MOH/K/GIG/17-2020 (BK)

ORAL HEALTH PROGRAMME
MINISTRY OF HEALTH MALAYSIA

# MANAGING COVID-19 PANDEMIC IN MALAYSIA:

# THE ORAL HEALTH PROGRAMME EXPERIENCE

November 2020

MOH/K/GIG/17-2020 (BK)


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No Siri Penerbitan KKM: MOH/K/GIG/17-2020(BK)

ISBN 978-967-18771-0-4

9 789671 877104

**Managing COVID-19 in Malaysia, The Oral Health Programme Experience**



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# FOREWORD

**Director General**
**Ministry of Health Malaysia**

The global COVID-19 pandemic has brought on a profound effect on the lives of millions of people across the globe. The threat of this newly emerging disease and the resultant increasing trend of cases and casualties are changing the global healthcare landscape, as well as our socio-economic system.

Whilst this public health crisis has brought unprecedented challenges to our country, the Ministry of Health and other government agencies have employed 'Whole-Government' and 'Whole-Society' approach despite having had a steep learning curve from the onset. Unquestionably, our past experiences in handling infectious disease outbreaks had cultivated key lessons and expertise needed to swiftly flatten the curve of COVID-19 transmissions, thus preventing catastrophic consequences to the national health system.

The nation is humbled by the selfless attitude of frontline healthcare workers including the oral health workforce in showing their solidarity and shouldering commitment to combat the COVID-19 pandemic. New ideas guided by scientific evidence were developed to protect patients and healthcare workers alike from COVID-19, thus saving lives and slowing down the outbreak. These include enhancement of existing healthcare system delivery, rapid digitalisation of healthcare provision and amplifying health promotion digitally via social media platforms.

My heartiest congratulations to the Oral Health Programme, Ministry of Health Malaysia for this great effort in compiling the nationwide report of our oral healthcare workforce involvement, working hand-in-hand with other frontline healthcare workers to fight and face the challenges of the invisible novel coronavirus. My sincere wish is that our oral healthcare workforce remains resilient through these difficult times and may all of us emerge from this crisis as a better version of ourselves.

**Tan Sri Dato' Seri Dr. Noor Hisham bin Abdullah**
**Director General**
**Ministry of Health Malaysia**

# FOREWORD

**Principal Director of Oral Health**
**Ministry of Health Malaysia**

Despite advancement of the present healthcare technology and health systems, the COVID-19 pandemic has created a situation that is so unique globally which has challenged health professions and systems. During the Movement Control Order period announced by the Prime Minister of Malaysia, schools and cinemas for instance were closed, travels to other countries or states or even districts were banned and most of the people had to stay at home to slow down the outbreak.

Since February 2020, delivery of oral healthcare and activities under the Oral Health Programme, Ministry of Health Malaysia has been greatly affected by the Coronavirus Disease 2019 (COVID-19) pandemic. During the pandemic, in line with WHO recommendations, only emergency cases were treated at dental clinics while elective cases were postponed, particularly the Aerosol Generated Procedures (AGP).

To understand the impact of COVID-19 on oral healthcare services in Malaysia, we have collated various information on how the oral healthcare service delivery in Malaysia was affected by COVID-19. This report describes the contributions made by the dental workforce working hand in hand with other frontliners to combat the COVID-19. We are also very fortunate to have individuals who are willing to share their valuable experiences and lessons learned from this pandemic crisis.

My sincere gratitude goes to the whole dental workforce for demonstrating their spirit of solidarity to combat COVID-19 and ensure oral health services are continuously delivered in accordance with the current rules, regulations and guidelines.

*"The ultimate measure of a man is not where he stands in moments of comfort and convenience, but where he stands in times of challenge and controversy"*

(Martin Luther King Jr)

**Dr Noormi binti Othman**
**Principal Director of Oral Health**
**Ministry of Health Malaysia**

## ACKNOWLEDGEMENT

The Oral Health Programme, Ministry of Health Malaysia extends its heartfelt appreciation to State Deputy Directors of Health (Oral Health), Director of Children Dental Centre and Ministry of Health Training Institute (Dental), Georgetown Pulau Pinang and Deputy Directors of Oral Health Programme who have contributed to this write-up. The Oral Health Programme also records its deepest gratitude to all who have contributed in one way or another to the preparation of this document.

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## LIST OF ABBREVIATIONS

| Abbreviation | Meaning |
|---|---|
| ACD | Active Case Detection |
| AGP | Aerosol Generating Procedure |
| AHU | Air Handling Unit |
| BAKAS | Bekalan Air dan Kebersihan Alam Sekeliling |
| CDCIS | Communicable Disease Control Information System |
| CDE | Continuing Dental Education |
| CFCC | COVID Fever Call Centre |
| CIQ | Customs, Immigration and Quarantine |
| CKAPS | Cawangan Kawalan Amalan Perubatan Swasta |
| CMCO | Conditional Movement Control Order |
| COVID-19 | Coronavirus Disease 2019 |
| CPD | Continuous Professional Development |
| CPRC | Crisis Preparedness and Response Centre |
| DIY | Do-It-Yourself |
| DSA | Dental Surgery Assistant |
| EMCO | Enhanced Movement Control Order |
| FB | Facebook |
| FT | Federal Territory |
| FTKL & P | Federal Territory of Kuala Lumpur and Putrajaya |
| HCW | Health Care Workers |
| HEPA | High-Efficiency Particulate Air |
| i-system | Integrated System |
| KK | Klinik Kesihatan |
| KLIA | Kuala Lumpur International Airport |
| KP | Klinik Pergigian |
| MCO | Movement Control Order |
| MDC | Malaysian Dental Council |
| MERS | Middle Eastern Respiratory Syndrome |
| MOH | Ministry of Health |
| NADMA | National Disaster Management Agency |
| nCov | Novel Coronavirus |
| NGO | Non-Government Organisation |
| OHCW | Oral Health Care Workers |
| OHD | Oral Health Division |
| OHP | Oral Health Programme |

| | |
|---|---|
| OMFS | Oral and Maxillofacial Surgery |
| PAPR | Powered Air-Purifying Respirators |
| PCR | Polymerase Chain Reaction |
| PKD | Pejabat Kesihatan Daerah |
| POC | Proof of Concept |
| PPE | Personal Protective Equipment |
| PPK | Pembantu Perawatan Kesihatan |
| PUI | Person Under Investigation |
| PUS | Person Under Surveillance |
| PVC | Polyvinyl Chloride |
| QC | Quarantine Centre |
| QR | Quick Response |
| RMCO | Recovery Movement Control Order |
| RTK | Rapid Test Kit |
| SARI | Severe Acute Respiratory Illness |
| SARS | Severe Acute Respiratory Syndrome |
| SEMCO | Semi Enhanced Movement Control Order |
| SOP | Standard Operating Procedure |
| TCA | To Come Again |
| UTC | Urban Transformation Centre |
| UVGI | Ultra Violet Germicidal Irradiation |
| WHO | World Health Organisation |

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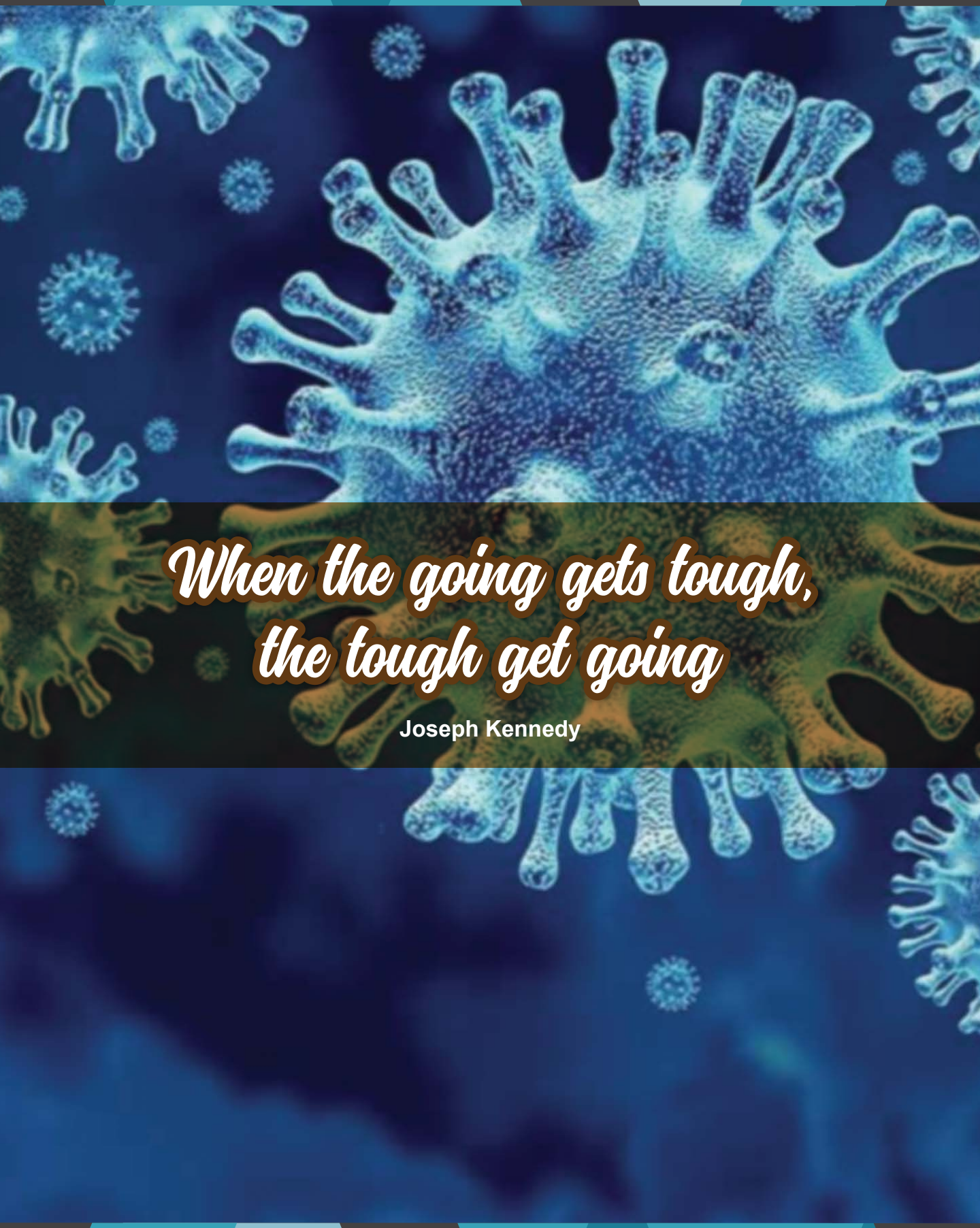

When the going gets tough,
the tough get going
Joseph Kennedy

# 1.0

# INTRODUCTION

## 1.0 INTRODUCTION

Since the 20th century, there have been several influenza outbreaks reported; among which were the Spanish Flu in 1918, Severe Acute Respiratory Syndrome (SARS) in 2002, H1N1/Swine Flu in 2009, Middle Eastern Respiratory Syndrome (MERS) in 2012 and the most recent Coronavirus Disease 2019 (COVID-19) in 2019 (1). Outbreaks such as these may continue to emerge for centuries to come, infecting people and spreading quickly, often resulting in pandemics and with deaths in the millions.

From the first case of coronavirus in November 2019, up to 25 June 2020, more than 9.4 million cases have been reported worldwide, in over 188 countries and with more than 481,000 deaths (2). Malaysia, like many other countries was not spared from this pandemic. This is the first time Malaysia is experiencing an infectious disease of this magnitude that has an impact on every individual in the country, be it physical, mental, emotional, spiritual, social or economic.

The Ministry of Health (MOH), in the able hands of the Director-General of Health Tan Sri Dato' Seri Dr. Noor Hisham Abdullah has swiftly undertaken preparatory measures as early as 6th January 2020, following World Health Organisation's (WHO) announcement of an outbreak in Wuhan City in China (3). Actions were taken to stockpile equipment, detect, isolate and monitor cases, and treat COVID-19 patients. A number of hospitals were tasked with providing screening services for coronavirus and with the rapid rise in confirmed cases, a number of sites had been gazetted as quarantine zones for coronavirus patients.

Aside from managing patients at clinics and hospitals, clinical and support staff were mobilised to carry out various other task such as screening checks, taking swab samples, contact tracing, home surveillance, duty at Crisis Preparedness and Response Centre (CPRC) and quarantine centres, while public health staff were tasked with forming strategies to slow the spread and flatten the curve as well as developing standard practice guidelines/Standard Operating Procedures (SOP) not only for health services but to collaborate with other sectors in preparation for the reopening of nurseries, schools, businesses, etc.

Amidst these herculean tasks and activities on the shoulders of the MOH, the Oral Health Programme (OHP) in a show of solidarity had volunteered to help and work together with the health team to fight this battle. Thus, this report is to document all the efforts taken by the Oral Health personnel to combat COVID-19 outbreak together with other agencies in the MOH at national and state levels. It is hoped that this report would be used as a reference for future management against other outbreaks/disasters/emergencies as well as a reflection on our part to improve our preparation in delivering better services during a crisis.

# 2.0

# CHRONOLOGY OF COVID-19 OUTBREAK

## 2.0 CHRONOLOGY OF COVID-19 OUTBREAK

Coronavirus Disease 2019 is caused by a new Coronavirus strain known as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) (4). It is primarily spread between people during close contact, most often through respiratory droplets produced by coughing and sneezing (5). People may also become infected by touching a contaminated surface and then touching their face.

On 31st December 2019, a novel coronavirus was identified when China reported a cluster of cases of pneumonia in Wuhan, Hubei Province. The first case outside of China was reported in Thailand on 13th January 2020. WHO sounded a warning of a possible risk of wider outbreak on 14th January 2020 and with the availability of more evidence, declared the novel coronavirus outbreak as a Public Health Emergency of International Concern on 30th January 2020. Data from WHO showed 7,818 of confirmed COVID-19 cases worldwide, majority of these were in China, and 82 cases reported in 18 countries outside China (6). Subsequently on 11th March 2020, WHO announced COVID-19 outbreak as a pandemic due to the alarming levels of spread and severity of COVID-19.

In Malaysia, the first COVID-19 cases were detected on 25th January 2020 among tourists from China, arrived via Singapore (7). Reported cases in the early months were low and were mainly confined to imported cases, until localised clusters begin to emerge. The largest COVID-19 cluster was linked to a Tabligh Jamaat religious gathering from Masjid Seri Petaling, Kuala Lumpur that had an estimated attendance of 10,000 people from a few countries (8). The gathering was held from 27th February to 1st March 2020 and this cluster led to massive spikes in local cases as well as to neighbouring countries. At the end of March, Malaysia had more than 2,000 cases of confirmed COVID-19 infections and had the highest number of cases in southeast Asia (9).

As the outbreak began to escalate, the government of Malaysia announced the enforcement of a nationwide 'Movement Control Order (MCO)' under the provisions of the Prevention and Control of Infectious Diseases Act 1988 [Act 342] and the Police Act 1967 [Act 344] from 18th to 31st March 2020, to slow the spread of COVID-19 (10). At this juncture, the number of COVID-19 cases had reached 790 with the first two deaths reported on 17th March 2020. Travelling to other states was restricted and international borders were closed to curb the outbreak and to flatten the COVID-19 epidemiological curve. This would provide MOH with the opportunity to increase capacity of the public health response, laboratories, health clinics and hospitals.

The MCO was continued until 14th April (11), as the rate of infection remained high. It was then extended again to 28th April (12) and subsequently until 12th May (4 phases of MCO) (13). Since May, most new cases detected in the country were from foreigners. Restrictions were eased following the Conditional Movement Control Order (CMCO) from 4th May until 9th June, that allowed businesses to reopen but with strict adherence to standards of practice (14).

Subsequently, Recovery Movement Control Order (RMCO) was declared and this took place from 10th June to 31st August (15). The RMCO was then extended to 31st December 2020 (16). During this period, CMCO and EMCO were enforced in certain states and areas with high infective cases.

Some of the new norms to daily living were introduced from the start of MCO:

a) Social distancing of at least 1 metre apart
b) Wearing of face mask
c) Frequent washing of hands with soap or hand sanitisers
d) Staying at home, work from home, avoiding public places and minimise interaction with the public

In addition to these new norms, the public was also advised to avoid the 3Cs, practice the 3Ws and to adhere to THiS (17).

