinating the Safety and Health audits and activities. The list of enforcement officers is as follows **(Table 65)**:

Table 65: List of Enforcement Officers

Perlis	1.	Dr. Rohana bt Mat Arip
	2.	Dr. Izwan b Abd Hamid
Kedah	3.	Dr. Hjh. Farehah bt Othman
	4.	Dr. Ahmad Fadhil B Mohamad Shahidi
Pulau Pinang	5.	Dr. Asnil b Md Zain
	6.	Dr. Muhammad Azhan b Jamail
Perak	7.	Dr. Faryna bt Md. Yaakub
	8.	Dr. Nur Azlina bt Omar
Selangor	9.	Dr. Amdah bt Mat
	10.	Dr. Nor Haslina bt Mohd Hashim
	11.	Dr. Kamariah bt Omar
	12.	Dr. Muhamad b Mahadi
	13.	Dr. Suhaila Mat Said
	14.	Dr. Nursharhani bt Shariff
	15.	Dr. Nurul Asniza Bt. Abas
	16.	Dr. Rosmaria Bt. Deraman
FT Kuala Lumpur & Putrajaya	17.	Dr. Hanizah Bt Mohd Baki
	18.	Dr. Ameera Syafiqah Bt Aly
	19.	Dr. Farha Binti Gimat
Negeri Sembilan	20.	Dr. Rosnah bt Atan
	21.	Dr. Nora Binti Nasir
Melaka	22.	Dr. Khadijah bt Wahab
	23.	Dr. Nor Azlida bt Abu Bakar
Johor	24.	Dr. Sheila Rani a/p Ramalingam
	25.	Dr. Sabarina bt Omar
	26.	Dr. Sabrina Julia bt Mohamad Jeffry
	27.	Dr. Ah Khaliluddin Bin Husain
Pahang	28.	Dr. Noor Ismazura bt Ismail
	29.	Dr. Mai Rozyhasniza bt. Rosli
	30.	Dr. Nur Amalina bt. Abdullah
Terengganu	31.	Dr. Nor Azura bt Juhari
	32.	Dr. Marsita Hasniza bt Mohamad
Kelantan	33.	Dr. Azuar Zuriati bt Ab Aziz
	34.	Dr. Rosasliza binti Ahmad
Sabah	35.	Dr. Norinah bt Mustapha
	36.	Dr. Chung Ken Tet
	37.	Dr. Rokiah bt Aziz
Sarawak	38.	Dr. Roslina bt Mohd Fadzillah Mah
	39.	Dr. Hanif Bin Mohd Suffian
	40.	Dr. Mohd Asyraff Bin Ishak
FT Labuan	41.	Dr. Zubaidah binti Jupri
Oral Health Programme	42.	Dr. Elise Monerasinghe
	43.	Dr. Haznita bt Zainal Abidin

Source: Oral Health Programme, MoH 2016

ENFORCEMENT COURSES

During the year the enforcement officers attended various courses organised by the Oral Health Programme, the Private Medical Practice Control Division (CKAPS) and the various State Private Medical Practice Control Units (UKAPS) and others Divisions. These courses were aimed at updating

knowledge, reinforcing procedures and guidelines and improving skills of the enforcement officers, in order to carry out their surveillance and enforcement activities more efficiently and effectively. The list of courses is in **Table 66 & Table 67** below.

Table 66: Courses at National Level

No.	Title of Course	Date	Duration	Organizer	No of Officers
1.	*Persidangan Penguatkuasaan Kementerian Kesihatan Malaysia 2016*	10-12 May	3 days	CKAPS, MoH	8
2.	*Taklimat Kesedaran Akta Peranti Perubatan 2012*	25 July	1 day	MoH	1
3.	Intelligence gathering 2016	16-19 Aug	4 days	CKAPS, MoH	2
4.	Medico-Legal Conference	23-24 Aug	2 days	MySeminars	2
5.	*Bengkel Penambahbaikan Proses Mendapatkan Permit Bagi Pembinaan Hospital Swasta*	1-3 Sept	3 days	CKAPS, MoH	2
6.	*Bengkel* Data Entry *Keselamatan Dan Kesihatan Pekerjaan*	30 Sept	1 day	OHP, MoH	1
7.	*Kursus Pendaftaran Klinik Perubatan/Pergigian Bergerak Swasta*	9-11 Oct	3 days	CKAPS, MoH	10
8.	*Kursus Pendakwaan untuk Penguatkuasa Pergigian*	19-23 Oct	5 days	OHP, MoH	2
9.	*Kursus Fotografi 2016*	1-4 Nov	4 days	JKN WPKL	3
10.	*Kursus* "Opening Your Own Clinic-The Basic You Need To Know"	19 Nov	1 day	Lincoln University	2
11.	*Bengkel Keselamatan dan Kesihatan Pekerjaan Di Fasiliti Kerajaan*	21-23 Nov	3 days	OHP, MoH	2

Source: Oral Health Programme, MoH 2016

Table 67: Courses at State / Zone Level

No.	Title of Course	Date	Duration	Organiser	No of Officers
1.	*Program Taklimat Kesedaran Akta Peranti Perubatan 2012*	11 Feb	1 day	JKN Perak	1
2.	*Bengkel Audit Keselamatan dan Kesihatan*	25-26 May	2 days	JKN WPKL	1
3.	*Mesyuarat Pengenalan Aktiviti Penguatkuasaan Pergigian Tahun 2016*	19 Apr	1 day	JKN Sarawak	3
4.	*Mesyuarat Pengenalan kepada* Microsoft Access *OSHA Pergigian 2016*	25 Apr	1 day	JKN Sarawak	3
5.	*Kursus Pengendalian Kes-Kes Perundangan*	25 - 29 Apr	4 days	JKN P Pinang	4
6.	*Kursus Kesedaran Dasar Keselamatan dan Kesihatan Pekerjaan*	24 May	1	JKN WPKL	4
7.	*Bengkel Audit Keselamatan dan Kesihatan*	25-26 May	2 days	JKN WPKL	4
8.	*Seminar Penguatkuasaan Akta 586 Bagi Anggota Penguatkuasaan CKAPS & UKAPS*	16-19 Aug	4 days	JKN WPKL	2
9.	*Kursus Pemantapan Penguatkuasaan Pergigian Bagi Kemudahan dan Perkhidmatan Jagaan Kesihatan Swasta*	26-27 Oct	2 days	JKN Selangor	6
10.	*Mesyuarat Microsoft Access OSHA Pergigian 2016 Bil. 1/2016*	14-16 Nov	3 days	JKN Sarawak	3
11.	*Taklimat Isu Rasuah & Integriti Kepada Pegawai Yang Melaksanakana Tugas Penguatkuasaan Di Jknm*	24 Nov	1 day	JKN, Melaka	1

Source: Oral Health Programme, MoH 2016

SAFETY & HEALTH ACTIVITIES

Safety & Health Audit

Auditing clinical practice against health and safety standards is a well-established process to identify risk, improve practice and gain assurance. The audit will demonstrate key quality factors and compliance with policy guidelines and procedures.
To this end, the Oral Health Programme, Ministry of Health Malaysia (MoH) has published various guidelines relating to health and safety in dental practice, namely

- Guidelines on Infection Control in Dental Practice (1st edition 1996, 2nd edition 2007);
- Guidelines on Maintaining Quality of the Dental Unit Water System (2010);
- Guidelines on Radiation Safety in Dentistry (1st edition 2006, 2nd edition 2010);
- Guidelines for Occupational Safety and Health in the Dental Laboratory (1st edition 2002, 2nd edition 2011);
- Methods of Disposal of Hypodermic Needles (2013); and
- Position Statement on Use of Dental Amalgam (1st edition 2002, 2nd edition 2013).

The Programme has also formulated compliance checklists, with a total of 117 items, to be used in inspection audits to track compliance in five areas pertaining to:

- Management
- Infection control and disposal of hypodermic needles
- Use of dental amalgam and compliance to dental mercury hygiene
- Dental radiation safety, and
- Safety and health in dental laboratories

Training of Trainers

The 1st Training of Tariners (TOT) was conducted in 2010. These pioneer 'trainers' underwent training, each team comprising 3 members – the state co-ordinator, a dental nurse and a dental technologist. This group serves as trainers to train other inspection team members. The training session covered use of the manual and checklists.

In 2013 a third TOT was carried out on 21-23 October 2013 at Concorde Inn, Kuala Lumpur International Airport (KLIA), to update the trainers and to train new team members. In 2014 the officers were briefed on the new guidelines for Disposal of Hypodermic Syringes at the meeting of Safety and Health Officers on 12-14 Nov.

Management of Safety and Health Inspection in Dental Facilities

NO	ACTIVITY	RESPONSIBILITY
1.	Appoint state co-coordinator	TPKN(G)
2.	Appoint safety and health inspection team members - Dental officers - Dental Nurses Grade U32 and above (infection control, use of dental amalgam and dental radiation) - Dental Technologist Grade U32 and above (dental laboratory and dental radiation)	TPKN(G)
3.	Select dental facilities for annual visits	State co-ordinator
4.	Schedule the dates for inspections	
5.	Inform the selected clinics	
6.	Inspect the clinics	Inspection Team
7.	Collect data	
8.	Enter data into database	
9.	Analyse data	State Co-ordinator
10.	Prepare preliminary state report	
11.	Give preliminary state report to clinics that were inspected for their feedback	
12.	Send feedback to state co-ordinator	PIC of dental facility
13.	a. If clinics do not comply, go back to step 4 and arrange for re-inspection / compliance audit	Inspection Team / State Co-ordinator
	b. When all clinics comply, close audit	
14.	Compile state annual report on safety and health	
15.	Send report (by email) to the Oral Health Programme, MoH before 1 March of the next year	State Co-ordinator

Source: Oral Health Programme, MoH 2016

** TPKN (G) - State Deputy Director of Health (Dental ; KPP - Principal Assistant Director*

In 2015, a new programme was developed for entry of audit data. There was a training of the co-ordinators and staff from each state in July. This was followed by a workshop in November 2016, where a live audit was carried out, and the results were entered into the database using the new programme.

