

ORIGINAL ARTICLE

Development and implementation of a community-based COVID-19 assessment centre in Selangor: A descriptive study

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Abstract

Introduction: With the rising number of COVID-19 cases in Malaysia and the overwhelming strain on the tertiary healthcare system, home isolation has been introduced by the Ministry of Health Malaysia to reduce the admission of patients with mild COVID-19 to tertiary and low-risk quarantine centres. COVID-19 assessment centres (CACs) have been set up to provide initial assessment, triaging and monitoring of patients with COVID-19 prior to and during their home isolation. In this study, we aimed to share our experience in setting up CACs in Selangor, Malaysia.

Methods: We described the steps taken in developing assessment tools and guidelines for assisting healthcare providers in safely monitoring patients with COVID-19 undergoing home isolation.

Results: A total of 26,826 patients were clinically assessed from 1 to 28 February 2021 in various CACs in the state. The majority of the cases seen in the CACs were under category (CAT) 1 and 2. Only 0.2% (n=53) of the cases were categorised as severe COVID-19 (CAT 3 and above).

Conclusion: CACs coordinated by primary care providers play an important role in triaging, assessing and monitoring patients with COVID-19 undergoing home isolation in the community. There needs to be a better partnership between various stakeholders and the private healthcare sector to improve the services. The usage of a pulse oximeter in home monitoring of all patients with COVID-19 in Selangor needs to be seriously considered.

Introduction

The first wave of the COVID-19 pandemic in Malaysia began on 25 January 2020 and lasted until 16 February 2020, while the second wave lasted from 27 February 2020 to 30 June 2020. During both waves, all patients with COVID-19, regardless of their disease severity, were admitted to either COVID-19 designated hospitals or low-risk quarantine and treatment centres.¹ This decision by the Ministry of Health (MOH) Malaysia was made, as available evidence showed that institutional-based isolation of patients with COVID-19 was more effective in reducing household and community transmission.^{2,3} This approach helped reduce disease transmission within the community, thus flattening the disease curve.¹

During the first and second waves, a study conducted in 18 COVID-19 designated hospitals in Malaysia showed that 95% of Malaysians had only mild forms of the disease, and only 3.5% of cases with mild disease progressed to severe forms.⁴ Only 3.3% of patients with COVID-19 in Malaysia required

intensive care, and the fatality rate was a mere 1.2%.⁴ This study showed that several factors were associated with severe forms of COVID-19, such as age of more than 51 years, underlying comorbidity, presenting symptoms, clinical findings of tachypnoea and abnormal chest radiography findings.⁴ These findings guided the MOH in their development of national guidelines for the management of patients with COVID-19, which were used during the third wave of the pandemic.⁵

From 8 September 2020 to January 2021, there had been a surge of COVID-19 cases in Malaysia as a result of the third wave of the COVID-19 pandemic in Malaysia. This surge resulted in COVID-19 designated hospitals and low-risk treatment centres nearing their full occupancy rates.¹ At the time of writing of this article, the bed occupancy rates at the only COVID-19-treating hospital and the low-risk treatment centre in Selangor were 81% and 58%, respectively.⁶ The lack of readily available beds for critically ill patients with COVID-19 had prompted the MOH and Selangor health

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department to allow home isolation of patients with COVID-19 under category (CAT) 1 and CAT 2. This aimed at reducing the admission of patients with mild infection to tertiary hospitals, which would allow existing beds to be utilised for patients with COVID-19 under CAT 3–5.

The district health office has identified sites that could be used as COVID-19 assessment centres (CACs). Family medicine specialists in health clinics in Selangor have been assigned to set up CACs, which functioned to identify patients with COVID-19 who may be suitable to be monitored at home during their infective period. In this study, we aimed to share the experience of family medicine specialists in Selangor in setting up CAC facilities and in utilising assessment tools for monitoring and managing patients with COVID-19 undergoing home quarantine in the state.

Methods

The various phases of the operation of CACs in Selangor are described below.