Avoid the 3Cs: Crowded place, Confined space, Close conversation

Practice the 3Ws:

a) Wash – wash hands frequently with soap or hand sanitisers
b) Wear – wear face mask when having symptoms or going out
c) Warn – do not shake hands or touch others, carry out disinfection, practise cough or sneezing etiquette, stay at home and seek treatment if having symptoms

Continue to adhere to THiS

T : Terms set under the RMCO
Hi: High-risk groups such as children, infants, older adults and the disabled must be protected, and if unwell with symptoms, to seek early treatment
S : Safe social distancing is practiced at all times of at least 1 metre away from others


COVID-19
#KitaTeguhKitaMenang
PUTUSKAN RANTAIAN COVID-19 DI TEMPAT KERJA
ELAK 3C
Jika tidak dapat dielakkan, kekal jarak 1 meter
1 Crowded Places (Tempat sesak)
Ruang perhimpunan (roll-call)
Kantin/kafe
2 Confined Spaces (Tempat tertutup)
Pantri
Surau
Ruang rehat
Loker/bilik persalinan
3 Close Conversation (Bercakap jarak dekat)
Mesyuarat
Urusan di kaunter
Ruang kerja
Kementerian Kesihatan Malaysia
MyHEALTH
MYHEALTHKKM
SCAN ME


COVID-19
#KitaTeguhKitaMenang
PUTUSKAN RANTAIAN COVID-19
AMALKAN 3W
1 Wash (Cuci)
Kerap cuci tangan dengan air dan sabun
2 Wear (Pakai)
Pakai penutup mulut dan hidung jika bergejala
3 Warn (Amaran)
Elak bersalaman atau bersentuhan
Amalkan etika batuk dan bersin
Lakukan disinfeksi
Duduk rumah
Dapatkan rawatan jika bergejala
Kementerian Kesihatan Malaysia
MyHEALTH
MYHEALTHKKM
SCAN ME


# ORGANISATIONAL PLANNING AND MONITORING

## 3.0 ORGANISATONAL PLANNING AND MONITORING

Dental professionals are at the forefront of risking exposure to SARS CoV-2 as virus is transmitted via saliva. Most dental procedures generate aerosol, and droplet/ aerosol from infected patients may drive transmission. Thus, dental visits and treatment during the COVID-19 outbreak in primary and specialist care were restricted to only emergency or urgent cases. When the MCO restriction was relaxed as active cases of COVID-19 dropped to double and single-digit, Aerosol Generating Procedures (AGP) in dental practice could be undertaken with recommendation to adhere to strict standards of practice such as; full compliance on the use of Personal Protective Equipment (PPE), exercise social distancing, apply appropriate cross-infection control and additional precautionary measures such as using high vacuum suction, High-Efficiency Particulate Air (HEPA) filtration and extraction hood (18).

However, all outreach programmes were deferred during the COVID-19 outbreak. Outreach programmes were only allowed to resume after MCO restrictions were eased. Among the measures recommended were; provision of services in green zone areas (zero active cases), delivering of non AGP services (unless additional preventive measures are taken) and practice of new norms such as screening (temperature checks and history taking), social distancing of 1 metre apart, wearing of face mask and frequent sanitising of hands (19).

At the national level, the OHP was abuzz with planning, drafting strategies and developing guidelines/SOPs for management of patients who came for dental visits during the outbreak as well as to lay out plans for the normalisation of dental services. The resumption of primary, specialist and outreach services were proposed and drafted into the *Garis Panduan Perkhidmatan Kesihatan Pergigian Pasca Perintah Kawalan Pergerakan Pandemik COVID-19 Bil 1/2020*, which acts as a guide for the delivery of oral health services post MCO. A crisis as great as this tends to bring changes to every aspect of service delivery, even the way meetings and trainings are conducted. All oral healthcare personnel are called to embrace this as the new normal.

*Recommendations for Management*

In January 2020, the National Health Commission of China added COVID-19 to the category of group B infectious diseases, which includes SARS and highly pathogenic avian influenza. However, it also suggested that all health care workers use protection measures similar to those indicated for group A infections—a category reserved for extremely infectious pathogens, such as cholera and plague.

Since then, in most cities of the mainland of China, only dental emergency cases have been treated when strict implementation of infection prevention and control measures are recommended. Routine dental practices have been suspended until further notification according to the situation of epidemics.

*Recommendations for Dental Practice*

Interim guidance on infection prevention and control during health care is recommended when COVID-19 infection is suspected (WHO 2020a). Up to now, there has been no consensus on the provision of dental services during the epidemic of COVID-19. On the basis of our experience and relevant guidelines and research, dentists should take strict personal protection measures and avoid or minimize operations that can produce droplets or aerosols. The 4-handed technique is beneficial for controlling infection. The use of saliva ejectors with low or high volume can reduce the production of droplets and aerosols (Kohn et al. 2003; Li et al. 2004; Samaranayake and Peiris 2004).

*Article 'Coronavirus disease 2019 (COVID-19): emerging and future challenges for dental and oral medicine' from Journal of Dental Research (20).*

## 3.1 ORAL HEALTH NATIONAL CRISIS PREPAREDNESS AND RESPONSE CENTRE (CPRC)

The MOH in its effort to contain and manage the situation mobilised the National CPRC on 23rd January 2020 as a one stop centre for monitoring, analysing and dissemination of information pertaining to COVID-19. The Surveillance Section of the Disease Control Division, MOH Malaysia was mandated to lead the CPRC initiative. This centre of operation is situated at Level 6, Block E10, Complex E, Federal Government Administrative Centre, Putrajaya.

Following that, Oral Health Programme established its own Crisis Preparedness and Response Committee (CPRC) to plan and coordinate activities pertaining to disaster, epidemic and emergency issues. The committee was first initiated in response to the COVID-19 pandemic in the country which has affected the oral healthcare service delivery tremendously due to its transmission mode through droplets. This is due to the nature of a number of dental procedures which generate aerosol.

During the first few months when COVID-19 hit the country, there was no proper committee appointed to address and coordinate oral healthcare service delivery or any affected matters pertaining to COVID-19. Certain individuals or sections in the Oral Health Programme were identified and appointed on an ad-hoc basis to manage different issues of the pandemic. This includes establishing criteria/guidelines for identifying existing dental facilities to safely deliver dental aerosol generating procedures (AGP), sufficient supply of personal protective equipment (PPE), safety and management of patient and staff. The ad-hoc appointment resulted in a lack of follow through and coordination in managing the situation. Thus, in view of this limitation, the OHP CPRC was officially established and committee members were appointed. This commitee were later expanded to include State representatives.

## 3.2 GUIDELINES IN DENTISTRY DURING COVID-19 PANDEMIC IN MALAYSIA

One of the main concerns during the pandemic was transmission of the disease by the so called “silent spreader”. Asymptomatic infected individuals had gone around unknowingly spreading the disease. These individuals later developed symptoms and after undergoing tests were found to be positive. However, by that time the individual may have infected several people who in turn will infect several others. The major mode of transmission is through droplet infection as a result of being in close contact (less than 1 metre proximity) with COVID-19 positive individuals. Many dental procedures result in aerosol generation and thus routine dental care such as filling and scaling are now classified as high-risk procedures. Furthermore, as aerosol generating procedures (AGP) produce aerosol which is less than

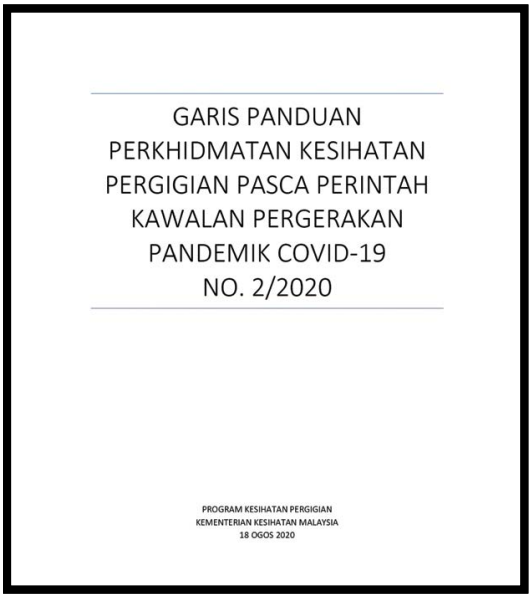
5μm in diameter, cleaning and disinfection of the dental surgery room will definitely take longer compared to disinfection procedures done during pre-COVID-19 times.

In view of all these drastic changes and implications posed by the pandemic on the oral health services, a guideline or SOP needs to be produced urgently to curb or stop new infections due to dental procedures. The first COVID-19 management document in dentistry titled *Prosedur Pengendalian Saringan 2019-nCoV di Klinik Pergigian* was developed and circulated on 29th January 2020 in relation to the Interim Guidelines Novel Coronavirus (nCov) in Malaysia 2020 that was circulated on 17th January 2020. This document mainly addressed concerns on the identification and handling of positive COVID-19 patients or Person Under Investigation (PUI) at the point of screening/triage. Several amendments had been made to the procedures to ensure it is updated and kept abreast with the guidelines prepared by our medical counterparts which is frequently updated.

In early March 2020, a few days before the MCO announcement, a Working Committee was established to look into and detail out all areas of concerns in the delivery of oral health services during the pandemic. This committee was headed by the Head of Dental Public Health Specialty and members comprised Head of Specialties, Dental Public Health Specialists from the OHP and also the states. All areas of concerns in the service delivery during the pandemic were properly detailed out. The *Garis Panduan Pengendalian Isu-Isu Berhubung Penularan Jangkitan Wabak COVID-19 di Perkhidmatan Pergigian KKM* was first circulated on 18th March 2020 as a reference for all dental staff in controlling the spread of COVID-19 outbreak in the facility and in the delivery of dental services. Malaysian Dental Council (MDC) has uploaded the guidelines and provided relevant links on the website. The guidelines were made available in Malay and English language. Since then, the guideline has been revised three times as new evidence on the virus emerged and again to keep abreast with the updated versions of the medical guideline.

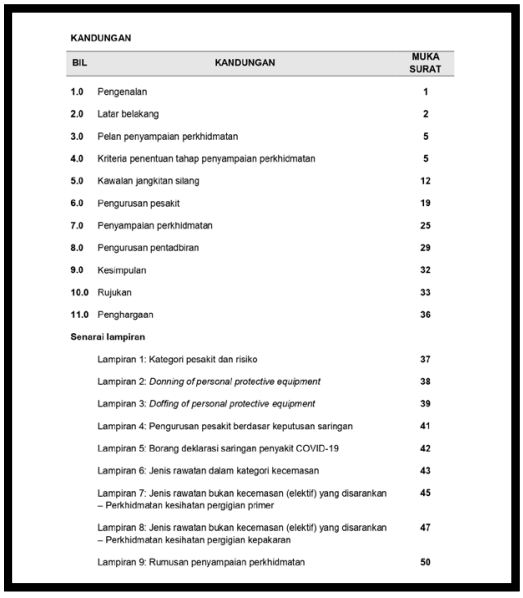
As a decreasing trend of new cases became apparent in late April 2020, a new working committee was established on 27th April 2020 to look into ways of managing oral health services during post COVID-19 pandemic. The members were mainly Dental Public Health Specialists from the OHP as at this juncture inter-state movements were still restricted. The focus of this guideline was mainly on the preparation of the dental clinic to commence delivery of routine dental care especially dental treatment involving AGP. Due to limited knowledge about the virus and the disease, it was difficult to determine the minimum requirements to deliver AGPs. WHO has highly recommended AGPs to be handled in a high-risk manner although evidence to conclude the virus as airborne is still somewhat inconclusive. Nevertheless, this means that the minimum requirements to carry out AGP need to be stringent, which includes pre-op mouthwash procedure for all patients, appropriate PPE, the use of rubber dam, high vacuum suction, closed but well ventilated treatment room and thorough disinfection procedures. It is to be noted that not all dental surgeries have the four-walls room setup. Some are in an open space setup with two or three units

close to each other. This has made it even more challenging to meet the minimum requirements for a dental surgery to offer dental treatment involving AGP. Taking this into consideration as well as the time and cost involved in the preparation to create a safe environment, the committee decided to produce a subsequent guideline *Garis Panduan Perkhidmatan Kesihatan Pergigian Pasca Perintah Kawalan Pergerakan Pandemik COVID-19* that was published and circulated on 18th May 2020. The guideline was produced well in time with the new announcement of the RMCO on 7th June 2020. RMCO was to start on the 10th June 2020 until 31st August 2020. During this time and going by the data on patient attendances, it seemed that more people were utilising the oral health services. It was also noted that schools are scheduled to reopen in stages during this RMCO and interstate movement restriction had also been lifted.



GARIS PANDUAN
PERKHIDMATAN KESIHATAN
PERGIGIAN PASCA PERINTAH
KAWALAN PERGERAKAN
PANDEMIK COVID-19
NO. 2/2020

PROGRAM KESIHATAN PERGIGIAN
KEMENTERIAN KESIHATAN MALAYSIA
18 OGOS 2020



**KANDUNGAN**


| BIL | KANDUNGAN | MUKA SURAT |
|---|---|---|
| 1.0 | Pengenalan | 1 |
| 2.0 | Latar belakang | 2 |
| 3.0 | Pelan penyampaian perkhidmatan | 5 |
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The guideline is currently under review to make it more relevant to the latest scenario and changes in the country. As Malaysia has shown improvement in the number of new cases reported with a decreasing trend in June 2020, it was thought timely for the delivery of dental services to be more “relaxed”. There was a need to resume routine dental procedures such as scaling and filling. But then again, there were days when double digit new cases involving local transmission were reported and new clusters announced. In the midst of drafting a more “relaxed” guideline, the committee had to rethink the decision. When is it safe to allow AGP to be carried out on a low risk patient with no history of close contact and no sign or symptoms of COVID-19? How can we be sure that we are not treating infected asymptomatic COVID-19 patients? This is indeed the biggest question and challenge to the development of the guideline.

At this point of time, New Zealand was the only country that had returned to normal routine in dentistry with the new norms of stringent screening and extra precautions during AGP. The country waited almost a month for single digit/zero cases before they announced the Level 1 restriction which allowed routine AGPs to be carried out on low risk patient. So, for us in Malaysia – ARE WE READY?

At this junction we are still looking into the best approach of service delivery trying to balance between safety issue and patient's oral health needs. At the moment the best approach to any guideline pertaining to dental healthcare delivery during this critical pandemic time is back to the basic – strict adherence to infection and prevention control measures and the practice of standard universal precautions for all patients.

## 3.3 ADAPTING TO NEW TECHNOLOGIES

### 3.3.1 NEW NORMS ON TRAINING & HUMAN CAPITAL DEVELOPMENT

On 18th March 2020, Malaysia began the implementation of the MCO. One of the restrictions listed in the MCO is prohibition of mass movements and gatherings across the country. This particular order has impacted the human capital development and in-service training for dental personnel as annual conferences and planned courses both locally and internationally had to be postponed to curb the spread of COVID-19 pandemic.

OHP has adopted the new norm to ensure that both training and development of knowledge and skills can still be continued among dental personnel. Thus, some of the initiatives imposed and activities organised by the OHP under Oral Health Professional and Development Section are as follows:

**a) Advised personnel to utilise distance or online learning programme as an alternative to obtain Continuous Professional Development (CPD) points**

i) CPD points can be collected through these methods under the category:
- A7 (Self Learning/Group Study/Distance Learning)
- A8 (CPD online)

ii) Encouraged dental personnel to register with e-Pembelajaran Sektor Awam website which provides online courses from a variety of selectable categories.

**b) Imparting the use of technology in organising courses, events or meetings**

In complying with the recommended social distancing measures, a limited number of personnel is allowed in an organised CPD session. Thus, personnel

were given an option to access the sessions either physically or through online applications such as Skype for Business. A few CPDs have been successfully conducted using this method.

**c) Adopting knowledge on the current situation**

To better understand the new norm in conducting clinical procedures, the OHP organised a CPD session regarding AGP called 'Extraoral Mobile Dental Vacuum System' on 18th May 2020. Dental personnel from both the MOH headquarters and nearby states were invited and this session was also conducted using Skype for Business application.

The presence of COVID-19 pandemic has shaped the way learning and training is conducted by the OHP. Under the new method of conducting training, we relied mostly on the use of current technology. This includes the option of using online applications, the need of having an up-to-date gadget and most importantly is the availability of high-speed internet.

Some limitations do exist in applying this method such as availability of gadgets and slow internet connection which hampered the learning process. Apart from that, overall experience gained will be somewhat different as compared to a direct or face-to-face environment. Nevertheless, the main aim of a life-long learning can still be established in this new era of the pandemic and the MOH personnel have to continue learning to keep up with the rapid changes and global challenges using these new modalities.

### 3.3.1a Training of Dental Specialists

The MCO has resulted in the universities calling back all postgraduate students doing clinical attachment at various MOH facilities to the respective campuses. This includes the first-year postgraduate students under the Integrated System (i-system) training between MOH and Universiti Malaya for Oral and Maxillofacial Surgery (OMFS). Further suspension of academic activities had caused dramatic shifts in pre-planned projects and events. The i-system training for Orthodontics which was supposed to chart a milestone by commencing the first-ever clinical attachment at the MOH facility on 24th March 2020 was postponed to a later date. The impact of COVID-19 had also resulted in the postponement of new intake of postgraduate candidates in dental specialist training as well as the completion of training for those expected to graduate in 2020.

Despite the challenges during MCO, several important events in relation to postgraduate training continued. This includes the final meeting in determining training places for federal training award candidates, which successfully took place

via video conferencing on 15th April 2020. The meeting was the beginning of more concerted effort between MOH and local universities providing postgraduate courses in ensuring integrated selection of excellent and reliable candidates to be trained as dental specialists.