For effective monitoring, every clinic should be audited at least once in 3 years. The state co-ordinators, therefore ensure that at least one third of all facilities are inspected each year and every clinic is inspected at least once in 3 years.

Audit Tool

The Programme formulated compliance checklists (a total of 58 items were short-listed after the first TOT), which were used in inspection audits to track compliance to five areas pertaining to management of safety and health and the guidelines relating to:

- Infection control
- Use of dental amalgam and compliance to dental mercury hygiene
- Radiation safety, and
- Safety and health in dental laboratories.

In 2014 a new checklist was used, which was finalised after the 2013 meeting. This checklist incorporated the new guidelines in the 5 areas and the number of items increased to 101. The checklist was further developed in 2014 and in 2015, the checklist with a total of 117 items in the five areas was used:

Areas	No of items
Management	21
Cross Infection	38
Amalgam	16
Radiation Safety	22
Laboratory	20
Total	**117**

Status Report for Safety and Health Audit, 2016

Distribution of facilities

A total of 1196 out of 2290 facilities (52.2%) in 13 states and 2 federal territories were audited in 2016. This is above the target of 33.3% or 1/3 of the facilities. The highest percentage of facilities visited was 99.2% in Kelantan and the lowest was in Melaka (32.9%) as shown in **Table 68**. Only Melaka did not achieve the target of 33.3%.

Table 68: Distribution of Audited Facilities by State – 2016

No	State	No of Districts	No of Dental Facilities		
			Total	No. Audited	% Audited
1	Kelantan	10	248	246	99.2
2	FT Labuan	1	9	8	88.9
3	Perak	9	200	134	67.0
4	Johor	10	232	137	59.1
5	Sabah	9	196	102	52.0
6	Sarawak	12	284	142	50.0
7	Kedah	10	176	81	46.0
8	Terengganu	7	123	53	43.1
9	Selangor	10	117	48	41.0
10	FT KL & Putrajaya	4	126	48	38.1
11	Perlis	2	54	19	35.2
12	Pahang	11	177	61	34.5
13	Pulau Pinang	5	144	49	34.0
14	Negeri Sembilan	7	119	40	33.6
15	Melaka	3	85	28	32.9
	Total	**110**	**2290**	**1196**	**49.0**

Source: Oral Health Programme, MoH 2016

Of the 1196 facilities that were audited, 1021 were audited in the area of Management (Mobile Dental teams and Mobile Dental Clinics are not audited in this area), 1191 were audited for Infection Control procedures and 1141 were audited for Amalgam Usage. A total of 366 facilities had x-ray services and 359 had laboratories **(Table 69).**

Table 69: Type of Facilities Audited by State – 2016

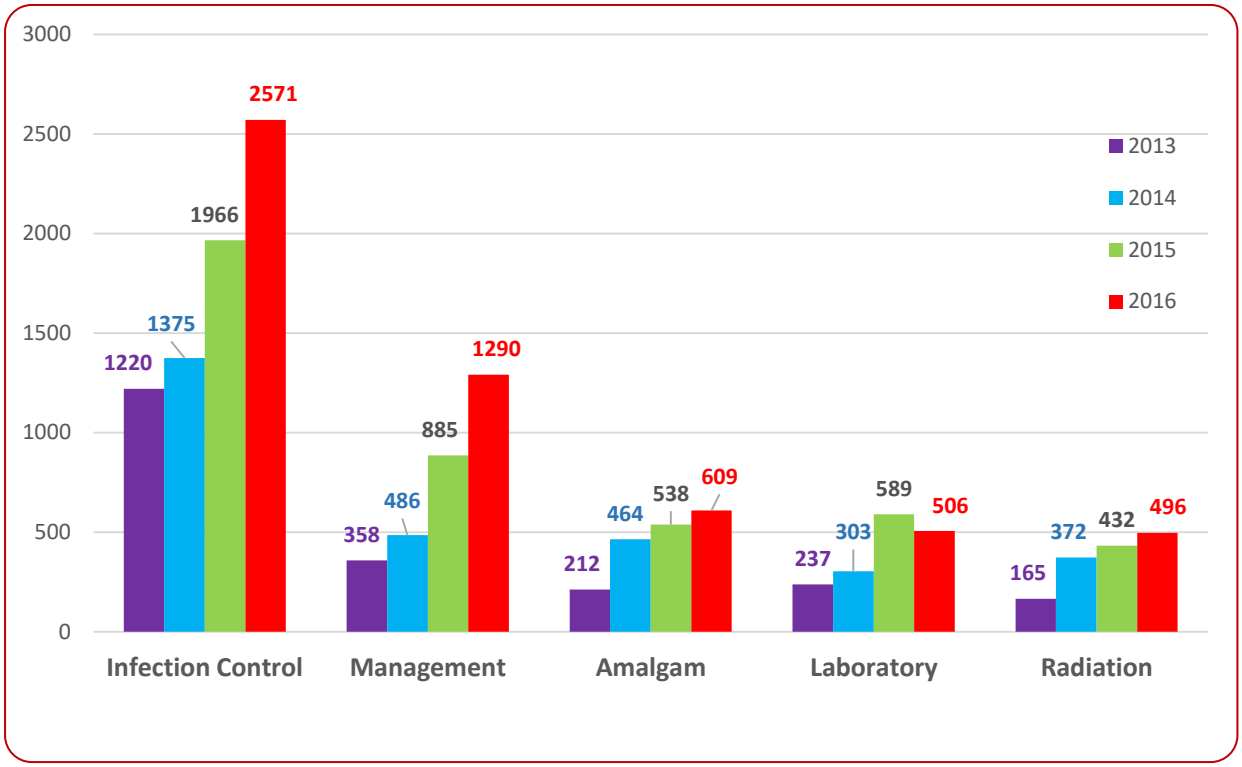
State	No. of Facilities		No. of Facilities by Areas Audited				
	Total	Audited	Management	Infection Control	Amalgam Usage	Radiation Safety	Laboratory Safety
Perlis	54	**19**	19	19	19	5	4
Kedah	176	**81**	81	81	81	30	31
P Pinang	144	**49**	49	49	49	10	10
Perak	200	**134**	134	133	122	57	57
Selangor	117	**48**	47	48	42	22	21
FT KL	126	**48**	19	48	48	16	15
N Sembilan	119	**40**	19	40	40	13	13
Melaka	85	**28**	12	26	25	4	4
Johor	232	**137**	60	137	109	50	48
Pahang	177	**61**	61	61	61	36	35
Terengganu	123	**53**	53	53	53	37	37
Kelantan	248	**246**	246	246	246	42	41
Sabah	196	**102**	102	102	98	19	20
Sarawak	284	**142**	111	140	140	24	22
FT Labuan	9	**8**	8	8	8	1	1
Total	**2290**	**1196**	**1021**	**1191**	**1141**	**366**	**359**

Source: Oral Health Programme, MoH 2016

Overall Compliance, 2016

The total number of non-compliance items was 5,472. The area in which there was the highest number of items which did not comply was Infection Control (2,571 items) and the lowest was radiation safety (496 items) **(Figure 46).**

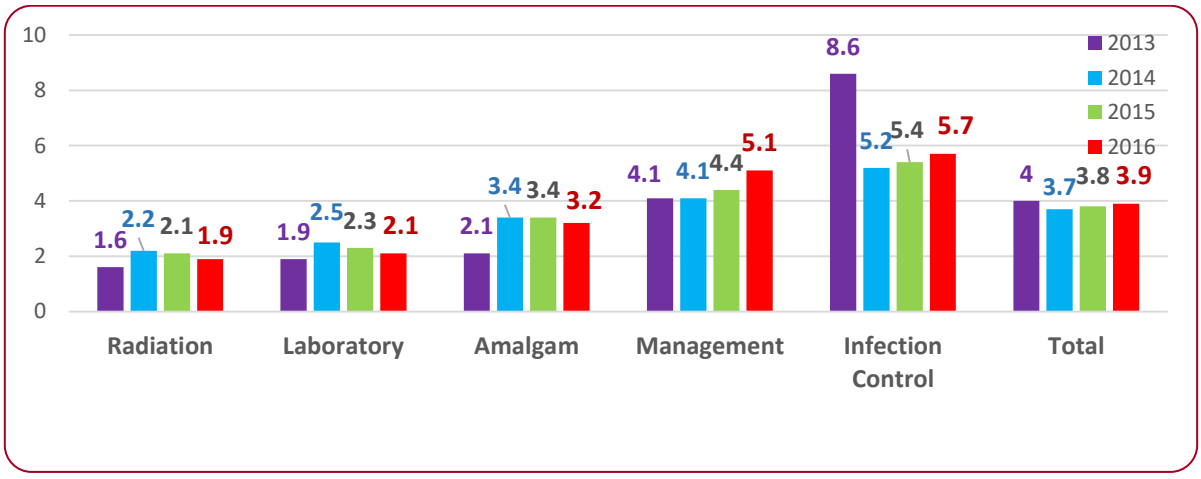
Figure 46: Comparison of Number of Items which did not comply – 2013-2016



Source: Oral Health Programme, MoH 2016

Based on the overall number of clinics, (and not taking into account the number of clinics audited in each area) the rate of compliance was high at 96.1%, with a slight increase of 2.6% from 2015. The highest rate of compliance was recorded in the area of radiation safety, followed by infection control and management. With the inclusion of additional items in the checklists, there was an increase in non-compliance in the areas of management and infection control. Although the compliance in infection control was slightly less than 95%, there was no marked increase **(Figure 47).**