Phase I: Development of assessment tools for assisting in home monitoring and conceptualisation of CACs

Ia: Engagement of stakeholders and collaborators

Discussions among primary care physicians, infectious disease physicians, paediatricians, obstetricians, lecturers from a public university, the family health development division from the MOH and digital health experts were held to develop guidelines, assessment tools and strategies that can be used to monitor patients with COVID-19 undergoing home isolation. Each clinical specialty was assigned to develop the flow for managing patients with COVID-19 who may be suitable for undergoing home isolation.

Ib: Tools used for patient monitoring

During the second wave of the pandemic, an automated self-monitoring system known as the COVID-19 Symptom Monitoring System (CoSMoS) was developed by a local public university and was piloted in a health clinic in Petaling district. The CoSMoS was an automated Telegram bot for patients that allowed dashboard monitoring as well as teleconsultation service by doctors. It was developed to risk-stratify patients according to their symptoms using an algorithm-based Telegram bot, providing close monitoring to patients using a dashboard and timely teleconsultation. This pilot project found that

an algorithm-based chatbot home monitoring application, together with a dashboard for monitoring and teleconsultation, can be successfully used to monitor patients with COVID-19. However, the CoSMoS had its limitations, which were mainly technical barriers, such as poor internet connectivity and clinical implementation barriers, including ineffective communication between healthcare workers (HCWs) and patients; prolonged consultation time; and patient unfamiliarity with digital technology.⁷

The consensus among stakeholders was that the questions within the CoSMoS could be incorporated into the MySejahtera application developed by MOH digital health experts, which would allow patients with COVID-19 to update their symptoms through the application.

A pre-validated Remote COVID-19 Assessment in Primary Care (RECAP)-V0 tool,⁸ which had within it red alert criteria, has been used in the development of assessment tools for healthcare providers in managing patients with COVID-19 during home isolation. RECAP-V0 is a simulated early warning score used in the Delphi exercise in the qualitative (item development) phase of the RECAP study. The score is designed to support the assessment of and communication about patients with COVID-19 at primary and secondary care centres. It was produced via professional consensus, but its limitation is that it had neither been tested against clinical outcomes nor been formally validated.

A study that explored the challenges in using teleconsultation among cardiology patients found that both HCWs and patients preferred face-to-face consultations.⁸ Owing to these reasons and for ensuring patient safety, stakeholders have agreed that patients with COVID-19 should initially undergo physical assessment prior to home isolation.

Ic: Establishment of CACs and inclusion criteria

It was decided that establishing CACs could provide a centralised assessment to triage, monitor and manage patients with COVID-19 before home isolation, which would be able to address the above-indicated barriers and limitations. The suitability of patients with COVID-19 to undergo home isolation was based on descriptive data on the sociodemographic profile of patients with mild COVID-19.⁴ These patients included the following:

- Patients aged 60 years and below;
- Patients with no comorbidity;
- Paediatric patients aged 1 year and above with a suitable caregiver;
- Patients who strictly adhere to home isolation guidelines; and
- Suitable home environment for home isolation.

Phase II: Operational process and management flow for patients with COVID-19 at CACs

Operational teams at the CACs consisted of two teams: the primary triage team and the home monitoring team. The primary triage team roster consisted of the public health specialists of the district, one to two medical officers and two to three assistant environmental health officers depending on the available manpower in the district. The primary triage team would perform the initial triaging and admission of patients with COVID-19. Upon obtaining positive PCR/antigen rapid test kit (RTK-Ag) results via e-notification, laboratory documents, emails or WhatsApp notifications, the primary team would verify the results and inform patients of their results via telephone call, information blast or short message service. They would then proceed to evaluate patients who are positive for COVID-19 via teleconsultation. They would perform an initial triaging, which includes verification of the patient personal data, stratification of age, identification of comorbidity and assessment of symptoms and suitability of the home environment (**Appendix 1**). Based on these initial assessments, patients with COVID-19 would be triaged accordingly. Patients suspected to be under CAT 4 and CAT 5 would be immediately referred to the COVID-19 designated hospitals in the state. Those with mild symptoms would be referred to the low-risk COVID-19 quarantine and treatment centres. Only asymptomatic patients under CAT 1 would be given appointment dates to be reviewed at the CACs by the home monitoring team. Patients would also be provided with the relevant emergency contact number of the CACs and a guide on self-care steps at home during self-isolation.