As the situation improved and MCO gradually being lifted, Universiti Malaya and MOH jointly agreed to continue the i-system training for OMFS on 1st June 2020. The i-system for Orthodontic training followed suit two weeks later. This clinical training however has to strictly follow all necessary SOPs in relation to COVID-19, including patient management as the new norm.

### 3.3.1b Training of Undergraduates

During the MCO, all educational activities were postponed including undergraduate training. The MCO significantly affected the clinical sessions by the students at their institutions of higher education. The Dental Deans Council of Malaysia had requested the revision of the Minimum Clinical Competency for dental undergraduate training specifically for final year students for the academic year of 2019/2020. The revised documents took into consideration that the competency of graduates will not be compromised and patient's safety is ensured. The Council agreed to the revised competency on 11th April 2020 and the revised document, Minimum Clinical Experience/ Competency [Sp. Edition – COVID-19 Situation] March 2020 was uploaded on MDC's website on 22nd April 2020.

### 3.3.1c Training in Pusat Pergigian Kanak-Kanak Dan Institut Latihan KKM (Pergigian)

Following the announcement of MCO effective 18th March 2020, all Teaching & Training sessions were deferred and trainees were directed to vacate hostels as per letter from the Training Management Division, MOH. About 80% of ongoing mid semester examinations were put on hold.

**i) Teaching & Training**
All Teaching & Training activities for Pre-Service and Post Basic courses were deferred to September 2020. New intake of students for Diploma in Dental Therapy and Diploma in Dental Technology which was supposed to take place in July 2020 was deferred to January 2021. Virtual classes were implemented commencing 3rd June 2020 to facilitate remote learning and ensuring lectures that were pending could be completed. The briefing on EDMODO - the new teaching method was carried out for academic staff on 2nd June 2020.

**ii) Trainees**
The welfare of 188 trainees who were stranded in the hostels from

18th March 2020 until 22nd May 2020 was taken care of by the institute. Preventive measures such as control of movements, temperature screening and COVID-19 awareness in the form of memos and infographic posters were made available to them. Once the situation improved, trainees from West Malaysia and East Malaysia were sent home in six batches.

*COVID-19 Screening of Trainees before returning to respective hometown and Interstate Movement Approval by the Police Department (PDRM)*

*Bus & Luggage Sanitising by Fire & Rescue Department*

### 3.3.1d Education and Awareness Among Dental Staff

Continuing Dental Education (CDE) sessions were conducted either face-to-face with social distancing or virtually via Skype for Business, Zoom, Google Meet, FB Live or Microsoft Team. To keep abreast with the latest updates, the dental personnel were briefed on the latest COVID-19 guidelines, prevention and control measures in dealing with patients. These briefings were meant to impart knowledge and create awareness to all regarding the pandemic, its implications on the delivery of services and the precautionary measures that one has to adhere to.

*Education/awareness/information on COVID-19 to all staff in the hospital*

*Virtual CDE*

*Face-to-face CDE with social distancing*

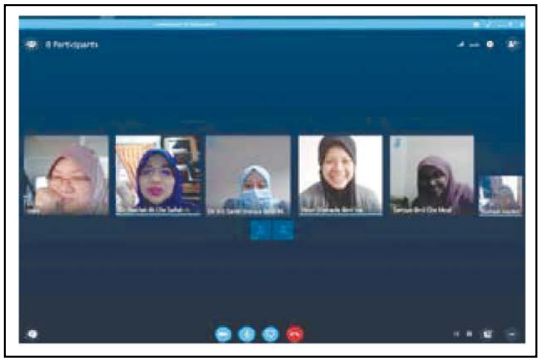
*CDE on Donning and Doffing of PPE*


*Creating awareness on SOP within oral healthcare facilities*

### 3.3.2 DIGITAL DENTAL HEALTH

The COVID-19 virus pandemic prompted the MOH to introduce the 'social distancing' measures to curb the spread of the coronavirus which include social distancing at the workplace. This safe distancing measure necessitates the immediate transformation of service delivery in the MOH by adopting the new norms through digitalization of healthcare services for example using Skype for Business tool for teledentistry communication between the MOH's internal and external clients.

Nevertheless, should a physical meeting be deemed necessary, a limit to the number of meeting attendees was done and the duration shortened. Meeting was conducted in open, well-ventilated spaces and ensure clear social distancing of at least 1 metre apart. Where appropriate, hybrid sessions involving boths face to face and online participants were conducted.



*Online meetings via Skype for Business*


*Physical meeting with social distancing*

Of note, the arrival of clients to the dental clinic for new appointments, for rescheduling for appointments, consultation and treatment, pose a risk of spreading the COVID-19. As such, OHP MOH is working in collaboration with various Divisions in MOH namely Family Health Development Division, Information Management Division, Legal Office, and with the Malaysian Dental Council (MDC) as well as MAMPU participation and support, to undertake the Proof of Concept (POC) of the Virtual Dental Clinic and Online Appointment System 2020-2021 for full implementation in identified MOH dental clinics in 2022.

Virtual Dental Clinic is a virtual, live and interactive health services that include clinical consultation and treatment/healthcare planning through Skype for Business application. The objectives of this initiative include:

- Resolving patient congestion in the dental clinic
- Efficient and effective personalised dental care advice and guidance of post-operative oral health instruction, service, oral health prevention and promotion activities such as mouth self examination, tooth brushing and flossing
- Develop personal-empowerment in oral health self-care

Online Appointment System would enable patients to attend dental clinic based on appointment done online to reduce congestion at the dental clinic. The objectives of this initiative include:

a) Fostering community empowerment in which all customers take initiative to book an appointment before attending the dental clinic
b) Optimising provision of dental services that can be provided through each appointment, that is set for the customer
c) Customer access to the system at any time (24 hours)
d) Save customers from having to wait long during peak hours at the dental clinic
e) Increase the level of customer satisfaction through availing customers the ease of choosing time slot to suit them

Several discussion sessions were convened during the MCO period, to discuss the implementation of POC of these teledentistry projects. The POC, planned to be carried out in October 2020 at the Precinct 18 Putrajaya Dental Clinic would test the feasibility and clients' acceptability of the project concept prior to its expansion to other dental clinics in FTKL & P and other states.

### 3.3.3 ORAL HEALTH PROMOTION

Due to COVID-19 outbreak, on 16th of March 2020, the Oral Health Promotion unit, OHP MOH took a proactive step by initiating/coordinating a special infographic team with the aim of developing infographics, posters and others such as videos as a medium of information sharing to the public regarding issues pertaining to COVID-19 and dental treatment. This information could help to create awareness among the public about the risks of dental treatment during pandemic, to deliver messages to the dental personnel about the risks, precautionary measures during dental treatment and also implementation of COVID-19 guidelines at dental facilities.

The team comprised of 6 officers from WP Kuala Lumpur, Selangor and Negeri Sembilan and the first meeting was held on 17th March 2020 at OHP. In this meeting, tasks were assigned to members of the group to develop infographics. The main sources of information are official guidelines from MOH and OHP MOH and several other relevant and established journals. The following meetings and discussions were conducted through online (WhatsApp group discussion) during MCO. The team had to work daily with more than 9 hours of group discussion each day and produced at least one or two infographics/other media per day. To date, 20 infographics, 6 posters, one short video and one Facebook Live have been produced and successfully published in all official OHP MOH media platforms available. The social media postings are monitored and updated from time to time with the latest information from the sources above.

COVID-19 social media postings in Facebook, Instagram and Twitter have been shared widely by public/communities throughout Malaysia as well as by MOH social media platforms, local television and radio networks and received a lot of positive responses from public. Corporate Communication Unit and Health Education and Communication Centre are among the collaborators which actively played roles in sharing the published infographics and other media in their main official MOH social media pages and MyHealth Portal.


*Personal Protective Equipment untuk anggota pergigian di klinik Pergigian*


*COVID-19: Bagaimana ia tersebar di Klinik Pergigian?*


*Avoid 3Cs*


*Hentikan penyebaran berita palsu COVID-19*

Dental personnel, especially Dental Officers and Dental Therapists were tasked to prepare promotional materials to disseminate dental health information pertaining to COVID-19 and to counter misinformation. The following are various platforms used to disseminate the information:

**a) Talks**

Dental officers in oral health facilities emphasised on the 3Ws (wash, wear and warn) and avoid the 3Cs (confined space, crowded place, close contact or communication).

**b) Webinar**

Head of Department of Oral Maxillofacial Surgery (OMFS) in Selangor was aired live on OHP MOH Facebook official page to educate general public and dental profession on COVID-19, as well as to answer numerous questions from the viewers.


**c) Radio Talks**

Dental Public Health Specialist in Negeri Sembilan went live on NEGERIfm to discuss the impact of the COVID-19 pandemic on dental services and encouraged the public to call the nearest government dental facility to get an appointment prior to visiting the clinic.

Dr Ong Siang Ching, an orthodontist from KP Kota Bharu was on-air for Kelantan FM station with the topic ‘COVID-19 and Oral Health’. Among messages highlighted were the availability of dental services during COVID-19 outbreak.

**d) Social Media**

Various infographics and videos on COVID-19 had been prepared and uploaded on every state's official social media pages such as Facebook and Instagram. Health promotional videos regarding COVID-19 were also played on the television screen at clinic's waiting area.



A short 2-minute video demonstrating new norms in the dental clinic was initiated by 3 Dental Officers from the district of Kerian, Perak. The video was uploaded on the official facebook page of Perak State OHD. The video gained traction when it was shared by the Director General of Health, Tan Sri Dato' Seri Dr Noor Hisham bin Abdullah himself in his personal facebook page.


Educational video featuring a panel of Medical Public Health Specialists from the Penang Department of Health. Among the educational videos produced were dealing with the myth of the COVID-19 outbreak and the criteria for dental emergency cases requiring urgent treatment in dental clinics. In total, there are five COVID-19 themed videos produced which were later uploaded to the *Facebook* pages and official *Instagram* of the Penang Oral Health Division with one of the videos attracting 5.7K views.

**KITA JAGA KITA**

Verse 1:
Dunia makin bahaya
Kerna virus corona
Semua jaga-jaga
Kita jaga kita
(Let's go!)
Chorus:
Pantang menyerah, kita jangan kalah
Duduk di rumah, kita bukan lemah
Patuhi perintah, bersama mencegah
Untuk hari esok yang indah
Verse 2:
Awasi gerakanmu
cuci tangan Selalu
Jaga jarak pergaulan
Kita masih kawan!

*'The Dental United Buskers Group' comprising of a team of dentists from Penang have produced a COVID-19 motivational song and received more than 2.5K views on the official Facebook page.*

**e) Digital application**

Generation of Quick Response (QR) code to convey dental health information - This digital application ensures that the delivery of information is done in line with compliance with the social spacing that needs to be practiced.

**f) Posters & Pamphlets**

Visual alerts such as signs and posters were placed in strategic places (e.g. at the entrance and waiting areas) to provide instructions and information to patients about hand hygiene, respiratory hygiene and cough etiquette. In Sarawak, distribution of posters were made to educate citizens living in longhouses (Rumah Panjang) on the awareness of COVID-19.



*Flyers on dental treatment and cross-infection control distributed to patients*


*Posters on hand hygiene were placed in the waiting area to educate patients*


*Information were displayed on TV screen at waiting area.*


*Notification to the public including phone numbers of each clinic for making appointments.*


*Reminder to the public on the protective measures and new norms in oral health facilities*

### 3.3.4 ORAL HEALTH TECHNOLOGY ASSESSMENT

A lot of new health technologies have emerged as a result of the COVID-19 crisis. These technologies offer a better or faster way to screen, diagnose or reduce the spread of the coronavirus. Thus, Health Technology Assessment report is needed to help policy makers make fast decisions on current oral health technology without compromising safety, effectiveness and cost effectiveness (e.g. Brief Technology Review Report on Extra-Oral Vacuum Aspirator).

Literature search for scientific evidence was conducted to investigate the nature of disease, diagnosis, transmission, management and prevention. This input will provide recommendations on treatment and management of dental patients during this critical period. Considering that COVID-19 is a novel virus, the technology assessments were based on analysis of available relevant literature, expert opinions and / or regulatory status where applicable.

### 3.3.5 CROSS INFECTION CONTROL IN ORAL HEALTH FACILITIES

AGPs in dental clinics have the potential to spread the viruses due to treatment procedures done in close proximity to patients and the release of aerosol. This puts dental health workers at an elevated risk of infection (21).

A few discussion sessions with the Engineering Services Division, Planning Division and state representatives from specialist and primary dental clinics were conducted to discuss issues on how to improve existing facilities and future direction of the new facilities. The result of the discussions is as follows:

a) Use of extraoral portable suction unit to reduce the aerosol in the patient's environment in an effort to reduce aerosol exposure directly to staff and work environment;
b) The use of portable HEPA and ultra-violet germicidal irradiation (UVGI) air filters or other methods to disinfect the dental surgery and decontaminate the surface while reducing the risk of infection;
c) Proposal to create a separate room for each Dental Chair Cum Unit in the future to prevent cross-infection between patients/staff and contamination of dental surgery's and health facility's environment;
d) Proposal to create a ventilation system that has the concept of one-way airflow from staff to patient and out of the treatment room;
e) Proposed separation of Air Handling Unit (AHU) for dental surgery area with other areas or other departments in the facility.

However, the above proposed initiatives are based on the information available at that point of time. These suggested measures may differ once new evidence becomes available.

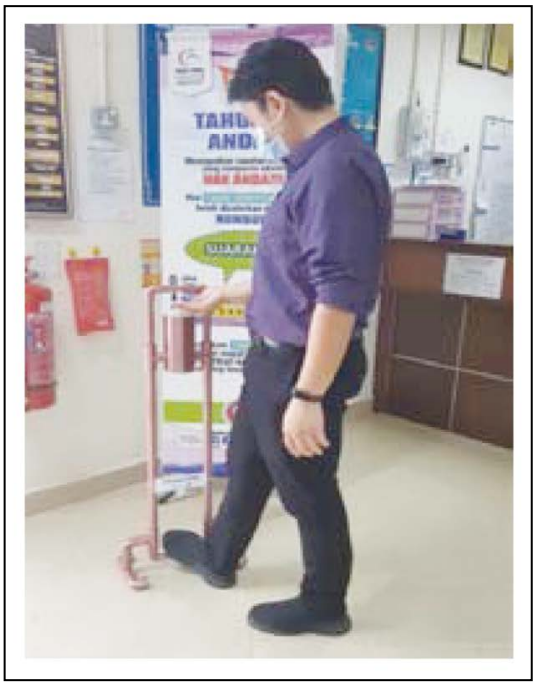
### 3.3.6 INNOVATION

COVID-19 has shocked the world and caught most countries unprepared, forcing them to improvise how best to protect the health of their poulations. Therefore, there is a need to explore new approaches, developments and health technology innovations to avoid / minimise transmission of COVID-19. Among the innovations developed by dental personnel are as follows:

**i) Foot Operated Hand Sanitiser**

This innovation aims to avoid transmission of virus when dispensing hand sanitiser.

*Innovation by Perlis team*



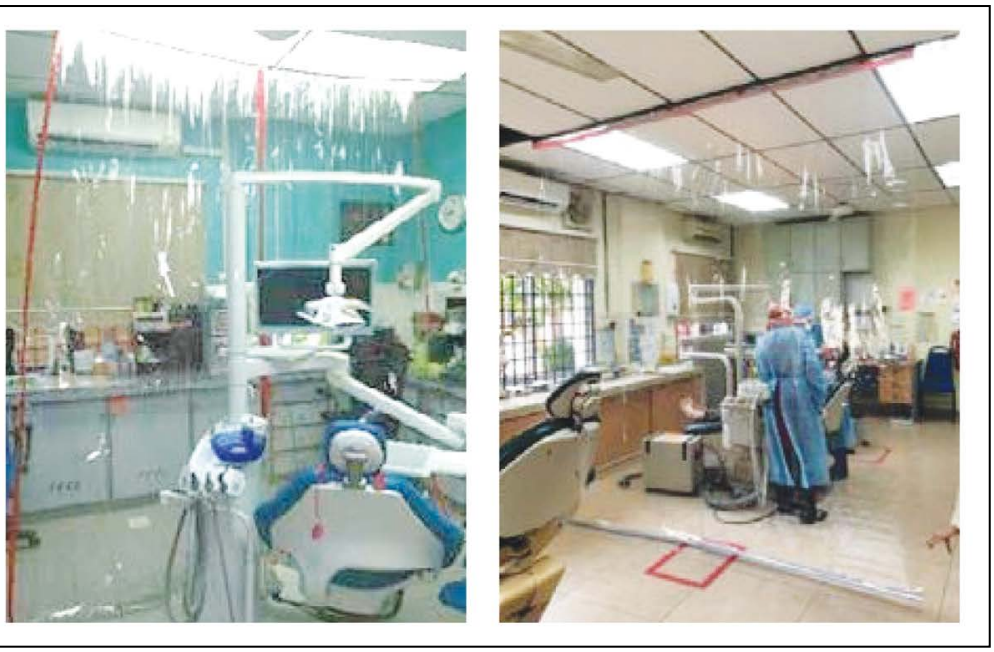
*Innovation by Terengganu team*

**ii) Plastic Screen / Barrier**

As a precautionary measure, a plastic screen/barrier was placed at the registration counter to isolate staff. Patients were required to place their identification card or appointment card through a small opening in the plastic screen to minimise contact between patients and staff.

