

METHODS

We conducted an interrupted time series analysis of all **inpatient admissions, outpatient visits, and in-hospital referrals** in Penang Hospital, Ipoh Hospital, Selayang Hospital, and Institut Kanser Negara (IKN) from January 2018 to December 2021. Weekly numbers of each service were collected by each hospital and recorded in a standardised data sheet. Data were then aggregated into monthly numbers and checked for missing values and outliers.

The aim of the analysis was to estimate the **step (immediate) change** and **trend (gradual) change** when lockdown was implemented in March 2020, compared to pre-lockdown rates. Consequently, we defined the period **between January 2018 and February 2020** as the pre-lockdown period, and the period between **March 2020 and December 2021** as the post-lockdown period. To assess whether changes differed at the institutional level, analyses were stratified by hospital. We quantified the difference between observed and expected (had the lockdown not occurred) numbers for each service.

RECOMMENDATIONS

1. The return of hospital-based palliative care services has been slow. This could potentially have an **impact in patients' health outcomes** and **quality of care**. Measures should be put into place to **identify patient and caregiver** groups which are **more likely to be affected**.
2. Disruption to hospital palliative care services also highlighted **potential redistribution of patient care burden** to the **community**. Future pandemics should allow **adaptations to health system & workforce** such as **hospital-community partnerships** in delivering palliative care services.
3. Strategies to ensure the continuity of palliative care services during times of crisis need to be **tailored to individual institutional level**.

REFERENCES

1. Moynihan R, Sanders S, Michaleff ZA, et al. Impact of COVID-19 pandemic on utilisation of healthcare services: a systematic review. *BMJ Open* 2021;11:e045343.
2. Channel News Asia. Timeline: How the COVID-19 pandemic has unfolded in Malaysia since January 2020, <https://www.channelnewsasia.com/asia/timeline-how-covid-19-pandemic-has-unfolded-malaysia-january-2020-2082081/>; 2023 [accessed 2 Dec 2022].

Acknowledgements

We would like to thank the Director-General of Health Malaysia for his permission to publish this research highlight. We are most grateful to medical officers of study sites for their assistance with data collection. We also thank Yvonne Mei Fong Lim for the insightful review of our research highlight.

This summary should be cited as

Lim WY, Wong WJ, Teoh CO, Jivanadham JS, Yeat CL, Hashim H, Hwong WY. Impact of COVID-19 lockdown on utilisation of palliative care services in Malaysia. *Institute for Clinical Research, Selangor, 2023.*

Keywords

COVID-19 pandemic, lockdown, palliative care, interrupted time series

Copyright ©2023, Institute for Clinical Research, Selangor, Malaysia

This summary is based on the research project

Temporal Trends in the Rate of Hospital Admissions in Malaysian Healthcare Facilities during the COVID-19 Pandemic (TEMPO-19)



Research Highlight

For further information and to provide feedback on this document, please contact:

Wei Yin Lim
weiyinlim@crc.moh.gov.my

Wen Jun Wong
wwjun@crc.moh.gov.my

Who is this for?

Healthcare providers, hospital managers, and policymakers in the Ministry of Health involved in the delivery of palliative care services in the hospital setting.

Purpose of this research highlight

To highlight the immediate and long-term impact of the COVID-19 lockdown on palliative care services at the national level and the institutional level, and suggest lessons for future outbreaks.

Disclaimer

The views, interpretation, implications, conclusions, and recommendations are those of the author alone and do not necessarily represent the opinions of the investigators participating in the project nor the views or policy of the Ministry of Health Malaysia.



Institute for Clinical Research (ICR)
National Institutes of Health (NIH)
1, Jalan Setia Murni U13/52
Seksyen U13, Setia Alam
40170 Shah Alam, Selangor.

www.crc.gov.my

Project reference number:

NMRR-20-1001-55061

Funded by:



MINISTRY OF HEALTH
MALAYSIA

MOH/S/ICR/69.23(RH)-e

RESEARCH HIGHLIGHT

The Impact of COVID-19 Lockdown on Palliative Care Services in Malaysia

The Impact of COVID-19 Lockdown on Palliative Care Services in Malaysia

ISSUE

The COVID-19 global pandemic has caused huge disruption to health systems worldwide. As the number of cases of COVID-19 rose throughout 2020, health systems focused resources on COVID-19, causing immediate impacts on healthcare utilisation and hospital admission due to non-COVID-19 conditions.[1]

In Malaysia, the government imposed a nationwide lockdown termed the Movement Control Order (MCO) on 18th March 2020.[2] This led to widespread restrictions on the non-urgent use of hospital-based services, with patients and healthcare providers deferring routine healthcare visits.