The home monitoring team roster consisted of a family medicine specialist, medical officers, assistant medical officers, a nurse, an infection control person in charge, a supporting staff assistant environmental officer and a driver, who were involved in patient assessment, infection control measures, patient admission

and issuance of home isolation and release orders. The number of staff in the team varied according to the district. In most districts, the teams consisted of one family medicine specialist, two medical officers, three to four assistant medical officers, two to three nurses, one to two supporting staff and one driver. Medical officers would perform the clinical assessment of patients with COVID-19 and re-evaluate their clinical categories. This team also functioned to monitor patients' symptoms throughout their home isolation period with early identification of disease progression and prompt referral for admission to either low-risk quarantine centres or COVID-19 designated hospitals. The patient flow during the initial encounter at the CACs is explained below:

- a) Data verification and vital sign assessment
Patients with COVID-19 would be asked to provide relevant personal details, and their weight, height, temperature, blood pressure, respiratory rate and oxygen saturation would be measured by assistant medical officers or nurses.
- b) Clinical assessment using a standardised clerking sheet
Patients would be assessed by a medical officer using the adult/paediatric home clerking sheet (**Appendices 2 and 3**). This clerking sheet includes an assessment of ongoing COVID-19 symptoms, including mild and warning symptoms.

The case of patients who have symptoms or red flag symptoms would be discussed with the family medicine specialist, who will then decide whether the patients should be continued to be monitored at home, referred to a low-risk quarantine and treatment centre or immediately admitted to a COVID-19 designated hospital.
- c) Self-monitoring of symptoms
Patients who are well and stable would be advised on daily self-monitoring of symptoms via the MySejahtera application if they own a smartphone. Alternatively, patients could be monitored using a manual home assessment tool (HAT) (**Appendices 4 and 5**). On day 11 of illness, patients would be advised to come back for a re-assessment prior to release from home isolation.
- d) Issuing of a home isolation order
Patients would be issued a home isolation