*A plastic screen placed at the registration counter to minimise contact with patients (Kedah)*

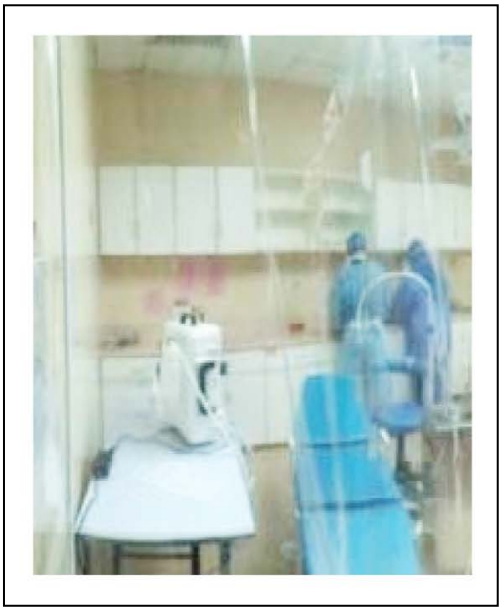
To prevent spread of aerosol during treatment in open-concept dental surgeries, partitions were made using polyvinyl chloride (PVC) pipes and plastic sheets.



*Plastic screen is prepared to separate each surgery room (Kedah)*

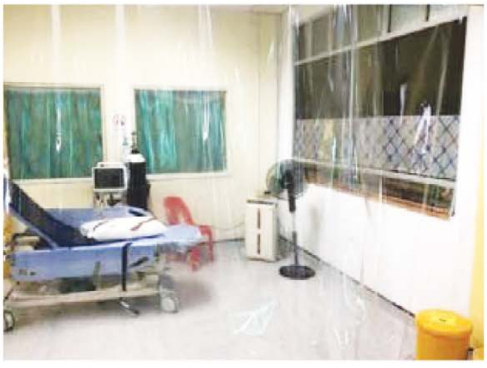
*Use of 'plastic cover' as barriers to reduce aerosol splash from other areas during AGPs (Pulau Pinang)*

*Separator between dental chairs (Kelantan)*

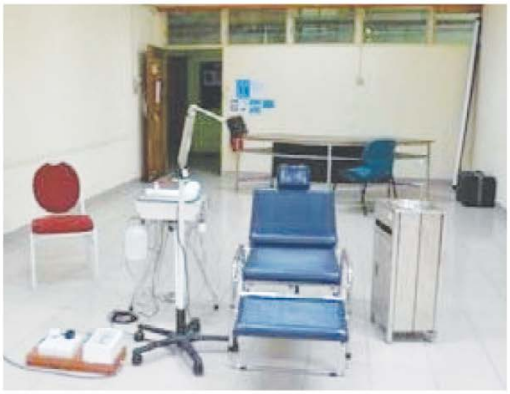


*Plastic cover in treatment room (Labuan)*

*Isolated treatment area with plastic barrier for AGP in Terengganu*



*Designated Room for Dental Emergency Treatment and AGP in Labuan*

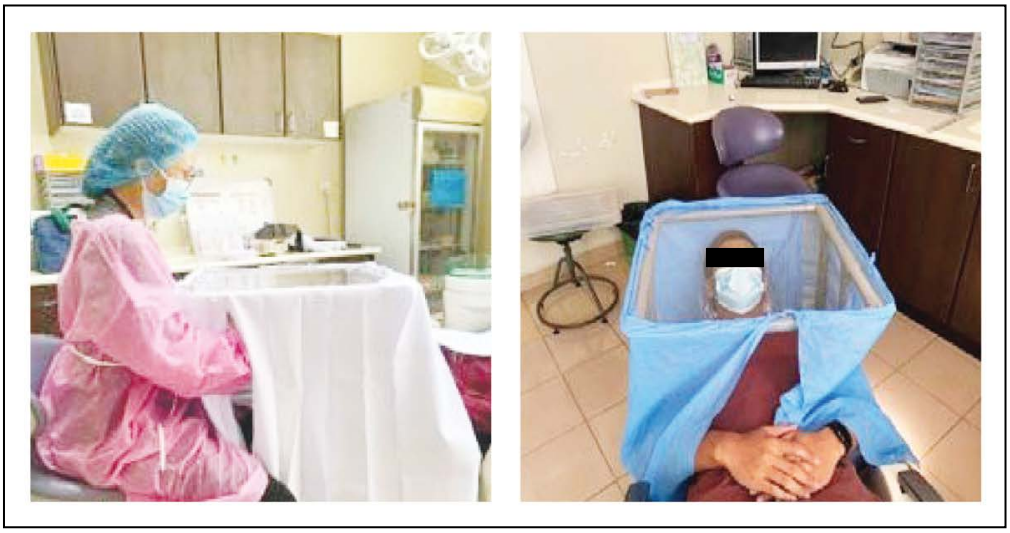


*AGPs were carried out in an isolated room, whereas non-AGPs were carried out temporarily in Trainee's Clinic (ILKKM)*

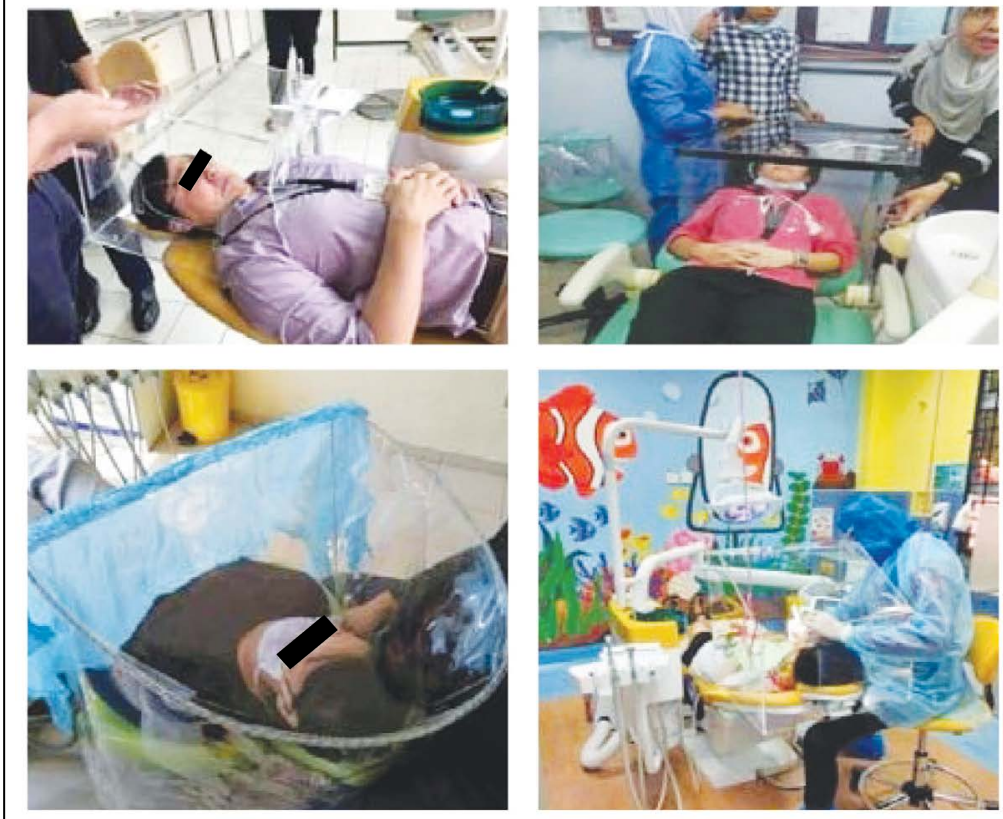
### iii) Aerosol Containment Box / Shield

Aerosol containment box / shield is an innovation by several states to control / minimise dental aerosol during AGPs.

*Innovation by Kedah team*

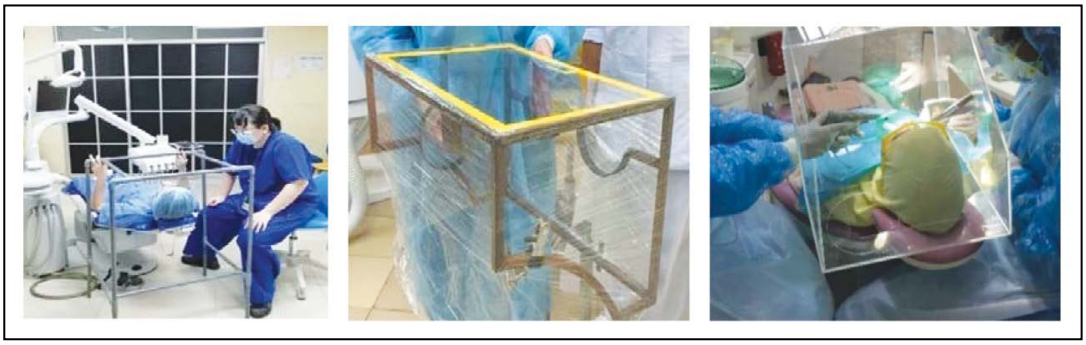


*Innovation by Melaka team*



*Innovation of 'isolation boxes' designed for use during dental treatment involving AGPs by Penang team*

*Staff using the "barrier frame" while treating patients (Negeri Sembilan)*

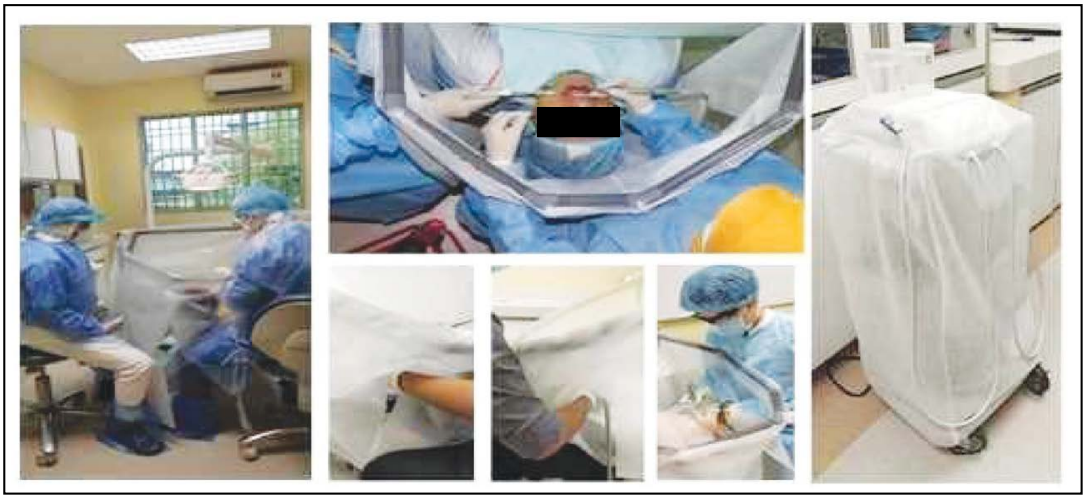


*Examples of protection chamber innovation undertaken by various clinics in Perak*

*Aerosol box by Labuan team*

*Isolation room with plastic cover and aerosol barrier by Terengganu team*

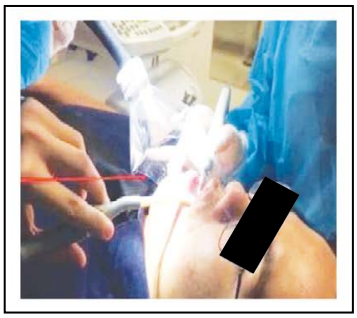
*Protection box by Kelantan team*



*Bioaerosol barrier and ultrasonic unit covers innovation by Penang Periodontic Specialist Team to reduce aerosol splash into the air during AGP*

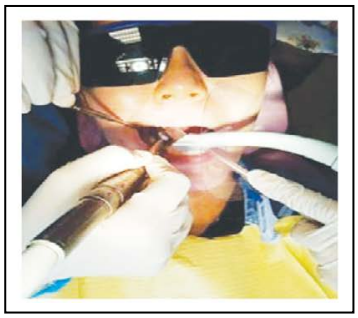
**iv) Modified Suction Tip**

Suction tips were modified to a funnel shaped tip to ensure maximum suction of the aerosols during AGP.



*Extra-oral suction using used bottle by Melaka team*

*Modification of high vacuum suction tip by Kedah team*



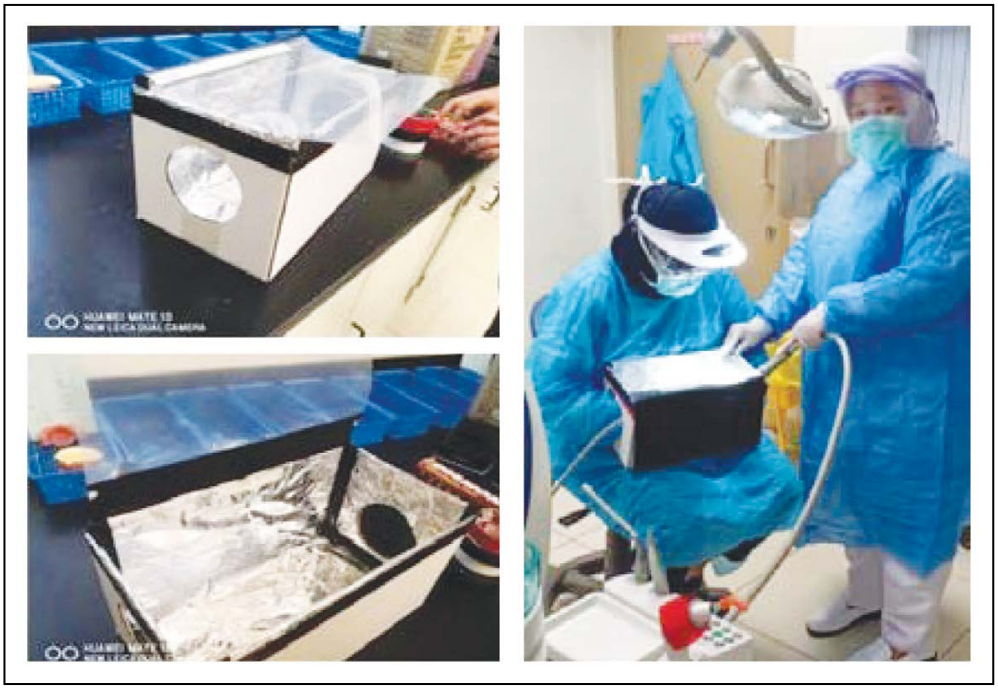
*Hand piece and suction shield by Perak team*

**v) Isolation Box for Denture Trimming**

Isolation box which is used during the process of denture trimming. This is to minimise the spread of aerosol generated when trimming the acrylic dentures.

*Innovation by Penang team*

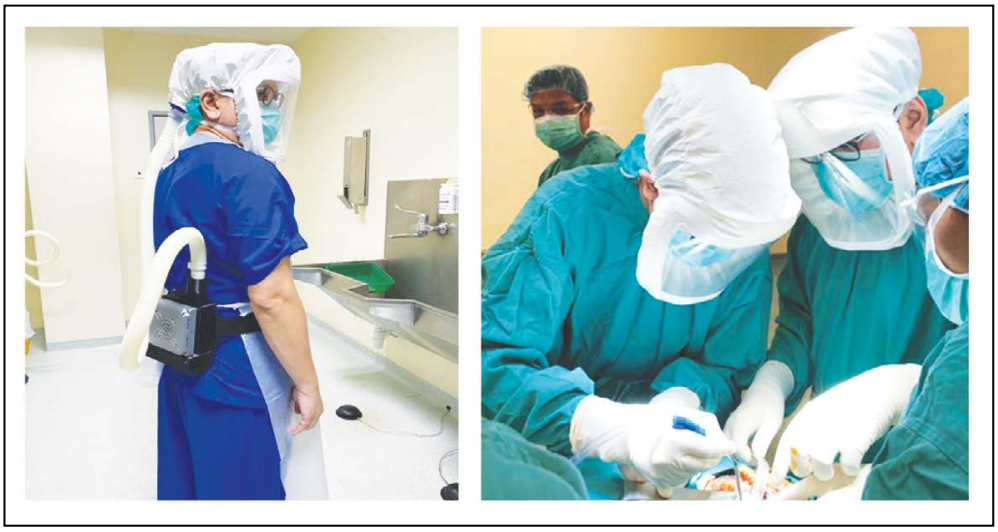
*Denture trimming process in innovated trimming box by Terengganu team*



*Denture trimming box innovation by Melaka team*

**vi) Powered Air Purifying Respirators (PAPR)**

Pahang innovation team has successfully innovated three 3D printed PAPR that are being used during dental treatment and 2 COVID-19 cubes for swab taking purposes. The PAPR innovation has won Special Jury Award in MOH Innovation Award 2020 under Product Category.