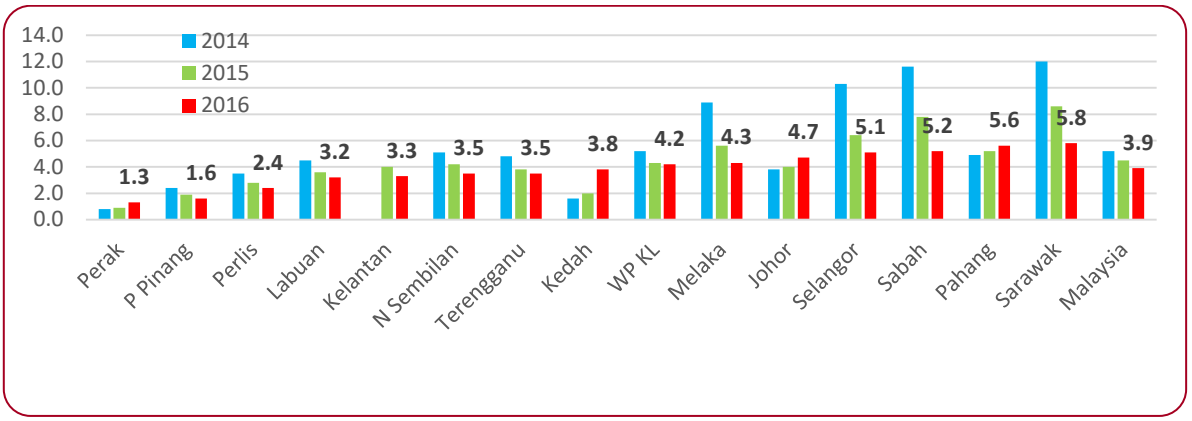
Figure 47: Overall Percentage Non-Compliance by Area



Source: Oral Health Programme, MoH 2016

Overall there was a decrease in non-compliance nationally and in all states except Kedah, Perak, Johor and Pahang, which had a slight increase. In most states the percentage non-compliance was less than 5%, and in Selangor, Pahang, Sabah and Sarawak the non-compliance was less than 6% **(Figure 48).**

Figure 48: Overall Percentage Non-Compliance by state

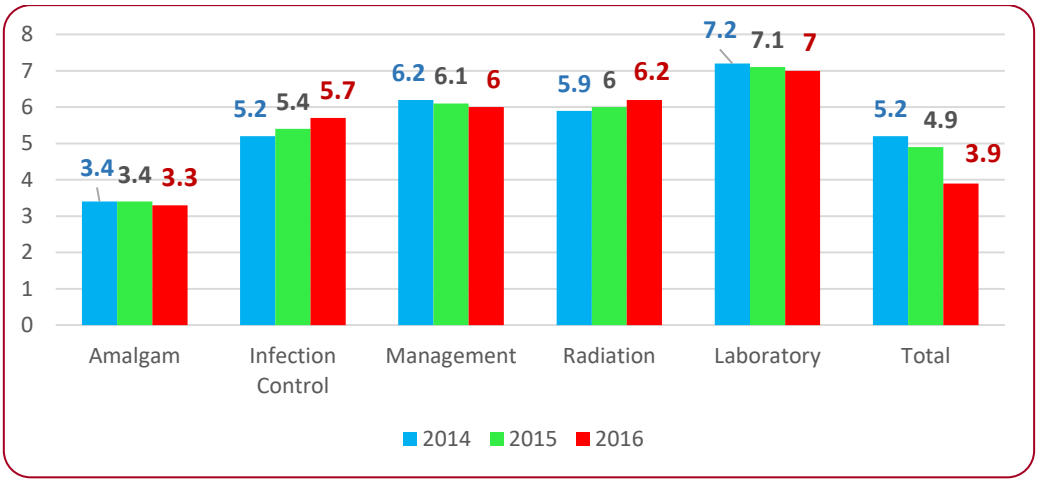


Source: Oral Health Programme, MoH 2016

When taking into account the types of facility and the areas audited, comparisons can only be made with the last two years.

The overall percentage compliance was 96.1%. The highest compliance was in the area of amalgam usage (96.7%), followed by infection control (94.3%) and management (94.0%). The lowest compliance was in the area of safety in the laboratory, with a compliance of 93.0% **(Figure 49).**

Figure 49: Percentage Non-Compliance by Area and Type of Facility



Source: Oral Health Programme, MoH 2016

Overall there was an improvement in all areas and in all states. In 9 states the compliance was highest in the area of dental amalgam usage, followed by radiation safety (3 states) and management (2 states). At the national level the compliance was highest in the area of amalgam usage.

Perlis, Pulau Pinang and Perak scored more than 95% compliance in all areas, and Negeri Sembilan, Terengganu and Kelantan scored more than 90% compliance in all areas and more than 95% in four areas.

Comparing the states, Perak had the highest overall compliance and the highest compliance in three areas (Management, infection control and amalgam usage), Penang in one (Radiation safety) and Perlis in one (safety in the laboratory).

In 9 states the non-compliance in certain areas was above 10%, although none of the states had an overall non-compliance of more than 10%. The area of safety in the laboratory had 6 states with more than 10% non-compliance, followed by management and radiation safety with 3 each and amalgam usage with 1 state. At national level the non-compliance was highest in the area of safety in the dental lab **(Table 70).**

Table 70: Percentage Non-Compliance by State 2016

	Manage-ment	Infection Control	Amalgam Usage	Radiation Safety	Dental lab	Overall
Perak	1.1	1.7	0.2	2.5	3.9	1.3
Pulau Pinang	1.7	2.7	1.4	0.5	5.0	1.6
Perlis	2.0	4.3	2.6	3.6	2.5	2.4
FT Labuan	**7.1**	3.3	3.1	4.5	**15.0**	3.2
Kelantan	3.3	**5.9**	4.1	3.5	3.7	3.3
N. Sembilan	1.8	**5.5**	**5.5**	4.9	**10.0**	3.5
Terengganu	3.8	**5.2**	1.5	3.9	3.2	3.5
Kedah	**9.6**	2.4	1.8	**12.3**	3.9	3.8
FT Kuala Lumpur	**11.5**	**6.9**	2.1	**8.5**	**6.7**	4.2
Melaka	**6.7**	**6.7**	**10.3**	4.5	**17.5**	4.3
Johor	**9.2**	**6.7**	4.1	**9.2**	**12.9**	4.7
Selangor	**7.8**	**6.0**	3.4	**5.8**	**11.7**	**5.1**
Sabah	**10.4**	**5.7**	4.0	**12.0**	**16.0**	**5.2**
Pahang	**10.7**	**7.8**	3.6	3.5	3.1	**5.6**
Sarawak	**9.5**	**9.9**	4.4	**11.2**	**11.4**	**5.8**
Malaysia	**6.0**	**5.7**	3.3	**6.2**	**7.0**	3.9

Source: Oral Health Programme, MoH 2016

5 - 10% non-compliance
>10% non-compliance

Selangor, FT Kuala Lumpur, Melaka, Johor, Sabah and Sarawak had more than 5% non-compliance in four areas, with Sabah recording more than 10% non-compliance in three areas and Melaka and Sarawak in two areas.

QUALITY IMPROVEMENT INITIATIVES

QUALITY ASSURANCE PROGRAMME (QAP)

The Quality Assurance Programme (QAP) is intended to improve the quality, efficiency and effectiveness of health services delivery including oral health. The QAP also facilitates the planned and systematic evaluation of the quality of services delivered. The goal of the QAP is to ensure that within the constraints of resources the 'optimum achievable benefit' is delivered.

The National Indicator Approach (NIA) with the District/Hospital Specific Approach (DSA/HSA) have been used under the QAP of the Ministry of Health. At national level, the achievements of these indicators are monitored twice a year. The indicators are periodically reviewed to ensure relevance and appropriateness.

National Indicator Approach (NIA)

In 2016, four indicators under the National Indicator Approach (NIA) were monitored to measure the performance of primary and community oral healthcare **(Table 71)**. This is the first year where indicator 1 achieved the standard after the introduction of the Gingival Index for Schoolchildren (GIS) which was introduced in 2014 to replace *'Mulut Bebas Gingivitis'.*

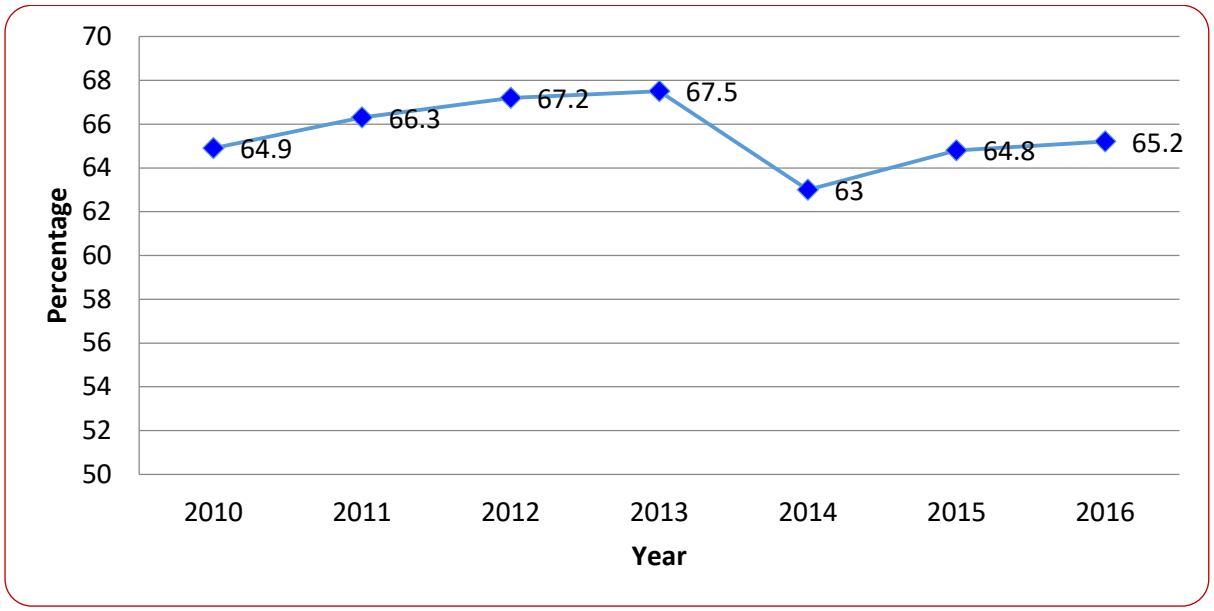
Table 71: Oral Health Indicators under NIA, January-December 2016