We expect that the implementation of COVID-19 prioritisation protocols will result in disruption to palliative care services at the national level, but its effect at the level of the health institution is unclear.

In this study, we investigated the effects of the lockdown on palliative care services in four regional referral hospitals. We focused on three main services: inpatient admissions, outpatient visits, and in-hospital referrals.

KEY MESSAGES

1. **Outpatient services** have resumed to pre-pandemic rates after about 17 months post-lockdown.
2. **Inpatient admissions** and **in-hospital referrals** have not fully recovered; remaining at **-32%** and **-15%** of pre-pandemic rates.
3. **Recovery of services** was **quick** for the **non-COVID hospital** which was a specialized cancer care centre.
4. However, **recovery of services** for **COVID-19 designated hospital** were **inconsistent across centres** – one centre faced challenges which remained until 21 months post-lockdown

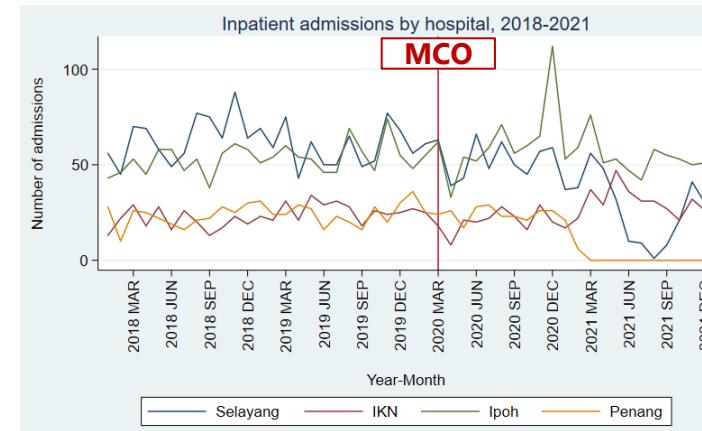
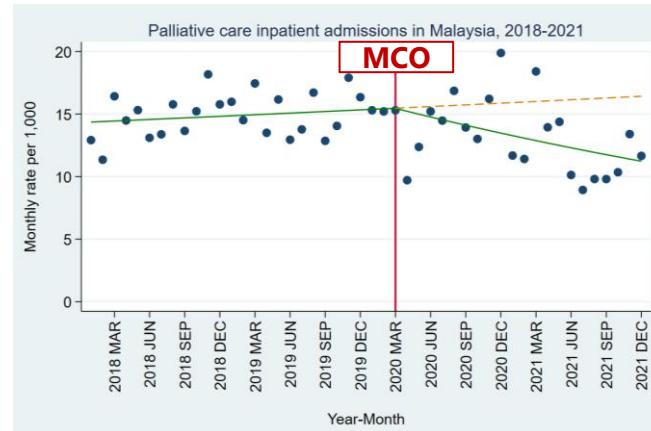
Inpatient Admissions

Lockdown month

- No immediate change

Post-lockdown

- Trend: 2% decline per month
- Numbers remain 32% lower than expected at 21 months post-lockdown (Dec 2021)



- **COVID-19 hospital (Selayang, Ipoh & Penang)**
Admission rates for all centres remained below pre-lockdown level **except for Ipoh hospital**
- **Non-COVID-19 hospital (IKN):**
Number of inpatient admissions at 21 months surpassed pre-lockdown level

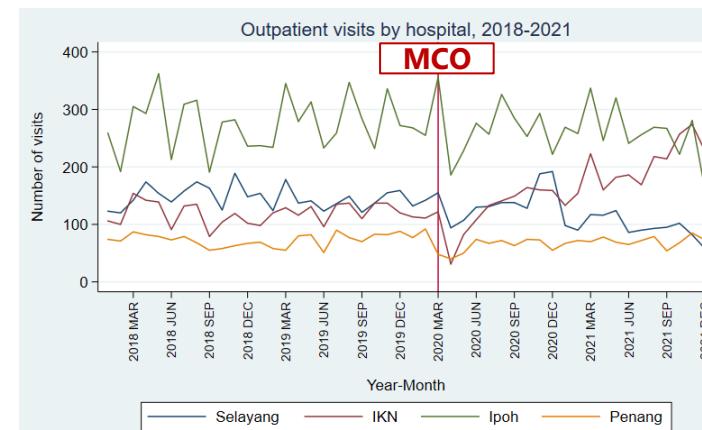
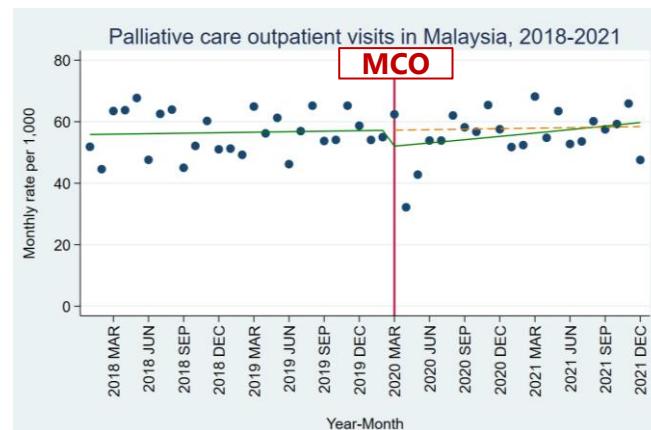
Outpatient Visits