*PAPR innovated being used during AGP*

## 3.4 MONITORING OF ORAL HEALTHCARE SERVICES AT PRIMARY & SECONDARY LEVEL

Daily monitoring on the provision of oral health services was done from 1st April 2020 at primary and secondary oral healthcare level. This daily data monitoring was then compiled into weekly report.

Despite the spread of COVID-19, 587 out of 670 primary dental clinics (87.6%) continued operation (as of 31st August 2020), whereas, all specialist dental clinics remained operational throughout the MCO.

A total of six technical reports were prepared from April to May 2020 and mainly consisted of:

i) Total number of patient attendances during the MCO period
ii) Total number of patients screened at primary and specialist clinic
iii) Total number of patients with COVID-19 risk factors referred to Health Clinic
iv) Total number of emergency and non-emergency cases with type of cases
v) Total number of emergency treatments given
vi) Total number of dental personnel
- Under the category of PUI
- Detected as positive COVID-19
- Suspected getting the infection while giving the treatment or due to other reason

The report has given an overview of the workload of the dental personnel at the clinics during this MCO period. The type of cases and treatment provided will be useful in meeting future demands.

## 3.5 MONITORING OF COVID-19 INFECTIONS AMONG ORAL HEALTHCARE WORKERS

A database on 'Occupational Safety & Health: Exposure to COVID-19' for OHCW infected with COVID-19 was developed for use in all government facilities. The database created requires the State Occupational Health and Safety Coordinator to fill and submit forms to the Occupational Safety and Health Unit, Legislation and Enforcement Section for compilation purposes.

As of 30th November 2020 around 67,169 confirmed COVID-19 cases were reported in Malaysia and this data also includes HCW and there was no exception for OHCW. During this outbreak, 11 dental clinics (1.54%) from a total of 711 dental clinics in Malaysia had to be closed temporarily due to affected clinics being sanitised following COVID-19 notification among OHCW or patients.

Out of a total of 15,413 OHCW in Malaysia, 37 cases (0.24%) were confirmed COVID-19 and 721 cases (4.68%) were categorised as PUI. It was also noted that 7 COVID-19 positive cases and 483 cases categorised as PUI had history of close contact with other staff at workplace. Based on the COVID-19 notification and tracking records, it was confirmed that none of the OHCW were infected due to non-SOP compliance while performing dental procedures. In other words, those confirmed cases of COVID-19 among the dental staff did not contract the infection from patients while carrying out treatment, rather it was through close contact with other staff or individuals who had the infection.

Dental officers were the highest category among OHCW with confirmed COVID-19. A total of 15 dental officers (40.54%) was confirmed COVID-19 and a total of 277 dental officers (38.42%) was detected as PUI.

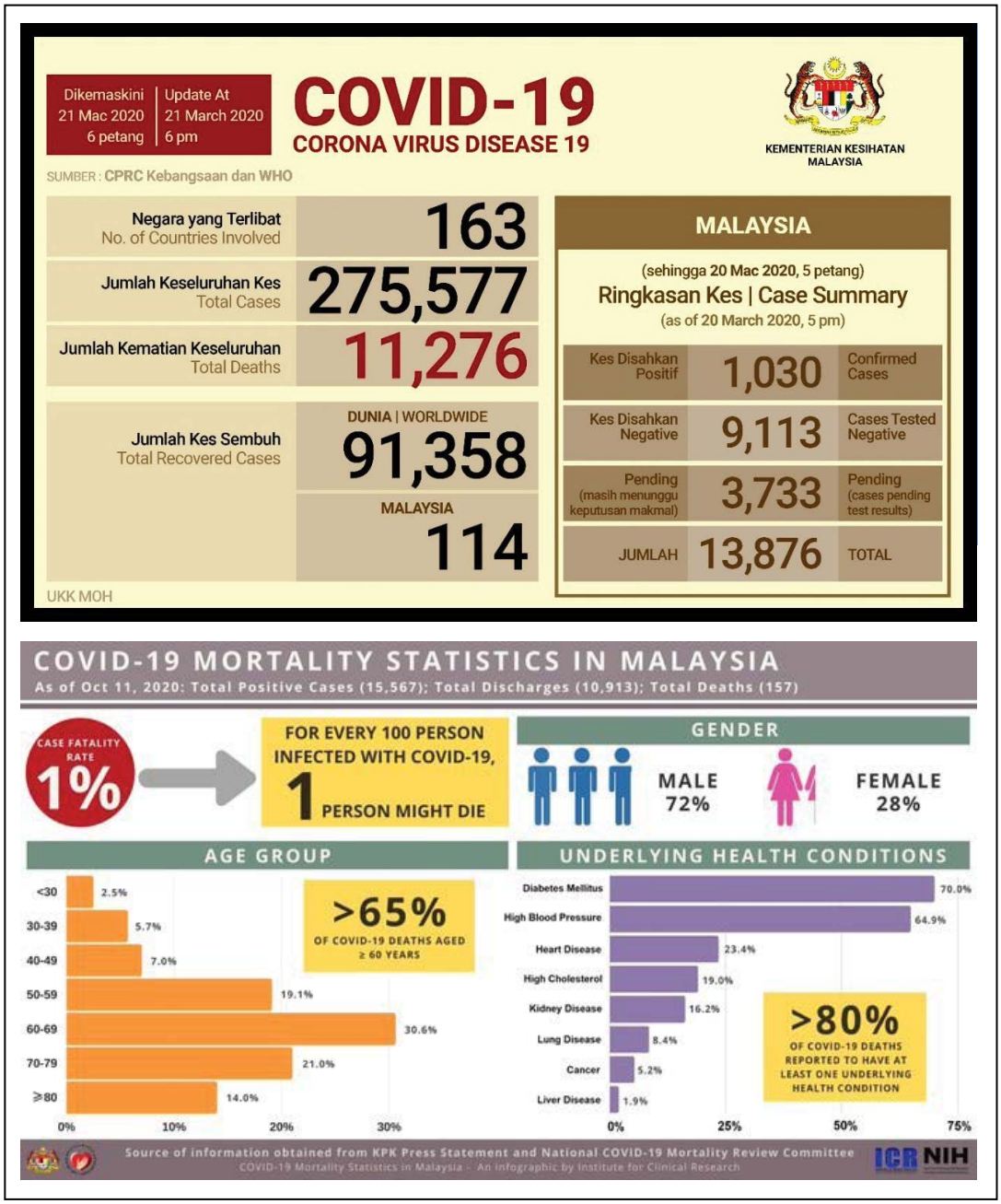
In conclusion, the percentage of confirmed COVID-19 among OHCW is 0.05% out of the total confirmed COVID-19 in Malaysia, which is very low. This low prevalence is likely due to the compliance by the staff with SOPs and current guidelines for COVID-19 outbreak. The risk of infection during this COVID-19 outbreak is not only limited to dental officers and patients only but also among other OHCW.

It is recommended that each dental facility appoint a team of OHCW who will oversee the compliance of cross infection control practices. Guidelines on the use of PPE and the implementation of cross-infection control are as recommended in the Guidelines for Handling Issues Relating to the Infection of COVID-19 Infectious Disease in the Dental Health Service Bil.5/2020 and Guidelines on Infection Control in Dental Practice 2017 issued by the MDC.

## 3.6 MONITORING OPERATION OF PRIVATE DENTAL CLINICS

Operation of private dental clinics such as operating hours, clinic closures and complaints related to Private Healthcare Facilities and Services (Private Dental Clinics) was monitored during MCO.

From the database and applications submitted by the Person-In-Charge of the private dental clinics to Cawangan Kawalan Amalan Perubatan Swasta (CKAPS) MOH, a total of 259 applicants had requested to change operating hours and 395 applications requested to close clinics during the MCO. In addition, there were 3 complaints received by Legislation and Enforcement Law Section related to handling issues of COVID-19 infectious disease in the private dental clinics.




*COVID-19 statistics*

# 4.0

# IMPLICATIONS OF COVID-19 OUTBREAK ON ORAL HEALTHCARE SERVICES

## 4.0 IMPLICATIONS OF COVID-19 OUTBREAK ON ORAL HEALTHCARE SERVICES

Malaysia has reported 3 waves of COVID-19 cases. The first wave was on 25th January 2020, where 4 cases of non-citizens who had just arrived in Malaysia were detected. Not long after, on 27th February 2020, the COVID-19 case was reported again, indicating the beginning of the Second Wave. Currently, Malaysia is experiencing the Third Wave which began from the 20th September 2020 onwards.

There are 4 colour-coded categories indicating the risk level of a particular zone / district:

i) Green : 0 active case
ii) Yellow : 1 – 20 active cases
iii) Orange : 21 – 40 active cases
iv) Red : ≥ 40 active cases

This pandemic has changed our way of delivering oral health services to the public. The colour of the zone determines the management of patients in oral healthcare as in **Figure 1**.

**KATEGORI PESAKIT DAN JENIS RAWATAN / PPE / BILIK RAWATAN**

| KATEGORI PESAKIT | RISIKO RENDAH | | | | RISIKO TINGGI | |
|---|---|---|---|---|---|---|
| JENIS RAWATAN | • Semua jenis rawatan AGP / tanpa AGP | | | | • Rawatan kecemasan sahaja | |
| LOKASI KP | ZON HIJAU | | ZON KUNING / JINGGA / MERAH | | ZON HIJAU / KUNING / JINGGA / MERAH | |
| | TANPA AGP | AGP | TANPA AGP | AGP | TANPA AGP | **AGP |
| PPE | • *3 ply surgical mask*<br>• *Eye protection (goggles)*<br>• *Face shield*<br>• *Gloves*<br>• *Isolation gown (fluid-repellent long sleeve gown)* | • *3 ply surgical mask* / N95 mask / KN95 mask<br>• *Eye protection (goggles)*<br>• *Face shield*<br>• *Gloves*<br>• *Isolation gown (fluid-repellent long sleeve gown)* | • *3 ply surgical mask*<br>• *Eye protection (goggles)*<br>• *Face shield*<br>• *Gloves*<br>• *Isolation gown (fluid-repellent long sleeve gown)* | • **N95 / KN95 *mask***<br>• *Eye protection (goggles)*<br>• *Face shield*<br>• *Gloves*<br>• *Isolation gown (fluid-repellent long sleeve gown) with plastic apron* | • **N95 / KN95 *mask***<br>• *Eye protection (goggles)*<br>• *Face shield*<br>• *Gloves*<br>• *Isolation gown (fluid-repellent long sleeve gown)* | • **N95 / KN95 *mask***<br>• *Eye protection (goggles)*<br>• *Face shield*<br>• *Gloves*<br>• *Isolation gown (fluid-repellent long sleeve gown) with plastic apron*<br>• *Head cover*<br>• *Shoe Cover* |
| BILIK RAWATAN | • Bilik rawatan sedia ada | • Bilik rawatan isolasi khas untuk AGP | • Bilik rawatan sedia ada | • Bilik rawatan isolasi khas untukl AGP | • Hospital atau klinik (bagi kawasan yang terpencil) yang dikenal pasti<br>• Bilik rawatan isolasi khas | • Hospital atau klinik (bagi kawasan yang terpencil) yang dikenal pasti<br>• Negative pressure room / AIIR; atau<br>• Bilik rawatan isolasi khas untuk AGP |

**** Pilihan PPE semasa menjalankan AGP bagi pesakit berisiko tinggi :**

1. *Powered air-purifing respirator (PAPR). Isolation Gown (fluid-repellent long sleeve gown) with plastic apron / Coverall suit, Gloves, Eye Protection (face shield/ goggles), Boot cover/shoe,* **atau**
2. *Coverall suit, N95 mask, Eye Protection (face shield/goggles), Gloves, Boot cover/shoe cover;* **atau**
3. *N95 mask, Isolation Gown (fluid-repellent long sleeve gown) with plastic apron, Gloves, Eye Protection (face shield/goggles), Head cover, Boot cover/shoe cover*

Rujukan: *Annex 8* (Garis panduan COVID-19 KKM) di pautan - *http://covid-19.moh.gov.my/garis-panduan/garis-panduan-kkm/Annex_8_IPC_MEASURES_IN_MANAGING_PUI_ORCONFIRM_COVID19*_15.7.2020.pdf

*Figure 1 Flow chart on the management of patient according to the level of risk*

## 4.1 ATTENDANCES TO ORAL HEALTHCARE FACILITIES

To minimise the risk of transmission, only emergency treatments are carried out in yellow, orange and red zones / districts. As a result, the overall attendance of patients to oral healthcare facilities dropped significantly up to at least 60% in primary dental clinics and 35% in specialist dental clinics. Consequently, OHP received a number of complaints due to postponement of elective procedures.

## 4.2 PERSONAL PROTECTIVE EQUIPMENT (PPE) & DENTAL ASSETS

The COVID-19 pandemic has resulted in a significant increase in the demand for certain pharmaceutical products, medication and PPE. Needless to say, the increase in demand has led to shortage of supplies and increase in price of these items. To mitigate these issues, the Finance Division, MOH in mid of June 2020 approved about RM7.5 million for OHP to purchase PPEs and RM500,000 for assets procurement. Donations from various agencies were also received through CPRC to overcome this shortage.

## 4.3 TRIAGE COUNTERS

Infrared thermometer, face shield and surgical gowns are mandatory items to set up triage counters. Emergency procurement of these three items were made at central and state level.

### 4.3.1 SCREENING FOR STAFF

Body temperature screening was carried out prior to commencement of duties at workplace as part of preventive measures. This was to ensure only those without symptoms were allowed to come to work. Staff with symptoms (fever and symptoms of respiratory illness) are advised to undergo medical checkup and rest at home.

*Temperature checks carried out for staff prior to entering the premise*

### 4.3.2 SCREENING FOR PATIENTS

As a prerequisite to enter the premises, patients had to fill up a Declaration Form stating their status with regard to COVID-19 symptoms, current travel history and history of close contact with any COVID-19 active cases. Patients' details were also recorded either manually or through MySejahtera application. Body temperature screening was also compulsory to ensure only those without symptoms were allowed to enter the facility.

For pediatric cases, each patient and their guardian were interviewed and required to fill the COVID-19 declaration form. The interview included relevant questions such as history of travelling overseas or any close contact with confirmed cases of COVID-19 patients. Hand sanitisers were provided at the triage counter in order to ensure hand hygiene was practised by the patients and the officers in charge.

*Screening at the entrance for every patient before entry into dental clinic*

*Detailed history taking using the MOH COVID-19 declaration form*

*DSAs manning the COVID-19 screening counters outside Pusat Pakar Hospital Tuanku Jaafar*

## 4.4 WORK ROTATION

During MCO, the number of staff on duty in the dental clinic was limited by group rotation. Oral Health Care Personnel were divided into groups to comply with the 'work from home' policy set by the Public Service Department. The groups were allowed to work from home on a rotation basis. This step was introduced to minimise the total number of staff working in the clinics/offices at any one time to facilitate compliance to the SOP, for example social distancing practice.

## 4.5 NEW WORKING ENVIRONMENT

The dental professionals are facing new challenges as we try to adapt to the reality that the COVID-19 pandemic has brought about changes in the way we practice.

### 4.5.1 ONE-WAY ENTRY & EXIT ROUTE

A one-way entry and exit route for patients to dental clinics was established. This was done to minimise contact among patients and to comply with the social distancing order as per SOP.

Separate lanes were marked for entry and exit to facilitate patient/staff flow. All other entrances were closed to ensure every patient is screened before entering the clinic premises. Hand sanitisers were provided at the entrance and exit doors.

*Separate entry and exit points at clinic entrance to facilitate patient/staff flow*

*Hand sanitisers placed at various strategic places at the clinics/offices*

### 4.5.2 SOCIAL / PHYSICAL DISTANCING

In order to avoid crowding in the waiting area, limitation in number of patients permitted at any one time was implemented. Only one caregiver was allowed to accompany patients aged 17 years and below, patient with disability or senior citizen. At the registration counter and waiting area, markers were placed on the floor and on the chairs to facilitate social distancing of at least a metre from each other.

*Markers to facilitate social/physical distancing*


*Examples of 'social distancing' which is practised at the registration counter*

*Patients at waiting area are separated from each other by one metre (social distancing)*

### 4.5.3 DESIGNATED AREA FOR DONNING & DOFFING

Considering that the disease is transmitted via infective droplets, a special room/ area was identified and designated for PPE donning and doffing purposes.