No.	Indicator	Standard (%)	Achievement (%)	SIQ Yes/No
			2016	
1	Percentage of primary schoolchildren maintaining orally-fit status	≥ 65	65.2	No
2	Percentage of secondary schoolchildren maintaining orally-fit status	≥ 80	70.1	Yes
3	Percentage of non-conformance of fluoride level at reticulation points (Level < 0.4ppm)	≤ 25	19.0	No
4	Percentage of non-conformance of fluoride level at reticulation points (Level > 0.6ppm)	≤ 7	0.7	No

In 2016, three of the four indicators achieved their targets. Both indicators on 'Percentage of non-conformance of fluoride levels at reticulation points' showed improvements compared with results in 2015. Over the years there have been gradual improvements at state and national levels for 'Percentage of primary schoolchildren maintaining orally-fit status' and 'Percentage of secondary schoolchildren maintaining orally-fit status' following the introduction of the new Gingival Index for Schoolchildren (GIS). Both indicators showed a sharp drop in performance. However, there were gradual improvement in 2015 and 2016.

The performance in 2016 for primary schoolchildren orally-fit was 65.2% **(Figure 50)**, a slight increase from 64.8% in 2015.

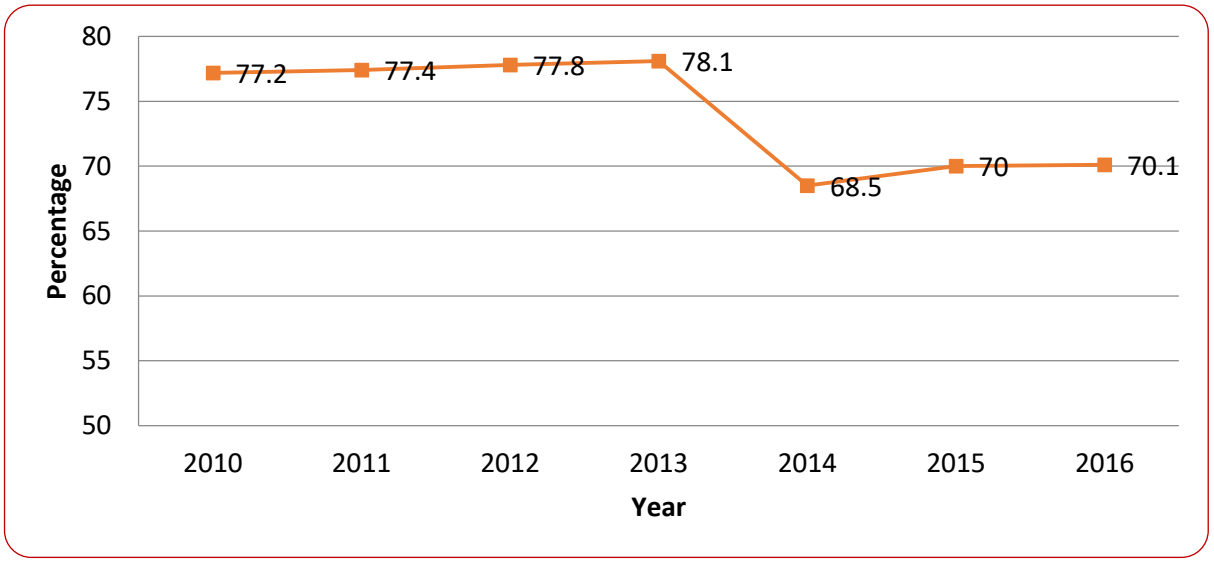
Figure 50: Percentage of Primary Schoolchildren Maintaining Orally Fit Status (Standard ≥ 65%), 2010 - 2016



Source: Oral Health Programme, MoH 2016
** 2014 – Introduction of GIS*

However, there is not much change in performance of 'Secondary Schoolchildren Maintaining Orally-fit Status' from 70.0 % in 2015 to 70.1% in 2016 **(Figure 51).** The 2014 data for GIS will also serve as baseline henceforth.

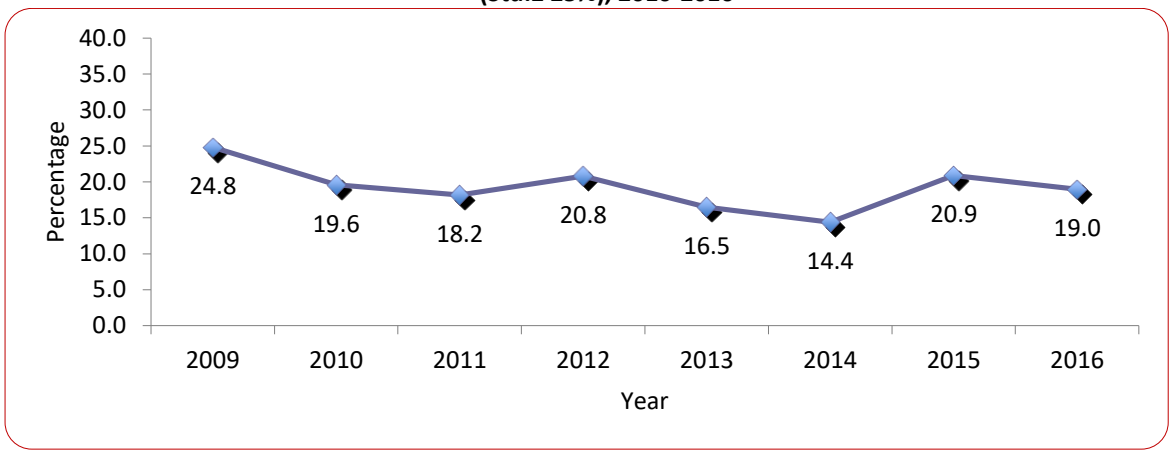
Figure 51: Percentage of Secondary Schoolchildren Maintaining Orally-fit Status (Standard ≥ 80%), 2010 - 2016



Source: Oral Health Programme, MoH 2016
** 2014 – Introduction of GIS*

Achievements for non-conformance of fluoride levels <0.4 ppm have been fluctuating from 19.6% (2010) to 19.0% in 2016 **(Figure 52).** In 2016, the achievement 'dropped' to 19.0%., however the achievement was still within the standard **(Figure 52).**

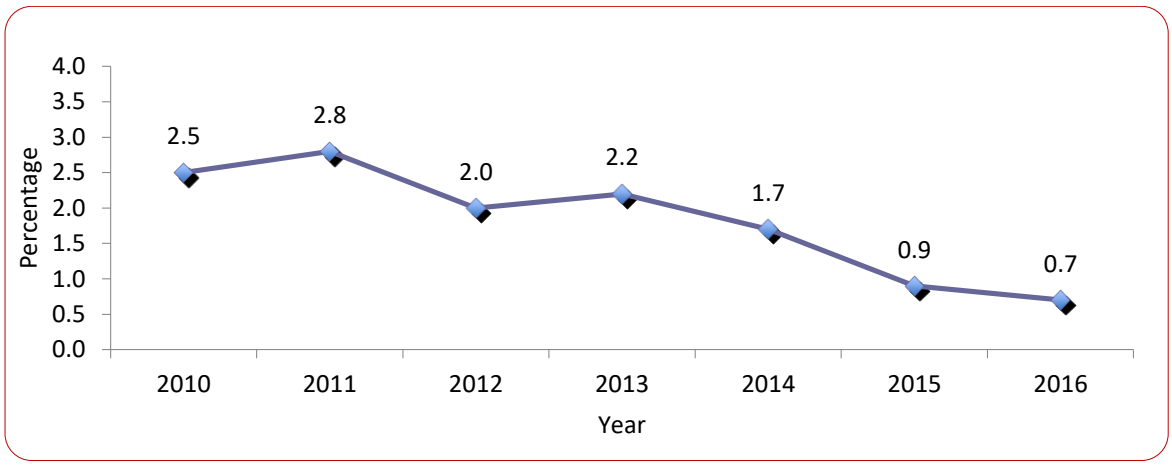
Figure 52: Percentage of Non-conformance of Optimal Fluoride Level at Reticulation Points, Level < 0.4ppm (Std.≤ 25%), 2010-2016



Source: Oral Health Programme, MoH 2016

The percentage of non-conformance of optimal fluoride levels for > 0.6 ppm in 2016 at 0.7% was also the best achievement so far **(Figure 53).**

Figure 53: Percentage of Non-conformance of Optimal Fluoride Level at Reticulation Points, Level > 0.6ppm (Std.≤ 7%), 2010-2016



Source: Oral Health Programme, MoH 2016

In spite of these achievements, fluoride levels still need vigilant monitoring to ensure maximum effectiveness.