Lockdown month

- Immediate 10% reduction

Post-lockdown

- Trend: 1% increase per month
- Full recovery of services at 17 months post-lockdown (Aug 2021)



- **COVID-19 hospital (Selayang, Ipoh & Penang)**
All centres returned to pre-lockdown outpatient visit rates, or marginally lower.
- **Non-COVID-19 hospital (IKN):**
Outpatient visits admissions at 21 months surpassed pre-lockdown level

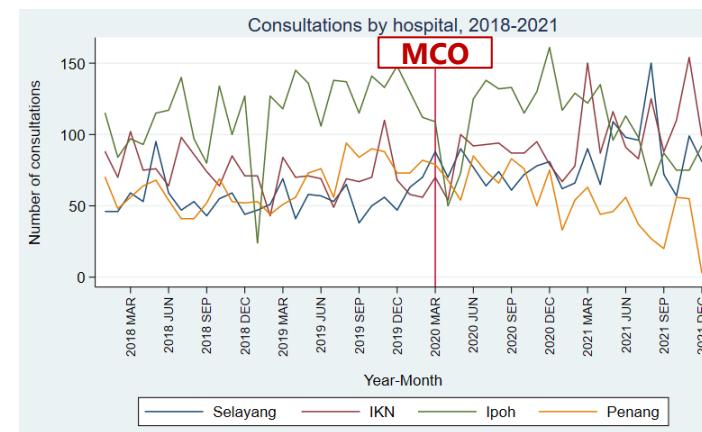
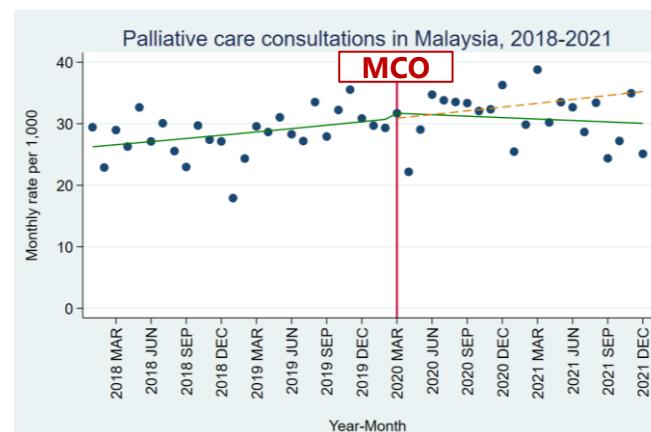
In-hospital Referrals

Lockdown month

- No immediate change

Post-lockdown

- Trend: 1% decline per month
- Numbers remain 15% lower than expected at 21 months post-lockdown (Dec 2021)



- **COVID-19 hospital (Selayang, Ipoh & Penang)**
All centres returned to pre-lockdown admission rates **except for Penang hospital**
- **Non-COVID-19 hospital (IKN):**
No service disruption; expansion of oncology services

Figure legend

●	Observed rates
—	De-seasonalised trend
- - -	Expected rates if lockdown had not occurred

- **Selayang, Ipoh, and Penang Hospitals are COVID-19 designated hospitals.** During the lockdown period, there was a substantial reduction in palliative care inpatient admissions as these hospitals converted wards into areas dedicated to treating COVID-19 patients.
- **IKN is not a COVID-19 designated hospital** and did not admit COVID-19 patients. Therefore, its palliative care services were generally unaffected by the lockdown. After the initial lockdown, there was an increasing trend over time in all 3 services as IKN expanded their oncology services.