*Portable donning and doffing rooms*

### 4.5.4 PATIENT MANAGEMENT

**a) Emergency management/treatment**

During the early implementation of MCO, treatment was limited to emergency cases as follows:

| CLINIC/SPECIALITY | SCOPE OF EMERGENCY TREATMENT |
|---|---|
| Primary Dental Clinic | Toothache with pain score > 4<br>Extraction due to irreversible pulpitis and acute periapical periodontitis.<br>Fractured restorations and broken denture/appliances which may result in injury to oral tissues or pain.<br>Injury to the soft tissue or teeth caused by trauma<br>Trigeminal neuralgia<br>Facial cellulitis and abscess<br>Suspected malignant oral lesions<br>Post extraction complications (bleeding, dry socket, infection) |
| Orthodontics | Fracture of wires, brackets and appliances |
| Periodontics | Management of dental abscess |
| Restorative Dentistry | Endodontic emergencies involving acute irreversible pulpitis, acute apical periodontitis with pain score 6+, with or without swelling, cellulitis<br>Endodontic complication<br>Removal and recementation of mobile crown/bridge without reconstruction. |
| Oral Maxilofacial Surgery | Biopsies<br>Trauma<br>Cancers<br>Abscess or infection<br>Acute facial or dental pain<br>Dental clearance before radiotherapy, chemotherapy and cardiovascular surgery |
| Paediatric Dentistry | |
| Oral Pathology and Oral Medicine | |

**Table 2** Emergency treatment rendered by various clinics/specialities as outlined in *Garis Panduan Pengendalian Isu-Isu Berhubung Penularan Jangkitan Wabak COVID-19 di Perkhidmatan Kesihatan Pergigian Bil 3/2020*

**b) Outpatient management**

In order to reduce the risk of COVID-19 infection during MCO, routine dental procedures such as dental filling and ultrasonic scaling were postponed and patients were given appointments. Selected dental clinics in all states began operation in 2 shifts (8 am to 5pm and 1 pm to 10 pm) to manage the burden of postponed appointments starting 15th June 2020. All outreach programmes had been postponed, including oral health programmes for pre-schoolers, schoolchildren, antenatal mothers, indigenous communities and other institutions.

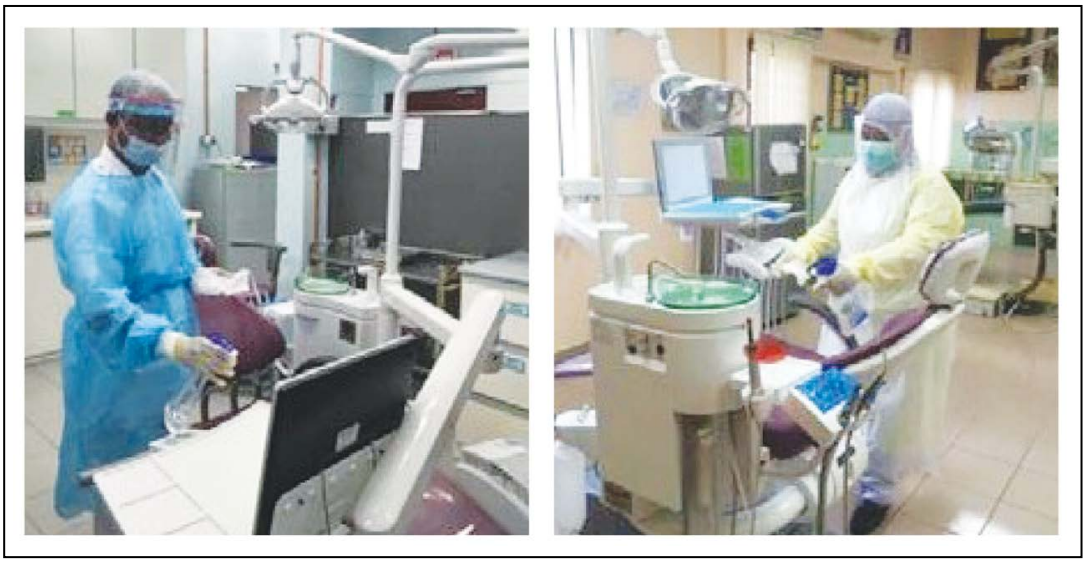
**c) Inpatient management**

In hospitals, pre-operative COVID-19 swab test was made compulsory for all patients planned for emergency procedures. In the operating theatres, dental specialists are required to wear PPE complete with Full Face Respirator with Particulate Filter / Powered Air Purifying Respirators (PAPR). In order to reduce risk of cross-infection from AGPs, the following items are required:

- Ultra-violet germicidal irradiation machine
- Extraoral aerosol suction machine
- HEPA filter
- Anti-retraction air turbine/high speed handpieces
- High vacuum intraoral suction unit

### 4.5.5 FREQUENT DISINFECTION & SANITISATION

Thorough cleaning and disinfection procedures were done systematically after each patient. Frequently touched surfaces such as door handles, door knobs, waiting room chairs/benches and countertops were routinely cleaned and disinfected.



*All dental staff wore complete PPE while cleaning and sanitising surfaces in dental surgery rooms after examination and treatment of each patient*


*Regular disinfection of door handles and seats*

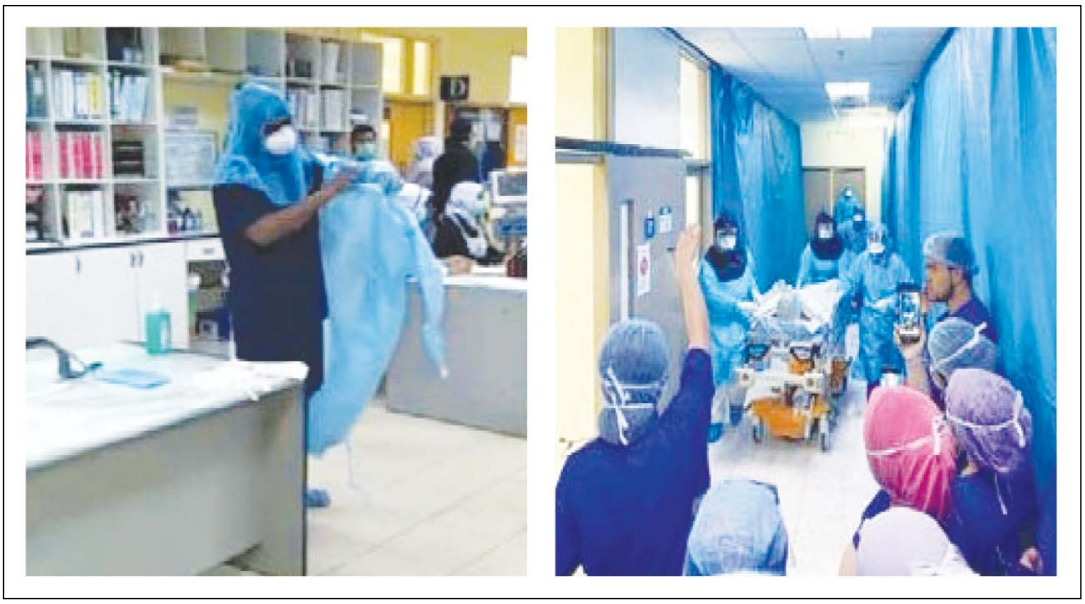
*Weekly disinfection by Water Supply & Environmental Health (BAKAS) Unit in Kedah*

*Using a 'spray disinfection pump' for disinfection of working area*

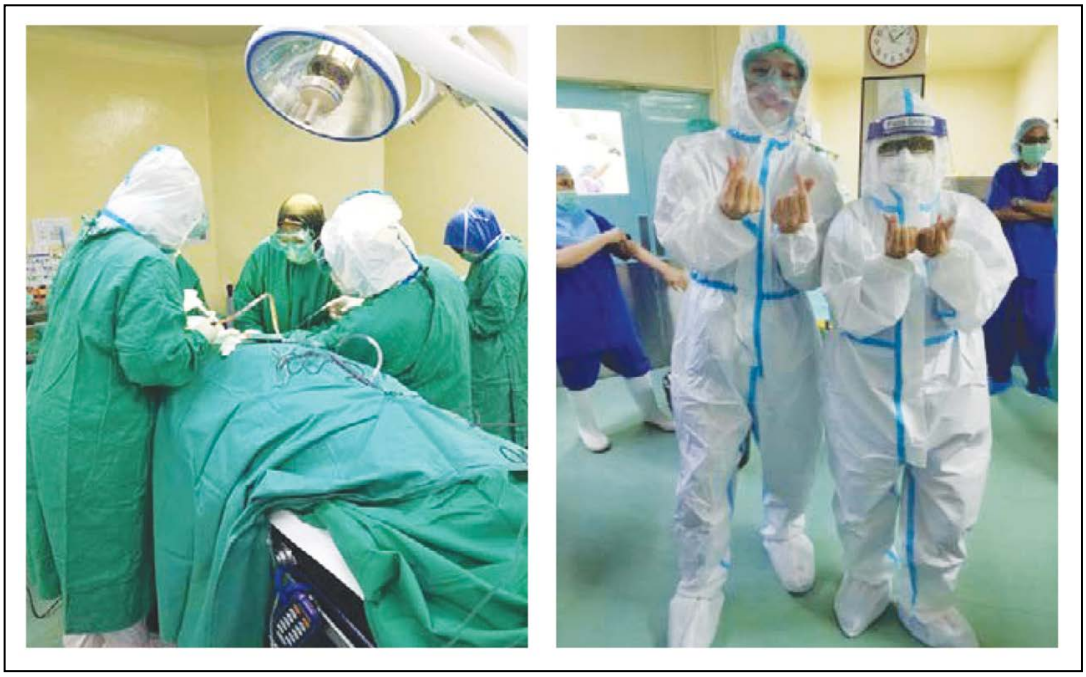
## 4.6 IMPLICATIONS ON SECONDARY ORAL HEALTHCARE SERVICES

Several state hospitals were gazetted for managing COVID-19 patients. All elective procedures under general anaesthesia including comprehensive dental treatment and surgical cases were cancelled from the moment MCO was announced. As a result of the MCO, the number of cases due to trauma from motor-vehicle accident had reduced, however, more cases on household accidents such as alleged fall from bed were received. An increased number of facial cellulitis cases was also observed. This may be due to patients delaying seeking treatment during the MCO period.

Operation theatre personnel were minimised in order to reduce contact and conserve resources such as PPE. Only 1 specialist, 1 dental officer and 2 dental surgery assistants were allowed to enter the operating theatre for surgeries. Comprehensive training including COVID-19 Drill and Continuing Medical Education on Donning and Doffing of PPE (including hand hygiene, removal of used gloves and masks as well as correct and safe work practice controls) was made compulsory for all officers and staff in the hospital.



*COVID-19 Drill at Hospital Pulau Pinang*



*Simulation training in the operation theatre, Hospital Teluk Intan with Tyvec suits and PAPR for COVID-19 case (the patient had been screened and tested negative)*

### 4.6.1 TRANSFORMATION OF HOSPITAL SUNGAI BULOH INTO COVID-19 HOSPITAL

Following the Director General of Health's announcement on Hospital Sungai Buloh as the National COVID-19 hospital, prompt actions were taken on decanting all our patients and services out of this hospital to nearby hospitals. This had great impact on all the departments, including the OMFS and Paediatric Dentistry Department.

**Oral Maxillofacial Surgery (OMFS) Department**

This hospital is the only one in the country with a fully designated Oral and Maxillofacial ward. However, OMFS services almost completely halted, as our functions were reorganised into COVID-19 patient management. The role of Medical Dental Advisory Committee in Sungai Buloh Hospital, chaired by the head of department of OMFS became very prominent in advising the Hospital Director in handling the COVID-19 crisis. The OMFS personnel seconded the Infection Control Team, who was the primary team to coordinate and ensure all infection control measures were prepared and in place to receive and manage COVID-19 patients. Other actions taken in preparation of COVID-19 were:

- Emptying of the wards. Patients were transferred to neighbouring hospitals, which includes Hospital Shah Alam, Hospital Selayang, Hospital Tengku Ampuan Rahimah and Hospital Kuala Lumpur.

- Deployment of resources to different sectors and different hospitals.
- Establishment of a core team to attend to COVID-19 patients. Team members were fully trained on infection control procedures, SOPs and the handling of COVID-19 patients in the operation theatre.

*Involvement of OMFS Staff in Operation Theatre with COVID-19 patient. The procedure was done with full PPE supplemented with Powered Air-Purifying Respirators (PAPR).*

**Paediatric Dentistry Department**

The declaration of Sungai Buloh Hospital as a COVID-19 admitting hospital resulted in the partial paralysis of the department's usual operation. This department undertook pre-emptive measures including:

- cancellation of elective operations.
- rescheduling appointment for review patients.
- referring non-emergency cases to other non-COVID-19 admitting hospitals.
- provide designated clinics for patients who required emergency paediatric dental care.
- only accept cases with life-threatening emergencies, nevertheless, only as a transit to stabilise the patient prior to sending the patient out to another location.

The postponement of patients' appointments caused worry among the parents. However, increased tele-communication between staff and patients' parents helped to alleviate their fear and anxieties. As the number of patients in the department dwindled to a trickle, Hospital Sungai Buloh Pediatric Department's staff were mobilised to aid other departments in their battle against COVID-19:

i) Bed Management Unit – managing and arranging the admission of COVID-19 patients to the assigned ward based on the disease severity.

ii) Public Health Unit (Unit Kesihatan Awam) – providing and updating daily data and numbers of positive COVID-19 patients in Hospital Sungai Buloh.
iii) Corporate Social Responsibilities – managing donations to Hospital Sungai Buloh including accepting calls from donors, arranging for the delivery of items, identifying the receiving team and providing token of appreciation to donors.
iv) Clinical Research Centre – identifying COVID-19 related issues, collecting information and data of progression of COVID-19 inpatients in Hospital Sungai Buloh for registry and research.
v) Mobilisation of staff to Jabatan Kesihatan Wilayah Persekutuan Kuala Lumpur & Putrajaya in assisting swab taking at Pasar Borong Selayang for two weeks (16th April 2020 – 30th April 2020).
vi) Conducting checks at entry point at *Hospital Sungai Buloh* for COVID-19 screening and temperature check of hospital personnel and patient.


# ORAL HEALTHCARE INVOLVEMENT IN PUBLIC HEALTH ACTIVITIES

## 5.0 ORAL HEALTH INVOLVEMENT IN PUBLIC HEALTH ACTIVITIES

The number of patients that sought dental treatment had decreased drastically since the start of the MCO period. Due to the low turnout of patients and deferment of outreach dental activities, oral health personnel were redeployed in various activities to help curb the spread of COVID-19.

## 5.1 SCREENING & SWAB TEST

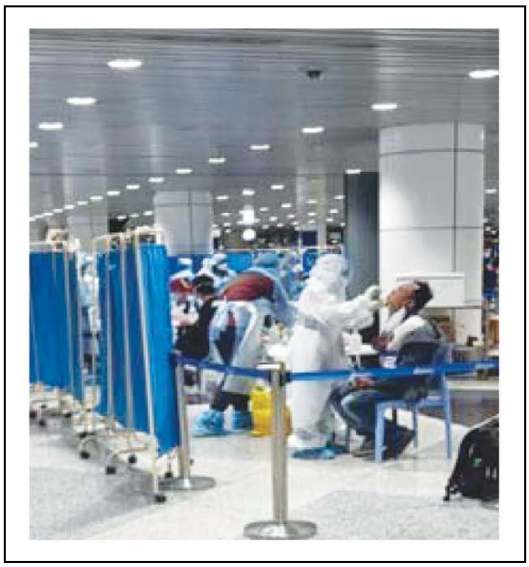
All dental personnel involved in screening and swab taking were given comprehensive training on oropharyngeal and nasopharyngeal swab sampling. Staff were sent for COVID-19 sampling preparation training for a day at Pejabat Kesihatan KLIA on 24th April 2020. In the training session, staff were briefed on donning and doffing of PPE and swabbing procedures. Frontliners were also counselled to prepare themselves physically and mentally for the task.

*Training Session at Health Quarters in KLIA*

### 5.1.1 Kuala Lumpur International Airport (KLIA)

Selangor State Oral Health Division had deployed 60 dental staff from all districts and hospitals to be stationed at KLIA. There were many agencies working together in KLIA such as the Armed Forces, Malaysia Airport team and National Disaster Management Agency (NADMA). One of the aims was to monitor health and COVID-19 status among students and citizens returning to the country at KLIA and KLIA 2.

Dental teams were assigned to take sampling and do packaging for all the samples, whereas registration was done by the Armed Forces members and medical team in KLIA. Following that, all returning Malaysians were placed under quarantine. Samples taken were then transported to laboratories based on the list of designated laboratories.



*Sampling COVID-19 on adult passenger*

*Sampling COVID-19 on child passenger*

During Human Assistance and Disaster Relief 5.0, dental staff from Negeri Sembilan were mobilised to KLIA to join the swab team. This evacuation mission involved Malaysians returning from Jawa Timur, Indonesia by a repatriation flight. Mass sampling was carried out for these passengers to mitigate the possibility of spread. These Malaysians were transported to a designated quarantine centre in Port Dickson for 2 weeks mandatory health monitoring. They were allowed to return to their respective homes once they completed the quarantine period. This large-scale operation was successfully completed due to seamless multi-agency collaboration from organisations such as MOH, Fire and Rescue Department of Malaysia, Armed Forces, Makmal Kesihatan Awam Kebangsaan and NADMA.