District Specific Approach (DSA)

DSA indicators are developed by the states and districts pertaining to their specific issues. As in previous years, DSA indicators pertaining to monitoring and measuring performance of the ante-natal service are the most commonly adopted by all states.

Specific related indicators include rates of attendance, treatment and oral health education given to ante-natal mothers. Other DSA indicators commonly used relate to oral health services for toddler, pre-school, primary and secondary schoolchildren. The overall performance of DSA indicators related to primary care has improved based on the improved (higher) standard set by the districts and states.

Some states have DSA indicators that are not common in other states. Some of the unique indicators are related to:

- toddlers given fluoride varnish
- toddlers given fissure sealant
- private kindergarten preschool children treated
- loss of teeth due to caries in every 100 children
- incidence of sharps injury (all healthcare workers)
- failed fissure sealant
- new attendance of toddlers at MCHC, Klinik Desa and Dental Clinic
- full dentures issued within two months

All states have specific DSA indicators for each district. However, Perlis, Kedah, FT Kuala Lumpur, Selangor, Negeri Sembilan, Melaka, Pahang, Kelantan, Terengganu and Sarawak have the same indicators for the whole state (State Specific Approach).

MS ISO 9001: 2008

Certification Status

Nationwide, out of 664 dental clinics with primary oral healthcare, 562 dental clinics (84.6%) are ISO-certified **(Table 72).** 2016 was the fourth year where the denominator was 'Clinics Providing Primary Oral Health Care' *(*endorsed at *Mesyuarat Jawatan Dasar dan Perancangan Kesihatan Pergigian Bil. 6/2012).*

Table 72: MS ISO 9001:2008 Certification Status by State, District and Facility, 2016

MULTI-SITE CERTIFICATION								
States	**District**			**Dental Clinic**			**Certification Period**	**Registration Number**
	No. with certification	**Total**	**%**	**No. with certification**	**Total**	**%**		
Perlis	2	2	100.0	9	9	100.0	24.06.14-12.06.17	AR 3676
Kedah	11	11	100.0	60	60	100.0	15.09.14-07.08.17	AR 4665
P Pinang	5	5	100.0	24	28	85.7	30.10.15 - 14.09.18	AR 5028
Perak	10	10	100.0	56	72	77.8	10.10.16-14.09.18	AR 4449
Selangor	9	9	100.0	61	64	95.3	11.03.14-26.01.17	AR 3530
FT KL	5	5	100.0	18	19	94.7	27.01.14-26.01.17	AR 3531
N. Sembilan	7	7	100.0	40	40	100.0	6.02.15-16.01.18	AR 3889
Melaka	3	3	100.0	16	28	57.1	25.02.14 - 24.02.17	AR 3569
Johor	10	10	100	89	89	100.0	18.03.14-20.01.17	AR 5365
Pahang	11	11	100.0	39	71	54.9	21.03.15 - 20.03.18	AR 3949
Kelantan	10	10	100.0	64	64	100.0	08.06.15 -11.04.18	AR 3975
Terengganu	7	7	100.0	45	45	100.0	03.02.15- 02.02.18	AR 5591
Sabah	9	9	100.0	20	37	54.1	29.04.15 - 20.03.18	AR 3950
FT Labuan	1	1	100.0	1	2	50.0	20.02.13-19.02.16	AR 3135
Total Multi-site Certification	**100**	**100**	**100.0**	**542**	**628**	**86.3**	-	-
DISTRICT CERTIFICATION								
Sarawak	10	11	90.9	20	36	55.6	**Refer Table 3**	
Malaysia	**110**	**111**	**99.1**	**562**	**664**	**84.6**	-	-

Source: Oral Health Programme, MoH 2016

Sarawak (with 11 Divisions) is the only state that still has the original district certification approach **(Table 73).**

Table 73: MS ISO 9001:2008 District Certification Status for Sarawak, 2016

District/ Division	Location	Certification Period	Registration No.
Kuching	KP Jln Masjid KP Tanah Puteh KP Kota Sentosa KP Lundu	06.01.14-29.12.16	AR 3494
Sri Aman	KP Sri Aman	03.01.13 - 01.04.16	AR 3175
Samarahan	KP Samarahan KP Serian KP Simunjan	16.12.14 - 15.12.17	AR 3858
Miri	KP Jalan Merbau KP Tudan	06.01.15 - 05.01.18	AR 3873

Sibu	KP Jalan Oya KP Lanang KP Kanowit	17.01.15 - 16.01.18	AR 3890
Sarikei	KP Sarikei KP Bintangor	12.04.15 - 11.04.18	AR 3976
Bintulu	KP Bintulu	23.11.13 - 22.11.16	AR 4474
Limbang	KP Limbang	04.02.2015 - 22.10.17	AR 4722
Mukah	KP Mukah KP Dalat	05.10.15 - 14.09.18	AR 5717
Kapit	KP Kapit	10.01.14 - 09.01.17	AR 6042
Betong	-	-	-

Source: Oral Health Programme, MoH 2016

Quality Management System

The Oral Health Programme was unable to secure funds for the expansion of the electronic Quality Management System (eQMS). The number of states using the system remains at nine. States with the eQMS are Perlis, Kedah, Pulau Pinang, Perak, Selangor, Federal Territory Kuala Lumpur, Negeri Sembilan, Melaka and Johor. The Oral Health Programme MoH and the Childrens' Dental Centre & Dental Training College Malaysia also utilize the eQMS. The system is supported by a central server at the Health Informatics Centre, MoH.

Improvements have been made to the eQMS at the Oral Health Programme in terms of function and user-friendliness. The following improvement have been made:

- Rectify and training on how to 'upload Manual Kualiti'
- Training on how to configure and add *Sejarah Pindaan*
- Review System Menu
- Update user manual
- Upload gallery

In 2016, the eQMS web page content was updated as follows:

- February - Audit Schedule and Objective Quality 2016
- February - update marquee on first internal audit
- August – update marquee on second internal audit.
- October - update marquee on surveillance audit.

Technical Advisor for Certification Body

In 2016, the OHP arranged for senior dental officers to act as Technical Advisors to assist Certification Bodies to audit sites undergoing surveillance or recertification audits. Four states underwent recertification audits, eight states surveillance audits and the rest postpone audit to 2017 **(Table 74)**.

Table 74: List of MS ISO Audit by Certification Body, 2016

Place of Audit	Date		Type of Audit	Certification Body
Recertification				
Kedah	15-17 Aug 2016		Recertification	SIRIM
Perak	24-26 Aug 2016		Recertification	SIRIM
FT KL & Putrajaya	30 Nov- 2 Dec 2016		Recertification	SIRIM
Johor	16-20 Okt 2016		Recertification	SIRIM
Surveillance				
Perlis	9-10 May 2016		Surveillance	SIRIM
Pulau Pinang	14-16 Nov 2016		Surveillance	SIRIM
Selangor	25-27 Nov 2015		Surveillance	SIRIM
Negeri Sembilan	18-20 Nov 2016		Surveillance	SIRIM
Pahang	23-25 May 2016		Surveillance	SIRIM
Kelantan	18-20 April 2016		Surveillance	SIRIM
Terengganu	13-15 Nov 2016		Surveillance	SIRIM
Sabah	23-26 Feb 2016		Surveillance	SIRIM
Oral Health Programme, MoH	22 Nov 2016		Surveillance	CI Certification
Postpone Audit to 2017				
Melaka	-	-	-	-
Sarawak	-	-	-	-
Labuan	-	-	-	-
PPKK & KLPM	-	-	-	-

Source: Oral Health Programme, MoH 2016

OTHER QUALITY IMPROVEMENT ACTIVITIES

Innovation

Innovation is one of the quality initiative activities actively being carried out by oral health personnel throughout the country. In 2016, a total of 39 innovation projects were completed and 40 projects will continue to 2017. Several dental projects received awards at state, regional and national levels.

One Day Full Denture from Sarawak, winner of National Innovation Awards, MoH 2015 (process category) continued to achieve success in 2016. Among the success achieved were:

- Selected for commercialization (together with four other MoH innovations)
- Won at Malaysia Commercialisation Year (MCY) 2016 (under category *Anugerah Usahasama Penyelidikan dan Perniagaan*). MCY is an NBOS project organised by Ministry of Science, Technology & Innovation and Ministry of Finance. The event was held from *8 – 9 December 2016 at Kuala Lumpur Convention Centre.*

National Awards for Innovation, MOH

The National Innovation Awards, MoH 2016 was held at Institute for Health Management Bangsar from 8-10 November 2016. The objectives of the Convention were to:

- give recognition to innovations by MoH personnel
- inspire creativity and innovation in their daily work
- share the application of useful innovations
- improve services through adoption of innovations

The event was officiated by YBhg. Dato' Seri Dr Chen Chaw Min, the Secretary General of the Ministry of Health. The awards were classified into four categories - Product, Process, Service and Technology. A total of 48 teams (24 Product, 8 Process, 8 Service and 8 Technology) competed for the awards. Judges constituted a good mix of eminent personalities from the public and private sectors.

Winners received a certificate and cash prize of RM5000, RM3000 and RM2000 for 1st, 2nd and 3rd places respectively **(Table 75)**.

Table 75: Winners of National Innovation Awards, 2016

Position	Project	Organisation/State
Product		
1st	Kejora Smart Cool	*Hospital Tampin, Negeri Sembilan*
2nd	Mobile Fly Trap (MoFT)	*Unit Kawalan Penyakit Bawaan Vektor, Pejabat Kesihtan Kawasan Kudat, Sabah*
3rd	Fastleen Gause Roller	*Pejabat Kesihatan Pontian, Johor*
Process		
1st	Easy SBC Container	*Klinik Kesihatan Kampung Gial, Perlis*
2nd	*Proses Dentur Sebahagian yang Cepat dan Mudah*	*Pejabat Kesihatan Pergigian Kemaman, Terengganu*
3rd	*Penggunaan Perisian Excel dalam Pengurusan Kemasukkan Data Harian Pesakit, Statistik dan KPI*	*Unit Pemulihan Carakerja, Hospital Queen Elizabeth, Sabah*
Service		
1st	STAR Wheelers	*Jabatan Kecemasan dan Trauma, Hospital Sultanah Bahiyah, Alor Setar Kedah*
2nd	C Series: A Practical, Reliable and Cost Effective Service for Diabetic Plantar Wound Healing	*Jabatan Rehabilitasi Perubatan, Hospital Sungai Buloh, Selangor*
3rd	*Penambahbaikan Perawatan Pesakit Terlantar*	*Unit Fisioterapi, Klinik Kesihatan Gunong, Kelantan*
Technology		
1st	Hospital ADR System	*Hospital Kapit, Sarawak*
2nd	Sistem Pengurusan Credentialing & Privileging	*Hospital Selayang, Selangor*
3rd	Methasys	*Jabatan Farmasi, Hospital Bukit Mertajam, Pulau Pinang*

Other than the three top places, the panel of judges also awarded 'Jury's Award' for outstanding innovation **(Table 76).**

Table 76: Recipients of Jury's Awards at National Innovation Awards, 2016

Project	Organisation/State
Product Category	
Modified Slope Container	*Unit Kawalan Penyakit (TB/Kusta) Jabatan Kesihatan Negeri Selangor*
Cahaya Strap X	*Hospital Jelebu, Negeri Sembilan*
Foot Assessment Smart Tool	*Hospital Dungun, Terengganu*
Process Category	
Icmed: Pelabelan Ubat Bergrafik	*Unit Farmasi, Pejabat Kesihatan Daerah Besut, Terengganu*

Among the competing innovation projects, five were dental projects:

- Dental H2O, Kelantan (Product Category)
- EZ Wing, FT Kuala Lumpur & Putrajaya (Product Category)
- *Kad Kesihatan Oral*, Sabah (Service Category)
- *Proses Dentur Sebahagian Yang Cepat dan Mudah,* Terengganu (Process Category)
- *Sistem Pengurusan Latihan*, Terengganu (Process Category)

Innovative and Creative Circle (ICC)

In 2016, 15 ICC projects were completed and another 34 projects were continued to 2017. Kumpulan Solusi from Perlis and Kumpulan C-GG from Klinik Pergigian Air Jernih, Terengganu were two dental projects that made to the finals at Majlis Persada Inovasi Perkhidmatan Awam, 14-15 November 2016.

Kumpulan Solusi with project title 'Peningkatan Kes Tersusuk Jarum Suntikan Dalam K*alangan Anggota di Klinik Pergigian Negeri Perlis*' won the first place under technical category. This project also won at Majlis Persada Inovasi Peringkat Kementerian Kesihatan Malaysia (technical category).

Key Performance Indicators (KPI) 2016

Twenty-three KPIs were monitored by the oral health programme in 2016. All the KPIs achieved the targets set for 2016 except for the following which nevertheless, achieved more than 90% of the 2016 target:

- Percentage of Health Clinics with dental facility component (73.8% versus target of 75.0%)
- Percentage of customers satisfied with services received (93.6% vs. target of 95.0%)
- Percentage of dental clinics with MS ISO certification (84.6% vs. target of 85.0%)
- Percentage of dental staff with 7 days training per year (88.7% vs. target of 100%)

The number of dental clinics with 2 or more fulltime dental officers providing daily outpatient service contributed towards one KPI for the Health Minister (KPI 3, **Table 77**). Three of the KPIs i.e. KPI 8, 16

and KPI 19 **(Table 77)** were also chosen as KPIs for the Director-General of Health monitored by the Public Services Department.

Table 77: Key Performance Indicators, Oral Health Programme, MoH

KPI Domain	Monitoring Indicator	Target 2016	Achievement 2016
Accessibility to MoH oral healthcare services	1. Percentage of dental clinics with fulltime dental officer	79.0%	82.5%
	2. Percentage of dental clinics with fulltime dental officer providing daily outpatient service	73.0%	75.9%
	3. Percentage of dental clinics with 2 or more fulltime dental officers providing daily outpatient service	466 clinics	469 clinics
	4. Percentage of Health Clinics with dental facility component	75.0%	73.8%
	5. Number of dental facilities implementing shift system	9	15
Comprehensive oral healthcare for schoolchildren	6. Percentage of primary schools treated under incremental dental care	99.4%	99.9%
	7. Percentage of primary schoolchildren treated	98.5%	99.0%
	8. Percentage of secondary schools treated under incremental dental care	93.0%	99.1%
	9. Percentage of secondary schoolchildren treated	88.0%	92.5%
Oral health status of schoolchildren	10. Percentage of primary schoolchildren rendered orally-fit (over new attendances)	97.9%	98.0%
	11. Percentage of primary schoolchildren rendered orally-fit (over enrolment)	96.4%	97.0%
	12. Percentage of secondary schoolchildren rendered orally-fit (over new attendances)	93.7%	94.3%
	13. Percentage of secondary schoolchildren rendered orally-fit (over enrolment)	81.9%	87.2%
Population receiving fluoridated water supply	14. Percentage of population receiving fluoridated water supply	78.0%	76.5%
Client Charter Compliance Index	15. Percentage of outpatients seen within 30 minutes by dental officer (DO)	≥ 86.0%	86.5%
	16. Percentage of appointments seen within 30 minutes by DO	≥ 92.0%	94.3%
Delivery of denture services	17. Percentage of dental clinics with waitlist for dentures exceeding 3 months	≤ 8.0%	6.1%
	18. Percentage of patients received dentures within 3 months	64.0%	75.4%
	19. Percentage of patients aged 60 years and above received dentures within 8 weeks	45.0%	55.4%
Customer satisfaction Index	20. Percentage of customers satisfied with services received	95.0%	93.6%
MS ISO certification of dental clinics	21. Percentage of dental clinics with MS ISO certification	85.0%	84.6%
Training policy compliance index	22. Percentage of dental staff with 7 days training per year	100%	88.7%
Monitoring of Private Dental Clinics	23. Percentage of monitoring inspection conducted on identified private dental clinics	90.0%	93.0%

Source: Oral Health Programme, MoH 2016

Client Satisfaction Survey

Client Satisfaction Surveys were carried out by dental clinics using a self-administered questionnaire from the Oral Health Programme, MoH that measures patients' satisfaction. For 2016, more than 90% of patients expressed satisfaction except for the states of Federal Territory of Kuala Lumpur & Putrajaya, Selangor and Perak. The highest score was in Perlis and Melaka (99.2%). Overall, an average of 93.6% of patients involved expressed satisfaction with MoH dental clinics.

Clients' Charter

There are two main areas for the Oral Health Programme Clients' Charter.

1. Core Clients' Charter of the MoH, forms part of the KPI indicators of the Secretary General of Health and is uploaded on to the MoH web site **(Table 78).**

Table 78: Clients' Charter of the Ministry of Health

Core Clients' Charter	Indicator	Target	Achievement
Taraf Perkhidmatan	*Pesakit luar dipanggil untuk rawatan oleh pegawai pergigian dalam tempoh 30 minit*	70%	86.5%
Maklumat Perkhidmatan	*Pesakit berpuas hati dengan perkhidmatan pergigian yang diberikan*	90%	93.6%
	Pendaftaran Klinik Pergigian Swasta ditentusahkan dalam tempoh 7 hari (dari tarikh fail permohonan diterima oleh Unit Kawalan Amalan Perubatan Swasta (UKAPS)	90%	96.5%

Source: Oral Health Programme, MoH 2016

2. Clients' Charter for the Oral Health Programme MoH **(Table 79)**.

Table 79: Clients' Charter of Oral Health Programme

No.	Client's Charter Indicator	Target	Achievement
1	*Semua pelanggan dilayan oleh petugas kaunter dengan mesra*	100%	100%
2	*Semua pelanggan dilayan oleh petugas kaunter dengan cekap*	100%	100%
3	*Semua pelanggan diberi maklumat mengenai perkhidmatan yang disediakan*	100%	100%
4	*Semua pelanggan yang ada temujanji akan dapat berjumpa dengan pegawai berkenaan dalam 15 minit*	100%	100%
5	*Semua permohonan Klinik Pergigian Swasta ditentusahkan dalam tempoh 7 hari {dari tarikh fail permohonan diterima oleh Unit Kawalan Amalan Perubatan Swasta (UKAPS)}*	90%	96.5%

Source: Oral Health Programme, MoH 2016

Quarterly, six-monthly and yearly reports are submitted to the Clients' Charter Secretariat, Pharmaceutical Services Division MoH.

Star Rating System (SRS)

The Star Rating System (SRS) introduced in 2008 to assess the performance of Ministries, has been expanded to other public sector agencies, frontline agencies and state governments. The objectives are:

- to evaluate and measure the performance of government agencies
- to give formal recognition to outstanding agencies
- to give wide publicity to the policies, strategies and practices implemented
- to promote healthy competition among public sector agencies.

In 2016, the SRS assessment was not carried out as MAMPU was in the midst of developing new assessment criteria for SSR Do-It-Yourself (DIY).

Amalan Ekosistem Kondusif Sektor Awam (EKSA)

MAMPU has taken initiatives to improve the implementation of *Amalan* 5S which has been rebranded as *Ekosistem Kondusif Sektor Awam* (EKSA). The move is in line with efforts to strengthen the organizational culture of high performance and innovation among public sector agencies through the provision of environmental, positive workplace culture and values. At Oral Health Programme MoH, the implementation of Amalan EKSA continued to be strengthened and improved. New staff reporting to the Programme were briefed on the implementation of EKSA and attended training organized by the *Jawatankuasa Latihan EKSA KKM*.