*Pre-mission lineup with team members from various agencies during Human Assistance and Disaster Relief 5.0 (Source: Fire and Rescue Department of Malaysia)*

### 5.1.2 CUSTOMS & IMMIGRATION CHECKPOINTS

**a) Customs, Immigration and Quarantine (CIQ) Complex in Bangunan Sultan Iskandar**

As Johor Baharu is the gatekeeper of the southern end of Malaysia, OHD, Johor State Health Department was involved in monitoring the health and movement of the public at the border between Malaysia and Singapore. The team's duties include:

- Temperature screening at the Singapore-Malaysia checkpoints, involving about 30,000 commuters travelling from Singapore to Johor daily during weekdays and about 50,000 commuters during weekends.
- Observing the thermal scanner monitor which detected temperature of the pedestrians passing through during the inspection process conducted by the Customs.

**b) Labuan Airport & Labuan International Ferry Terminal**

Dental officers were trained prior to joining the swab team at KK Labuan and all entrances to FT Labuan (Labuan Airport as well as Labuan International Ferry Terminal). Drivers were required to be on standby at Labuan International Ferry Terminal daily as they were assigned to send swab specimens to labs in Sabah.

### 5.1.3 QUARANTINE CENTRES (QCs)

**a) Institut Latihan Kementerian Kesihatan Malaysia (ILKKM)**

A male dorm at Pusat Pergigian Kanak-Kanak & Institut Latihan Kementerian Kesihatan Malaysia in Penang was converted into a QC.

**b) Perlis**

Three centres in the state were identified as QC, which is Perlis Industrial Training Institute, Institut Latihan Perguruan Kangar, Hotel Brasmana and the MOH Training Institute of Malaysia.

**c) Federal Territory of Kuala Lumpur**

All volunteers were given the task to take samples from Malaysians who had just returned from abroad and were stationed at hotels around Kuala Lumpur (QCs). Besides dental personnel from FTKL & P, dental staff from Selangor, Melaka and Perak were also involved in this mission. 25 dental staff (14 dental officers, 2 dental hygienists, 1 dental technologist, 6 DSAs and 2 drivers) from Perak State Health Department volunteered themselves for service from 27 until 31 May 2020. Melaka dental staff was involved with swab team at Hotel Grand Millennium Bukit Bintang.

**d) Johor**

In the case of the state of Johor, most Person Under Surveillance (PUS) were Malaysian citizens returning from Singapore. All PUS were required to be quarantined for 14 days at designated hotels all over Johor Baharu and swabs were taken as scheduled based on the protocol. Dental personnel including officers and DSAs were involved in helping out at these QCs. Dental teams from Johor Baharu district volunteered as frontliners in quarantine centres (hotels) and sampling centres (Permai Hospital and Educity Sports Complex Nusajaya).

**e) Negeri Sembilan**

A swab team comprising dental personnel was stationed at Avillion Admiral Cove and Grand Lexis Port Dickson.

**f) Terengganu**

Dental staff were involved in data collection of Person Under Investigation (PUI) for COVID-19 in two QCs, which were Scout Inn Resort and Institut Perguruan Kampus Dato' Razali Ismail. They were responsible for data collection and data storage of the PUI. This included daily updating of symptoms, tracing of PCR test results and discharge planning.

**g) Kelantan**

One of the drivers from KP Kota Bharu was also involved in transferring patients from hospital to QC in Pengkalan Chepa using the dental mobile team vehicle.

**h) Sabah**

Dental officers and DSAs were placed at Tang Dynasty Mutiara Hotel, Tawau to help with sample taking and monitoring the PUIs. The PUIs were newly arrived travellers transported from the airport.

*Dental staff drove the PUIs to the QC wearing full PPE and swab taking at Tang Dynasty Mutiara Hotel*

**i) Federal Territory of Labuan**

Dental staff were assigned to work on shifts according to schedule drawn up by CPRC at Institut Latihan Perindustrian Labuan.

*Healthcare Assistants (PPKs) working in quarantine centre*

### 5.1.4 MOBILISATION OF DENTAL TEAMS

Dental staff joined forces with medical swab team for *Program Mobilisasi Anggota Kementerian Kesihatan Malaysia* to help break the chain of transmission by COVID-19 cluster at Pejabat Kesihatan Lembah Pantai, Wilayah Persekutuan Kuala Lumpur (WPKL). Prior to that, training was given by the Medical Officers and Infection Control nurses from Pejabat Kesihatan Daerah (PKD) Lembah Pantai. Dental staff from different states were mobilised to various swab stations around FT Kuala Lumpur and Selangor area.

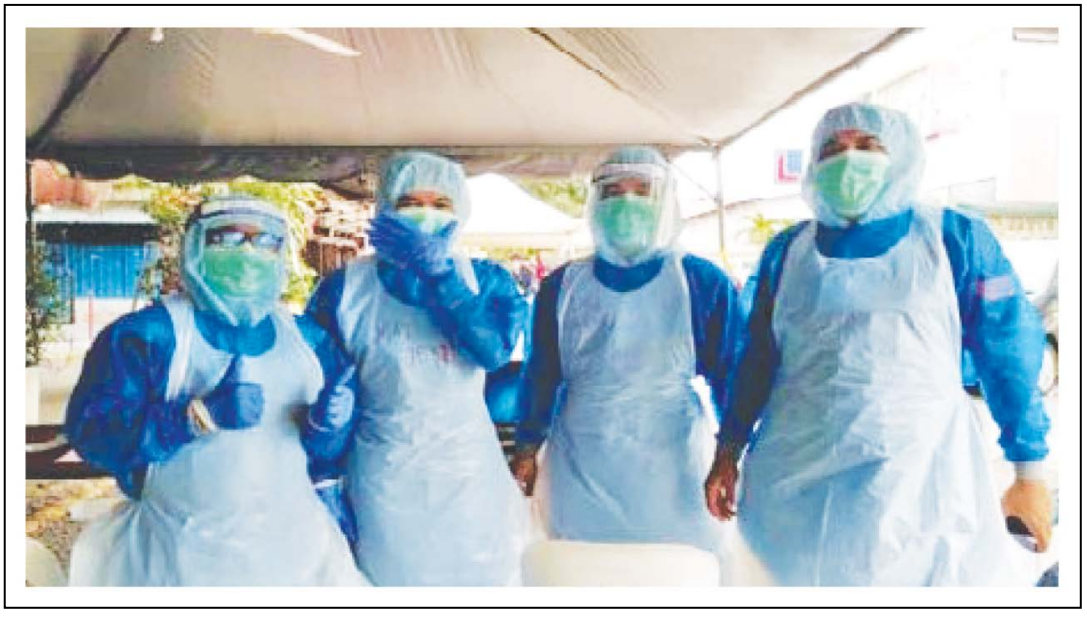
**a) Semi Enhanced Movement Control Order (SEMCO) / Enhanced Movement Control Order (EMCO)**

Enforcement of SEMCO was due to the positive testing of 24 workers from a cleaning company at KLIA, whereby 20 of them resided in Kuala Langat while the remaining 4 lived at Nilai, Negeri Sembilan. Enforcement of EMCO was due to positive testing of 71 tahfiz residents. EMCO was implemented to prevent the further spread of COVID-19 in Sungai Lui and to carry out contact tracing from house to house. The areas under EMCO extended from Batu 21 to Batu 24 areas in Sungai Lui in Hulu Langat district, Selangor. Other places that were also affected and required mobilisation of dental staff include:

- Zon Kepong, Mukim Batu
- Zon Kampung Baru, Mukim Bandar
- Menara City One
- Selangor Mansion
- Malayan Mansion
- PKD Cheras
- Pudu
- Chow Kit

*Teams of dental officers, dental therapists, dental technicians, dental surgery assistants, healthcare assistants and even drivers helped with registration, swab testing and traffic control involving 3 housing areas (Taman Langat Utama, Taman Langat Murni and Taman Langat Murni 2).*

*Mobilisation of dental staff from District Dental Office (PKPD) Bentong, Pahang to help in District Health Office (PKD) Cheras.*



*Mobilisation of dental staff from PKPD Rompin, Pahang to help in PKD Cheras. Accommodation was provided at a hostel in National Institute of Health, Setia Alam*

*Result tracing / data entry at PKD Cheras by staff from PKPD Maran, Pahang.*

*Dental staff from Negeri Sembilan performing swabs in Cheras and Kepong districts.*



*Negeri Sembilan dental personnel performing Rapid Test Kit (RTK) at Zone F of Pusat Bandar Utara Kuala Lumpur*

Healthcare Workers Donning PPE

Swab Taking

Swab Transportation

**b) East Malaysia**

In Sabah, dental drivers assisted the medical team, police team and the Armed Forces to check passengers' temperature during the inter-district roadblock checkpoint. They also helped in basic screening procedures of passengers who were brought to the quarantine centres upon arrival at Sandakan Airport.

*Dental staff on duty with other agencies*

In Sarawak, dental teams were tasked with transporting the medical teams around the city to carry out screening tests for PUIs. One team was in charge of bringing the test kits and investigation tools and another team to manage clinical wastes. The inner side surfaces of vehicles were thoroughly covered and wrapped with plastic sheets following proper infection control procedures.

*It was mandatory to wear the full PPE. The cushion at the back is thoroughly wrapped with plastic sheets.*

*Disposing biohazards into the clinical waste and sharp bin*

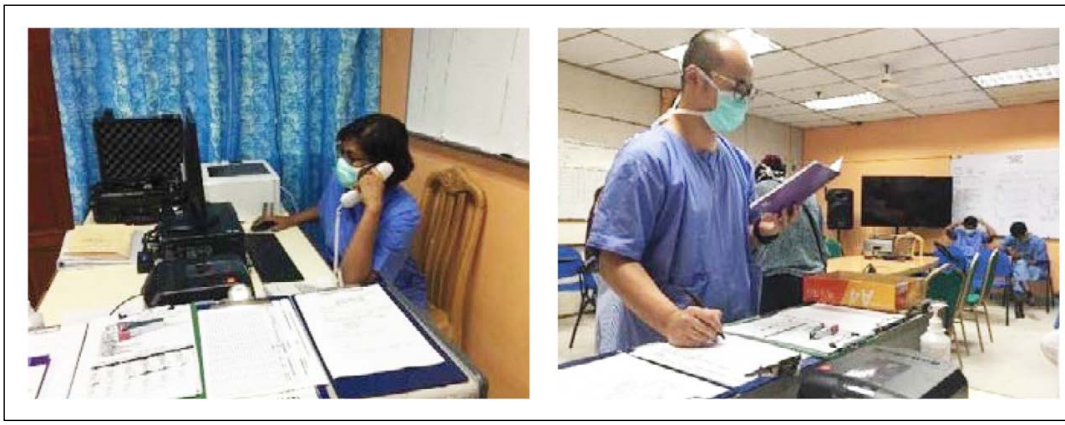
### 5.1.5 INVOLVEMENT THROUGHOUT THE COUNTRY

**a) Perlis**

Dental officers from OMFS and Paediatric Dental Unit were involved as part of the COVID-19 team. Since March 2020, this team had been involved in mass screening for COVID-19 at Hospital Tuanku Fauziah and other designated places, managing COVID-19 patients in quarantine centres in Institut Latihan Perguruan Kangar and Medical Ward and swab taking (COVID-19 screening) before operative procedures (as part of hospital SOP). When the COVID-19 cases in Perlis had been brought under control, the team was put in charge of Severe Acute Respiratory Illness (SARI) ward by rotations (5 times a month) in April and May 2020. The scope includes patient management, admission, confirmation of COVID-19 patient's status, medical emergencies and counselling.

**b) Perak**

Trauma and Emergency Department of Hospital Raja Permaisuri Bainun enlisted the help of dental officers from the OMFS and Paediatric Dentistry Departments to be part of the screening team in fighting this pandemic. These departments assigned dental officers to join the team at the Bilik Gerakan COVID-19. Dental Officers were put on rotation in 2 sessions. Among their assignments were receiving referrals for detection of COVID-19, to order COVID-19 detection tests, filling notification forms (Borang KKM CDCIS e-notifikasi) and COVID-19 census and also history clerking via telephone. Apart from COVID-19 patients, they handled SARI, PUI and pre-operative cases too. They were also on standby to be included as part of the swabbing team.



*Dental officers from the OMFS and Paediatric Dentistry Departments on duty at the Bilik Gerakan COVID-19, Hospital Raja Permaisuri Bainun*

*Dental Officer from OMFS Clinic taking swab from patient at Emergency Department Hospital Taiping, Perak*

**c) Selangor**

OMFS team from Hospital Sungai Buloh was deployed to help take swab samples and carry out screening at areas such as Malayan Mansion, Selangor Mansion and Pasar Borong Kuala Lumpur. A dental team from Perak was also deployed to Selangor Mansion to assist the swab team.

**d) Federal Territory of Kuala Lumpur**

Selangor dental teams were assigned to areas such as Pasar Borong Selayang Kuala Lumpur, Taman Sri Murni, Dewan Komuniti Batu Muda Kuala Lumpur, Bukit Bintang Kuala Lumpur, Pudu Kuala Lumpur, quarantine hotels around Kuala Lumpur and Depo Imigresen Bukit Jalil for swab taking and screening. Dental personnel from Melaka were also deployed to join the swab team at Jalan San Peng and Pudu.

*Briefing by an officer about methods of donning and doffing*

*Taking blood samples for RTK and swabs for RT-PCR tests in drive-thru stations*

*Sealing, labelling and packaging of the Viral Transport Media with the samples*

**e) Negeri Sembilan**

Dental personnel involved in mass sampling at Kerabat Processing House in Pedas, Jelebu Prison, KK Lukut, KK Port Dickson and poultry processing plant in Rembau.

*Dental officers from Port Dickson and Tampin districts conducting mass sampling at a poultry processing plant in Rembau*

*Drive-thru sampling (2nd swab) for traders from Port Dickson market*

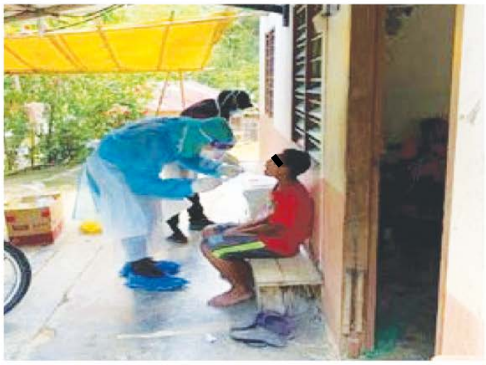
**f) Johor**

Dental officers from OMFS Department, Hospital Sultan Ismail were included in the COVID-19 swab team. They were assigned to the COVID-19 Mass Screening Area team under the guidance of an Emergency Physician and were stationed in the hospital vicinity away from the crowded area. On the other hand, dental officers from the OMFS and Paediatric Dentistry Departments, Hospital Sultanah Aminah, Johor Bahru worked in swabbing booths and cabins that provided better protection for the health care personnel and hastened the process of swabbing.

**g) Pahang**

The areas that were included for screening and swabbing were Kg. Telanok Cameron Highlands, Bentong and Immigration Detention Centre.

*Sample taking session at the Immigration Detention Centre (PATI) in Kemayan by PKPD Bera staff*



*Swab sampling with health department team in Kg Telanok, Cameron Highlands*

*Sample taken at SJK(C) Khai Mun, Bentong by staff from PKPD Bentong*

**h) Sarawak**

Dental personnel were involved with rapid response team of Song District and swab team at UNIMAS City Campus Kuching and Medical ward 5, Hospital Umum Sarawak.

*Swabbing team at Medical ward 5, Hospital Umum Sarawak*

**i) Sabah**

Dental officers together with medical officers conducted swab taking in Semporna, Keningau and Batu Putih. Drivers transported swab samples from swabbing sites to Makmal Kesihatan Awam Kota Kinabalu for further testing.

*Swab taking at Sekolah Kebangsaan Bangau-Bangau, Semporna and in Keningau.*

## 5.2 HOME SURVEILLANCE & IDENTIFICATION OF CLOSE CONTACT

**a) Selangor**

Case identification of close contact was done at Unit Kualiti Awam Hospital Shah Alam. Officers from OMFS and Paediatric Dentistry departments had the opportunity to be involved in this task. There were several steps involved in the identification process:

i) Close contact details were gathered and keyed into data collection sheets from the notification and clerking forms. Details such as demographic data, symptoms (e.g. fever, myalgia, flu, sore throat), close contact details, mode of contact were among the variables captured.

ii) Following this, patient's swab laboratory result traced from Health Information System were updated into the data collection sheet. In positive cases, officers in charge were notified immediately for further management.

**b) Federal Territory of Kuala Lumpur & Putrajaya**

Home Surveillance Order team moved from door to door to make sure all occupants in EMCO areas have done their COVID–19 screening tests. Calls were also made to PUIs throughout their 14 days quarantine period to check on their symptoms. Dental personnel were also involved in identifying close contacts among the COVID-19 positive healthcare workers.