To ensure the assessment criteria was 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. In 2016, the EKSA Recertification Audit was carried out by MAMPU. The Ministry of Health including the Oral Health Programme (*Zon Pergigian*) successfully received certification for the period of 15 October 2016 until 14 October 2018.

TRAINING

To continuously update the knowledge and skills of oral health personnel and for new personnel as well, states conducted courses on ISO awareness and internal audit.

MS ISO

Training in MS ISO is done to continually update the knowledge and skills of personnel and also to train new personnel. The majority of states conducted courses on ISO awareness and training in internal audits. Many of the training sessions were 'in-house' due to limited funds for ISO training. In 2016, most states focused on training related to the preparation of the conversion to ISO 9001:2015 version.

The Oral Health Programme MoH organized two workshops on '*In – Depth Interpretation and Effective Understanding of ISO 9001:2015 Changes' as follows:*

- 13 June 2016 – ISO Risk Management Workshop
- 16-17 August 2016 – Root Cause Analysis for Risk Management Pre-Audit Workshop

Quality Assurance

Oral health personnel are actively involved in QA projects/studies. In 2016, a total of 38 courses/workshops related to Quality Assurance were conducted where 666 oral health personnel were involved. The courses / workshops were on concept and principles of Quality Assurance (QA) and QA study. A few of these studies were presented at various conventions at state and regional levels.

Corporate Culture

Activities and courses related to Corporate Culture were carried out in all states either by the Oral Health Programme or in collaboration with the Health Departments or hospitals. In 2016, a total of 217 courses related to Corporate Culture were conducted involving 5,544 oral personnel at state level.

RECOGNITION FOR OUTSTANDING PERFORMANCE

1. National Awards for Innovation, MoH 2016
   - 2nd Place (Process Category) – Pejabat Pergigian Daerah Kemaman, Terengganu (*Proses Dentur Sebahagian yang Cepat dan Mudah*)
2. *Anugerah Kewangan Naziran eSPKB Tahap Cemerlang*
   - Kedah (Pejabat Pergigian Daerah Kota Setar, Kulim, Pulau Langkawi and Yan)
   - Pulau Pinang (*Pejabat Pergigian Daerah* Seberang Perai Utara (SPU))
3. *Surat Penghargaan Ketua Setiausaha KKM – Pujian Pelanggan*
   - Pulau Pinang (Klinik Pergigian Air Itam and Klinik Pergigian Nibong Tebal)

CHALLENGES AND FUTURE DIRECTIONS 2016

Health promotion and disease prevention remains the most important activities so as to encourage more people to keep healthy. The contemporary health education and its relationship with empowerment has to be enhanced at every level of care. There is a need to be more creative not only to deliver knowledge but also to develop confidence of the people to act on the knowledge and to support others through more personalised communication as well as community based education outreach.

Efforts in improving personnel development and career pathways requires attention. The introduction of open system will provide more opportunity for training of dental specialist. Vocational attachment for New Dental Officers Programme (NDOP) is being proposed to enable these officers to gain experience from private dental facilities. The upgrading of the Dental Surgery Assistant qualification from certificate to diploma is currently being undertaken.

The community outreach services are to be enhanced to become a more structured programme in line with the National Strategic Plan. The oral cancer prevention and management programme is being reviewed where a structured referral pathway, identification of risk habits and training modules on awareness and recognition of early lesion are to be develop. The Modified Ministry of Health Malaysia (MoH) International Caries Detection and Assessment System (ICDAS) or MMI is being developed and to be tested to help identify appropriate preventive action to be undertaken

With the new Dental Bill to be tabled at parliament, new post for enforcement officers and the required training need to be continuously undertaken. Meanwhile, the governance system will be further strengthened with the conversion to MS ISO 9001:2015 this year.

Being the lead agency for oral healthcare services to the population, the Oral Health Programme undertakes the responsibility for the development of policies, governance and monitoring of outcomes. Networking with stakeholders involved in pursuing the goal towards good oral health of the population is being continually undertaken.

EVENTS 2016

DATE	EVENTS
6 Jan	Mesyuarat Pra-Program Pencegahan & Intervensi Merokok
6-7 Jan	Perbincangan Dummy Table NOHPS 2015 (Teachers' Questionaire)
8 Jan	Mesyuarat Program Kesihatan Pergigian Ibu Pejabat KKM (PKP IPKKM) Bil 1/2016
13 Jan	Mesyuarat Jawatankuasa Pengurusan Kewangan dan Akaun Bil 1/2016
15-17 Jan	23rd MDA Scientific Convention & Trade Exhibition
18 Jan	Mesyuarat CPG Unerupted Maxillary Incisor Bil 1/2016
21 Jan	Mesyuarat Bersama Benchmark Modified MoH ICDAS
26-29 Jan	Sesi 1: Pengurusan Data NOHPS 2015
27-28 Jan	Perbincangan Review Guidelines on Primary Prevention and Early Detection of Oral Pre-cancer & Cancer
2-Feb	Mesyuarat Kick Off Projek Perluasan OHCIS RP4 RMK10 / Pemantauan OHCIS Version 2008
3-Feb	Mesyuarat Membincangkan Halatuju Kerjasama PKP KKM dengan OCRCC
4-Feb	Mesyuarat CPG Periodontal Abscess Bil 1/16
10-12 Feb	Mesyuarat Penterjemahan Rang Undang-Undang Pergigian 2016
12 Feb	Mesyuarat Teknikal BKP 1/2016
15-17 Feb	Bengkel Pelarasan Caj Rawatan
22-29 Feb	Sesi 2: Pengurusan Data NOHPS 2015
22-23 Feb	Mesyuarat JDPKP 1/2016
23 Feb	Mesyuarat MPM 113
24 Feb	Mesyuarat Penyediaan "FAQs on Water Fluoridation and Other Fluoride Use in Oral Health"
29-31 Feb	MHSR: Pengumpulan Data Bagi Kajian Disease-Based Costing (Oral Health) in Ministry of Health Facilities
3 Mar	Mesyuarat Program Kesihatan Pergigian Ibu Pejabat KKM (PKP IPKKM) Bil 2/2016
7-10 Mar	Sesi 3: Pengurusan Data NOPHS 2015
8 Mar	Mesyuarat Pemantauan Projek Perluasan OHCIS RP4 RMK10 Bil 1
15 Mar	Mesyuarat Jawatankuasa Penilaian Pewartaan Pakar Pergigian (JPPPP) Bil 1/2016
16 & 21 Mar	Perbincangan Kriteria dan Standardisasi Kalibrasi Indeks Perio untuk NOHSS 2017
21-24 Mar	Sesi 4: Pengurusan Data NOHPS 2015
24 Mar	MoU UPSI KKM
24-25 Mar	Bengkel Dental Care Pathway for Geriatric Population: Collaboration Study
22-24 Mar	Bengkel HIMS
4 Apr	Symposium For Midterm Review of NOHP 2011-2020
4 Apr	Mesyuarat Koordinator Program Kanser Mulut
6-7 Apr	Sesi Pengurusan 'Sample Weight' NOHPS 2015
7-Apr	Mesyuarat Koordinator Program Clinical Prevention (FV, FS, FMR)
8 Apr	Mesyuarat Pelaksanaan Fasa 1 Program Early Caries Detection & Management Using the Modified MoH ICDAS
12 Apr	Mesyuarat JK Penentu Spesifikasi Produk Pergigian bagi Semakan Harga Produk dalam Senarai Approved Product Purchased List (APPL) 2017-2019
12-13 Apr	Bengkel Kajiselidik Kolaborasi: Dental Care Pathway for Geriatric Population (ASEAN)
13 Apr	Mesyuarat CPG Periodontal Abscess Bil 2/2016
13 Apr	Mesyuarat JKTAP Bil 2/2016
18 Apr	Mesyuarat Khas KPK Bil 2/2016
18-21 Apr	Sesi 5: Pengurusan Data NOHPS 2015
20 April	Bengkel Admin KKKL
25-Apr	Mesyuarat Teknikal PKP IPKKM Bil 2/2016
25-26 April	Bengkel User KKKL
26 Apr	NOHSS 2017: Discussion on Caries Criteria with Gold Standard and Benchmark
26 Apr	Mesyuarat CPG Condylar Fracture Bil 2/2016
27-28 Apr	International Conference of Betel Quid and Areca Nut 2016