**c) Negeri Sembilan**

Staff from KP Port Dickson assisted in sampling for close contacts of confirmed COVID-19 positive cases from Port Dickson market.

**d) Pahang**

About 40 staff were involved in close contact detection and home surveillance visits in a few areas with high active cases.

*Involvement in Active Case Detection (ACD) Team with PKD Kuantan*

**e) Sarawak**

A task force named Active Case Detection (ACD) for COVID-19 was held in 2 housing areas (Taman Desa Ilmu and Taman Unigarden) located in Kota Samarahan, Sarawak. This involved house-to-house surveillance of close contacts of positive COVID-19 patients or PUIs for swab taking. In addition, measures were taken to ensure PUIs complied with SOP and self-quarantine for 14 days. All PUIs were traced and contacted either by telephone call or making a visit to their home. Dental officers performed the nasopharyngeal-oral swab or PCR test while the DSAs ensured that all the samples taken were handled, packed and labelled correctly according to the SOP given. Some of them were assigned as data managers and data collection team.

*Dental personnel conducting contact tracing and identification of PUI (Sarawak)*

*Home surveillance team on duty at Taman Desa Ilmu and Taman Unigarden*

*Staff preparing the report after swabbing activity*

**f) Sabah**

Home surveillance was done at areas such as Kampung Buah Pandai, Kota Belud, Kampung Barjawa Ulu and Kampung Kota Ayangan Keningau. Dental staff assisted health inspectors in carrying out home surveillance for PUI under home quarantine and tracing persons with close contact to COVID-19 cases. In addition, drivers were assigned to help in transferring deceased person if there was death occurred at home.

*Home surveillance team in Kota Belud*

*Collecting deceased person at home*

*Transferring PUIs from home to QC*

**g) Federal Territory of Labuan**

A total of 30 staff from OHD were involved in monitoring quarantined individuals at homes as well as hotels since 16 March 2020. Duties were carried out on daily shifts, including weekends. A total of 8,560 home surveillances were conducted by the dental teams, representing 70% of the home surveillance in Labuan.

*Home surveillance from house-to-house*

## 5.3 PREPARATION OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

There was a high need for PPE during COVID-19 pandemic. Due to shortage of PPE, OHCW in all states took the initiative to produce Do-It-Yourself (DIY) PPE such as face mask, face shield, scarf, gown, head cover and boot cover to ensure sufficient supply.

A total of 150 staff from all categories worked together to produce about 4,000 pieces of isolation gowns that were distributed to all dental clinics in Perlis. The sewing of the gowns was carried-out at Klinik Pergigian (KP) Padang Besar, KP Kaki Bukit, KP Beseri, KP Kangar, Sekolah Menengah Arau, Community College and Oral Health Division (OHD) of respective states.

Kedah State OHD had taken part in the DIY programme to prepare PPE for usage in hospitals and clinics at MOH Training Institute Alor Setar, Kedah. Following that, a total of 765 face shields, 3,185 shoe covers, 3,105 head covers and 1,520 gowns were produced.

A total of 2,696 isolation gowns, 12,000 face shields and 650 boot covers were produced by the Perak dental staff during the MCO and distributed to needy health facilities including Dental Clinics.

With generous contributions from our dental personnel and other agencies such as media agencies and NGOs, there were 49,561 PPE produced and distributed equally to COVID-19 hospitals (Hospital Kuala Lumpur and Hospital Putrajaya) and COVID-19 screening clinics in FTKL & P. Some were also distributed to the

hospitals in Selangor (Ampang Hospital and Universiti Kebangsaan Kebangsaan Malaysia Medical Centre). A Face Shield Project was launched with the collaboration between “The ShieldThemUp” group & FTKL & P OHD. This initiative, at full capacity delivered a significant amount to meet the ever- increasing demand for PPEs. Thus, #ShieldThemUp managed to source materials for the production of 51,392 face shields, to date.

In Pahang, dental personnel managed to produce 3,062 face shields, 4,957 boot/shoe covers, 671 hood/head covers, 139 isolation gowns and 83 face masks. These PPEs were distributed to the nearest hospitals, district health offices, health clinics as well as for our use in the clinic. They also successfully created three 3D printed powered Air-purifying respirator (PAPR) that are being used during dental treatment and two COVID-19 cubes for swab taking purposes.

Sarawak dental staff managed to produce 2,143 face shields, 427 disposable isolation gowns, 4,447 headcaps and 4,540 shoe covers. All PPE produced were distributed to Hospital Sibu, Hospital Sarikei, Hospital Mukah and Hospital Miri.

*Project “The ShieldThemUp” in KP Bangsar*

*Dental personnel producing PPE for frontliners in Sarawak*

*Staff from Paediatric Dental Clinic were involved in the making of PPE (i.e head and shoe covers and isolation gowns) for Hospital Tuanku Fauziah, Kangar, Perlis*

*Sewing and packaging of PPE by Kedah medical and dental staff*

*Production of PPE by Selangor dental staff*

*Staff helping to stitch surgical gowns, shoe covers and head covers at KP Port Dickson*

## 5.4 CRISIS PREPAREDNESS AND RESPONSE CENTRE (CPRC) & DATA COLLECTION

### 5.4.1 Involvement & Role in CPRC Committee

The national level CPRC meeting is held to facilitate the operations of the CPRC and to execute the various strategies of the MOH. This committee is chaired by the Director General of Health and comprises of members from the various Programmes / Divisions in the MOH, including experts / specialists from hospitals. There are also members who have been co-opted from other agencies such as Malaysian Armed Forces. The committee has been meeting daily since 25th January 2020.

Oral Health Programme has been included in the committee meetings since 26th March 2020. The committee usually meets at the Operations Meeting Room, Level 4 Block E7 MOH Putrajaya. The meeting is frequently attended by both the Honourable Deputy Ministers of Health who actively participate in the meeting.

There is a standard agenda on the proceedings of the meeting. Usually, this comprises presentations on the number, trending and distribution of cases in the states, location of outbreaks and distribution of red, yellow and green zones, readiness and preparedness of our screening teams, hospital and laboratory services. There are also presentations on the infection status of our health care workers especially those involved as frontliners.

On the part of the OHP, pertinent information is prepared to be used as input during this meeting or during discussions with representative from other divisions such as Disease Control Division. This information includes:

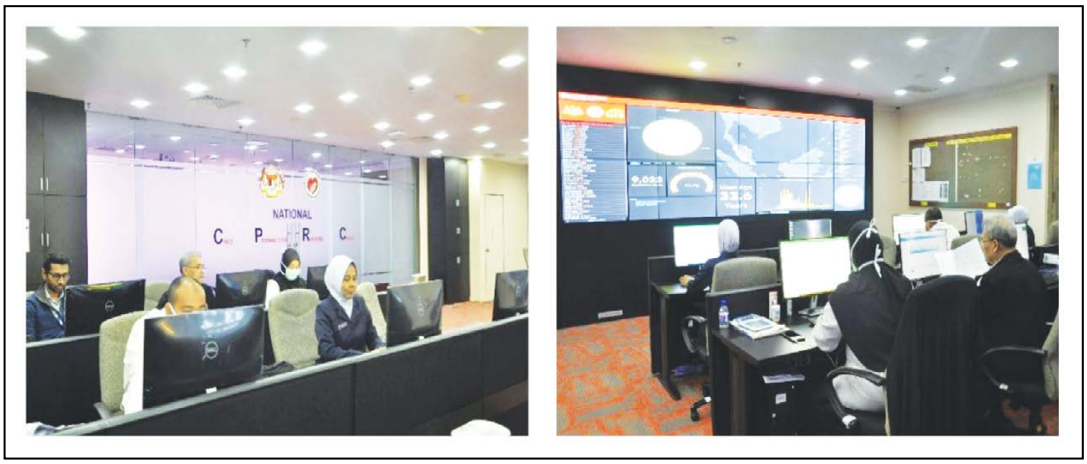
a) Readiness and preparedness of Oral Health Facilities (primary and specialist) in delivering care to patients based on the new normal during the COVID-19 pandemic in Malaysia.
b) Data/report on patient daily attendances at primary and specialist dental clinics.
c) Measures to ensure the provision of oral healthcare to patients is safe and that both staff and patients adhere to all the SOP and precautions to prevent transmission of the COVID-19 virus.
d) Readiness of OHP to deploy dental teams to assist in screening activities at the various checkpoints and localities.
e) Readiness of OHP's team of Matrons and Sisters to assist in data entry into the e-COVID19 system at CPRC.

### 5.4.2 HOTLINE RESPONDERS

The CPRC is responsible for coordinating public health responses to medical events in the country. Health personnel were assigned to carry out tasks at Bilik Gerakan and Risk Communication for COVID-19 cluster, starting 23 January 2020. The first COVID-19 cases were reported in Malaysia on 25 January 2020. Up to 29 Mac 2020, the centre had reported 2,470 COVID-19 positive cases with 35 deaths.

With the MOH being fully engaged in addressing all issues pertaining to COVID-19, the OHP offered to help at the CPRC at national and state levels in order to lighten their workload in a spirit of solidarity. On 26 March 2020, the OHP MOH enlisted 28 personnel consisting of Dental Officers and Dental Therapists to volunteer as hotline responders at the MOH National CPRC (22). Their role as risk communication volunteers was to answer queries/issues raised through emails, WhatsApp and telephone calls related to the COVID-19 outbreak. They were required to work in shifts, with 3 shifts round the clock, starting on 1 April 2020.

The 3 shifts were from 12am to 8am, 8am to 5pm and 5pm to 12am. However, as COVID-19 cases began to decline in May 2020, the shifts were reduced to two shift rotation starting 1 May 2020 (8am to 3pm, 3pm to 10pm) and subsequently to only one shift (8am to 5pm) starting 22 June 2020.



*Dental personnel working at National CPRC*

At the state level, dental officers were also involved as hotline responders. For example, in Kedah, dental officers alongside several other officers from various ministries were requested to be on duty at the Kedah State National Security Council in the month of March and April. They were required to answer enquiries from the public, National Security Council or from the Kedah State Government office and prepare daily reports regarding the COVID-19 cases in Kedah.

In Penang, three dental officers were selected to work at the COVID Fever Call Centre (CFCC) which was responsible for answering questions about the COVID-19 symptoms by the caller before being advised if they needed to undergo the COVID-19 test. Their duties as 'call takers' followed the schedule set since 6 April 2020 from 9am to 4pm at the CFCC.

In FTKL & P, approximately 160 dental personnel from the first to the sixth batch volunteered as frontliners to assist medical counterparts in State CPRC Health Department and Communicable Disease Control Unit during the period between 23 March to 9 June 2020. Besides activities in the field, dental teams in particular the Putrajaya team were also involved in data entry and updating data sampling in the e-COVID19 System. Electronics database is considered an effective and efficient way to manage cases and contacts on a large scale, which also facilitates the quick reporting of data and trends thus enabling quick decision-making on the contact tracing process.

### 5.4.3 UPDATING PATIENTS' DATA IN e-COVID19 SYSTEM

One of the key functions of the CPRC is to collect patients' data for reporting, analysis and action recommendations. e-COVID19 System was developed in March 2020 to collect comprehensive data on a national scale. Patients' data was obtained from the Initial Investigation Report Form sent by the states. The high volume of patient data prompted the Disease Control Division to seek assistance from other Divisions in MOH, including OHP. The OHP assisted in data entry and manually verifying the accuracy of the data before entering into the e-COVID19 System.

A total of 13 Dental Therapists assisted in keying-in of patients' data since 4 May 2020. Each dental therapist was assigned to key-in data at least 2 days a week at the same time throughout the week. Due to limitations of equipment and work space, the tasks were done remotely at various locations. The following reports were prepared:

- Daily Report of Patients Attendances at the Dental Clinics.
- Fortnightly Summary Report of Dental Personnel Infected/PUI/PUS for COVID-19 State Report of Dental Personnel Infected with COVID-19.
- Information and data of Dental Personnel Infected with COVID-19 had to be reported immediately.

At the state level, for example in Sarawak, e-COVID19 data entry was done at CPRC, Kota Samarahan District Health Office. Data management was established to support and improve the efficiency of screening service. Personnel were assigned tasks to key in e-COVID19 patient lists and patients' new registration data from line listing patient contact index which was done by the Health Inspector in charge.

In Pahang, six staff were involved in assisting the CPRC at the state level and several dental officers in KP Tengkawang, Hulu Terengganu were appointed to be on duty at Bilik Gerakan Hospital Hulu Terengganu to help the COVID-19 team to key-in patient database, as well as monitoring and updating the daily progress.

*Dental Officers gathering information and preparing the daily report at the Kedah State National Security Council*

*In Labuan, dental clerks were assigned to handle documentation work at CPRC*

*Daily meeting at CPRC, Jabatan Kesihatan Negeri Pahang*

## 5.5 OTHER PUBLIC HEALTH ACTIVITIES

With the majority of medical personnel being assigned to handle COVID-19 cases, dental officers and dental therapists assisted in helping to provide/administer Oral Poliomyelitis Vaccine. Places visited by them were:

- Estate Genting Tanjung
- Estate Melewar
- Estate Gerola
- Estate Tye Yang
- KK Lahad Datu
- KK Penampang
- KK Kota Kinabalu

*Dental Therapists from PTJ Penampang providing Oral Poliomyelitis Vaccine*

# 6.0

# LESSONS LEARNT

## 6.0 LESSONS LEARNT

Despite the negative implications and impacts generated by COVID-19, this pandemic has given us some valuable lessons. Outlined below are some of the lessons imparted by the COVID-19 pandemic at organisational and personal levels.

### 6.1 Communication

Good, clear communication is vital to ensure information received and delivered is accurate, especially when stress is at an all-time high. Miscommunication with patients regarding the new norms in dental clinics can lead to dissatisfaction and complaints. For example, a proper and clear explanation regarding aerosol-generating treatments, appointment-based treatments and the waiting list for elective procedures should be conveyed to patients. Failure to communicate effectively with colleagues and subordinates may cause misunderstanding and procedural error.

### 6.2 Teamwork

A key aspect in the fight against COVID-19 is teamwork. Solidarity has emerged in adversity and hardship with the realisation we have to work together in order to defeat this virus. Partnerships between the districts, states and national health departments, as well as inter-governmental collaborations have helped solve some of the challenges associated with the COVID-19 pandemic and they will become increasingly important.

### 6.3 Adaptation of New Technologies and Innovations

Creative and innovative thinking plays a significant role in enabling healthcare workers to improve efficiency in times of financial constraints and movement control order. In-house production of PPE and the development of new innovations (such as an aerosol shield, denture trimming box and foot pedal operated hand sanitiser dispenser) are among creative strategies undertaken during these trying times. We also have had the opportunity to utilise new digital technology to attend online training as well as host web-based meetings.

Increasing efforts had been made to bring awareness to the public regarding the outbreak and our oral health services. The use of social media to convey oral health messages to the public is a powerful means to reach out to people, therefore messages had to be posted and updated regularly during the outbreak. Personnel can play their role by sharing the information to achieve the widest coverage of population. Efforts are currently being made to implement online appointment system whereby patients can obtain appointments without being physically present in clinic.

## 6.4 Adaptation to New Working Environment

Modifications in oral health care delivery process from the patient's registration to treatment and training methods has to be adapted and adopted as new norms in workplace until certain period of time or until the pandemic is over. The planning and design for new dental facilities has to take into consideration the need for isolation rooms, proper ventilation and suitable equipment to provide safe treatment to patients in times of pandemic.

During this critical period, dental officers and support staff must adapt to and embrace new requirements, such as a more suitable dental set-up in terms of PPE, modification of work processes and staggered patient flow. Some measures such as administrative and engineering controls may restrict movement and prolong clinical time. However, safe and effective treatment is required to ensure high quality service while reducing the risk of infection.

During this outbreak, the role of self-discipline and health awareness is undisputedly important in combating the spread of the virus. It is important for all personnel to be familiar with current versions of formulated guidelines and SOPs. Strict compliance to management guidelines or SOPs in order to reduce risk of infection of COVID-19 had ensured the successful control of the pandemic in our state and country. All personal and social hygiene measures must be applied, enforced and practised at the workplace and by our community.

There should be no compromise with regards to adequate cross infection control and universal precautions, more so during an outbreak. We must also be alert to any situation which may lead to a new cluster or spread of the disease.

*Multi-agency collaboration and teamwork to fight against COVID-19*


*New working environment (The new normal)*

# 7.0

# CONCLUSION

## 7.0 CONCLUSION

Managing the effects of COVID-19 in oral healthcare delivery services has indeed been very challenging but rewarding. A wealth of information and experience has been accrued especially through our involvements in managing and containing this outbreak. This truly is a once in a lifetime experience and will certainly be of immense value in preparing for any future challenges and crises. Malaysian healthcare must now be ready for transition to a life with the new normal and new norms.

> **“Being challenged in life is inevitable, being defeated is optional”** **-Roger Crawford-**

**#kitajagakita**
**#kitateguhkitamenang**

# 8.0

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## 8.0 REFERENCES


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ISBN 978-967-18771-0-4