28-29 Apr	*Mesyuarat Kajiselidik Kolaborasi: Dental Care Pathway for Geriatric Population - Questionaire Development*
3 May	*Mesyuarat Jawatankuasa Pengurusan Kewangan dan Akaun (JPKA) Bil 2/2016 dan Mesyuarat JKPAK Bil 2/2016*
3-5 May	*Sesi Penyeragaman & Kalibrasi Modified MoH ICDAS Siri 2 bagi Zon Malaysia Timur*
3-6 May	*Bengkel Enhanced Primary Health Care Design*
4-5 May	*Mesyuarat JDPKP Bil 2/2016*
9-11 May	*Mesyuarat Pakar Periodontik KKM 2016*
9-11 May	*Sesi Penyeragaman & Kalibrasi Modified MoH ICDAS Siri 2 bagi Zon Pantai Timur*
9-12 May	*Sesi 6: Pengurusan Data NOHPS 2015 (Klinikal)*
10 May	*Mesyuarat Pemantauan Projek Perluasan OHCIS RP4 RMK10 Bil 2*
10 May	*Mesyuarat Jawatankuasa Induk Pemfluoridaan Bekalan Air*
12 May	*Mesyuarat PKKP Bersama Majlis Dekan Bil 1/2016*
10-22 May	*Persidangan Penguatkuasaan*
17-19 May	*NOHSS 2017: Training for Benchmark and Gold Standard*
20 May	*Mesyuarat Pakar OMOP 2016*
20 May	*Mesyuarat Program Kesihatan Pergigian Ibu Pejabat KKM (PKP IPKKM) Bil 3/2016*
25 May	*Mesyuarat Pemantapan Pengurusan Data Penjagaan Kesihatan Pergigian Primer 2016*
31 May	*Mesyuarat Pegawai Penguatkuasa Pergigian Bil 1/2016*
1 June	*Mesyuarat MPM 114*
1-3 Jun	*Mesyuarat Pakar Restoratif dan Special Needs Dentistry*
8 June	*Mesyuarat CPG Palatally Ectopic Canine Bil 1/2016*
9 June	*Perbincangan JK Kerja Perlaksanaan Program Dental Officer with Special Interest in Periodontics (DOSIP) dalam Perkhidmatan Kesihatan Pergigian Primer*
13 June	*Mesyuarat Khas KPK Bil 3/2016*
13 June	*Perbincangan Bersama Benchmark Modified MoH ICDAS*
14-16 June	*NOHSS 2017: Kalibrasi Pemeriksa untuk Trial Run*
16 June	*Mesyuarat Jawatankuasa Penilaian Pewartaan Pakar Pergigian (JPPPP) Bil 2/2016*
20 June	*MoU UPSI KKM*
20-24 June	*NHMS 2017 Workshop: Maternal Child Health Report Write-up*
20-24 June	*NOHSS 2017: Trial Run*
21 June	*Mesyuarat JKTAP Bil 3/2016*
23 June	*Mesyuarat Teknikal PKP IPKKM Bil 3/2016*
27 June	*Mesyuarat CPG Condylar Fracture Bil 3/2016*
11 Jul	*Mesyuarat Pemantauan Perluasan OHCIS RP4 RMK10 Bil 3*
12-15 Jul	*Penulisan Laporan NOHPS 2015: Clinical Team*
18 Jul	*Mesyuarat JPPPP Bil 2 Bah 2*
19 Jul	*Mesyuarat National Oral Health Research Initiatives (NOHRI) - pagi*
19 Jul	*Mesyuarat National Oral Cancer Initiatives (NOCI) - petang*
20 Jul	*Mesyuarat JPKA Bil 3/2016* *Mesyuarat JKPAK Bil 3/2016*
21 Jul	*Mesyuarat Program Kesihatan Pergigian Ibu Pejabat KKM (PKP IPKKM) Bil 4/2016*
22 Jul	*Perbincangan Hasil Trial Run*
24-26 Jul	*Mesyuarat JDPKP Bil 3/2016*
24-27 Jul	*Penulisan Laporan MCH*
26-28 Jul	*Sesi Penyeragaman & Kalibrasi Modified MoH ICDAS Siri 2 bagi Zon Selatan*
29 Jul	*Perbincangan Pembangunan Data-based NHMS 2017: School-based OHS*
29-31 Jul	*MIDEC 2016*
1 Aug	*Bengkel Pembangunan dan Kaji Semula Laporan Health Information System Management (HIMS) bagi Perkhidmatan Kesihatan Pergigian*
2 Aug	*Mesyuarat Pemantauan OCHIS Version 2008*
2 Aug	*Mesyuarat J/kuasa Penasihat NHMS 2017: School-based OHS*
3 Aug	*Mesyuarat JK Anugerah Inovasi Peringkat Kebangsaan KKM Bil 1/2016*
2-4 Aug	*User Acceptance Test (UAT) Cycle 2.1 dan 2.2 bagi Aplikasi Teleprimary Care – Oral Health Clinical*

4 Aug	*Mesyuarat Pasukan Projek Peluasan OHCIS Bil 1/2016*
5 Aug	*Mesyuarat Jawatankuasa Teknikal bagi Kontrak Perkhidmatan Sokongan (O&M) Oral Health Clinical Information System (OHCIS) dan eKL (Pergigian) Bil 5/2016*
8 Aug	*Mesyuarat CPG Palatally Ectopic Canine Bil 2/2016*
9-11 Aug	*Sesi Penyeragaman & Kalibrasi Modified MoH ICDAS Siri 2 bagi Zon Utara*
10 Aug	*Mesyuarat Jawatankuasa Teknikal dan Implementasi (TIC) bagi Projek Peluasan Oral Health Clinical Information System (OHCIS) Bil 1/2016*
11-13 Aug	*Mesyuarat Khas KPK Bil 4/2016*
11-12 Aug	*User Acceptance Test (UAT) Cycle 2.1 dan 2.2 bagi Aplikasi Teleprimary Care – Oral Health Clinical*
15 Aug	*Mesyuarat JKTAP Bil 3/2016*
15-17 Aug	*Training NHMS 2017: School-based OHS – Exposure & Consensus for Examiners*
16-18 Aug	*User Acceptance Test (UAT) Cycle 2.1 dan 2.2 bagi Aplikasi Teleprimary Care – Oral Health Clinical*
23 Aug	*Mesyuarat MPM 115*
25 Aug	*Mesyuarat Teknikal PKP IPKKM Bil 4/2016*
29-30 Aug	*Mesyuarat JDPKP 4/2016*
6 Sept	*Sesi II: Sample selection of schools for NHMS 2017-School-based OHS*
7 Sept	*Mesyuarat Jawatankuasa Penilaian Pewartaan Pakar Pergigian (JPPPP) Bil 3/2016*
8 Sept	*Mesyuarat Program Kesihatan Pergigian Ibu Pejabat KKM (PKP IPKKM) Bil 5/2016*
7 Sept	*Mesyuarat Analisa Data Rawatan & Reten HIMS bagi Pilot Projek Modified MoH ICDAS FT KL & Putrajaya*
19-22 Sept	*Sesi 1: Workshop Dummy Table for NHMS 2017-School-based OHS*
27 Sept	*Mesyuarat CPG Condylar Fracture of the Mandible Bil 3 / 2016*
4-10 Oct	*Training NHMS 2017: School-based OHS – Exposure & Consensus for Examiners/SC/FS*
11 Oct	*Mesyuarat JKTAP Bil 5/2016*
12 Oct	*Mesyuarat Technical Working Group (TWG) ICDAS*
14 Oct	*NHMS 2017-School-based OHS – Briefing for TPKN (G)*
17 Oct	*Mesyuarat Khas KPK Bil 5/2016*
20 Oct	*Mesyuarat Teknikal BKP Bil 5/2016*
21 Oct	*Mesyuarat JPKA Bil 4/2016* *Mesyuarat JKPAK Bil 4/2016*
24-27 Oct	*Sesi II: Workshop Dummy Table for NHMS 2017-School-based OHS*
31 Oct- 1 Nov	*Mesyuarat JDPKP 4/2016*
6-8 Nov	*Mesyuarat Kajisemula Moratorium Program Pergigian*
8-10 Nov	*Anugerah Inovasi Peringkat Kebangsaan 2016*
10 Nov	*Mesyuarat Pemantauan Perluasan OHCIS RP4 RMK10 Bil4*
10 Nov	*Mesyuarat PKKP Bersama Majlis Dekan Bil 2/2016*
14 Nov	*Simposium NOHP*
15-17 NoV	*NOHPS 2015 Data Verification & Preparation of Report Write-up*
16-17 Nov	*Mesyuarat Kepakaran Pergigian KKM*
18 Nov	*Mesyuarat Program Kesihatan Pergigian Ibu Pejabat KKM (PKP IPKKM) Bil 6/2016*
21 Nov	*Mesyuarat Bersama Penyelaras dan Trainers Negeri bagi Implementasi Fasa Pertama Modified MoH ICDAS*
21 Nov	*Mesyuarat MPM Bil 116*
22 Nov	*Mesyuarat CPG Condylar Fracture of the Mandible Bil 4 / 2016*
4 Dec	*Majlis Pelancaran iGG*
4-5 Dec	*Mesyuarat Khas KPK Bil 6/2016*
6-7 Dec	*Mesyuarat JDPKP 5/2016*
7 Dec	*Mesyuarat JKTAP Bil 6/2016*
8 Dec	*Mesyuarat Program Kesihatan Pergigian Ibu Pejabat KKM (PKP IPKKM) Bil 7/2016*
15 Dec	*Mesyuarat Jawatankuasa Penilaian Pewartaan Pakar Pergigian (JPPPP) Bil 4/2016*
20 Dec	*NOHPS 2015 Steering Committee Meeting*
22 Dec	*Mesyuarat Kajian Kolaborasi dgn UM: ASEAN Geriatric Dental Care Pathway Study*

EDITORIAL COMMITTEE 2016

ACKNOWLEDGEMENT

****

The Editorial Committee would like to express their gratitude and appreciation to all Head of Sections *(in alphabetical order)*; Dr Azilina Abu Bakar, Dr Che Noor Aini Che Omar, Dr Chu Geok Theng, Dr Elise Monerasinghe, Dr Mohd Rashid Baharon, Dr Norlida Abdullah, Dr Norliza Mohamed, Dr Salleh Zakaria, Dr Savithri a/p Vengadasalam, Dr Sharol Lail Sujak, Dr Yaw Siew Lian, Dr Zainab Shamdol and Dr Zurina Abu Bakar, and to those who have contributed directly or indirectly in the publication of Annual Report 2016. All data presented have been updated as of 31 December 2016.

ORAL HEALTH DIVISION
MINISTRY OF HEALTH MALAYSIA
LEVEL 5, BLOCK E 10, PARCEL E,PRECINCT 1,
FEDERAL GOVERNMENT ADMINISTRATIVE CENTRE ,
62590 PUTRAJAYA, MALAYSIA
TEL : 60 (3) 8883 4215
FAX : 60(3) 8888 6133