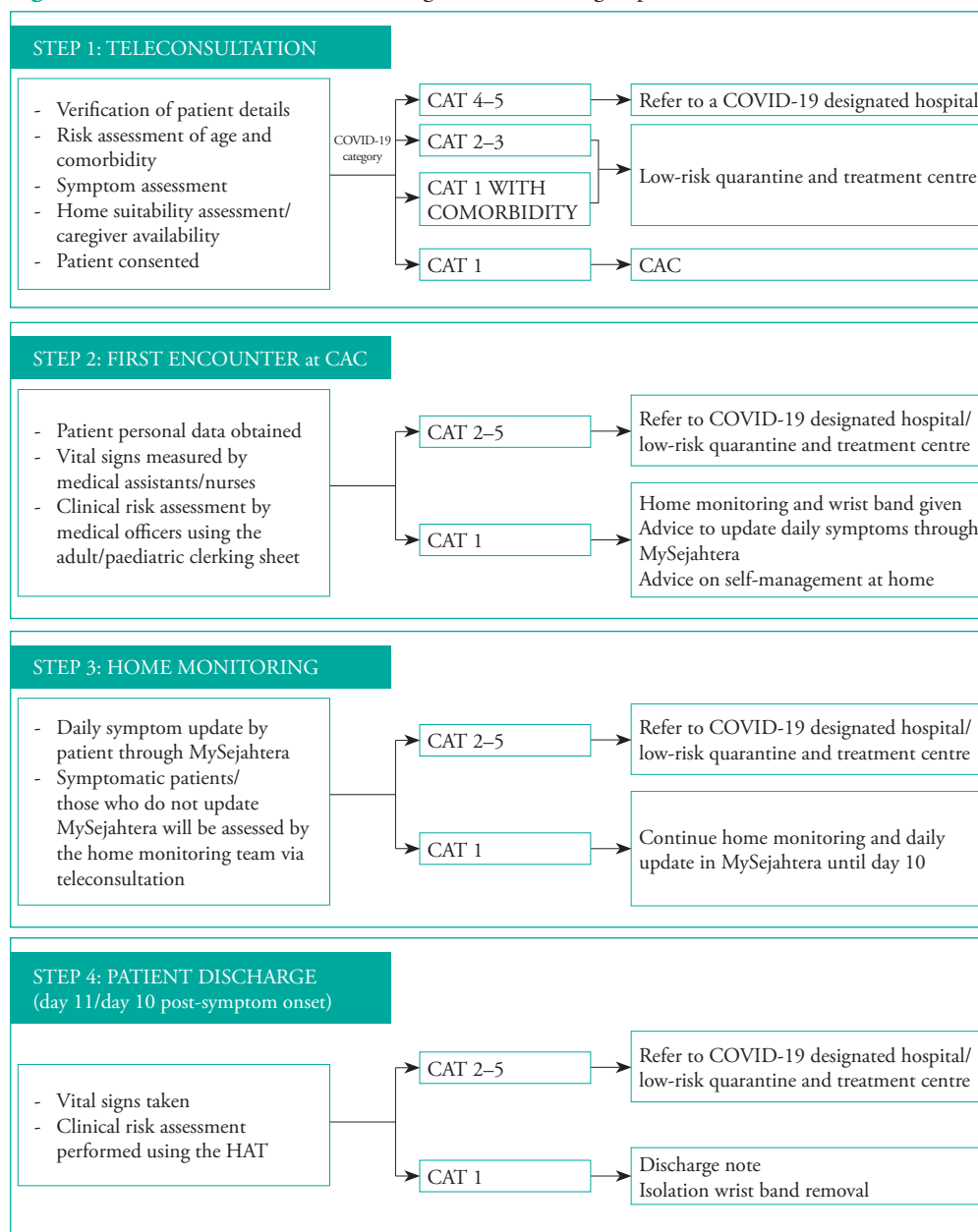
order, which is a legally binding notice to ensure that patients stay at home and self-isolate during the 10-day period. A wrist band would be placed as an indicator and if caught in violation of this order, patients with COVID-19 could be summoned and be taken to court.

- e) Home monitoring and escalation of care
Patients on the manual HAT, those with symptoms, or those who fail to provide an update of symptoms would be called via telephone to assess their clinical symptoms, and decisions would be made using the adult and paediatric Covid-19 home assessment tool for healthcare provider.

(Appendices 6 and 7). The CAC or district health office would coordinate the transport of the patients from their homes to the relevant health facility for admission.

- f) Discharging of patients
The cases of patients who have completed home isolation would be reviewed again at the CAC on day 11 (at least 10 days since COVID-19 symptom onset or day 10 after the date of first swab). A discharge summary and release order would be provided to patients, and their wristband would be removed. The workflow at the CACs is illustrated in Figure 1.

Figure 1. Workflow of the assessment, triage and monitoring of patients with COVID-19 at CACs



Phase III: Training and implementation

Training sessions were held both at the national (20 January 2021) and state (27 January 2021) levels virtually targeting primary care teams (family medicine specialists and medical officers), district health officers and coordinators of individual CACs. Trainers included family medicine specialists, infectious disease physicians, paediatricians and infection control matrons. They were selected on the basis of their role in the development of the national training modules and expertise in their field. Each training session lasted 4–5 h and ended with question-and-answer sessions to ensure that the participants were able to clarify any potential concerns and doubts before the implementation of CACs in their districts. Reference materials for the participants were shared by the speakers and were also readily available on the MOH official website.⁵ While the management flow of patients with

COVID-19 remains standardised between the districts, considerations were made on the facility used, operational hours and manpower usage based on the needs and available resources of each district. Basic equipment in each CAC included a working internet line, telephone, computers or laptops, digital standing thermometer, blood pressure set, pulse oximeter, glucometer, emergency trolley, clinical waste bins, sharp bins, complete sets of personal protective equipment, spillage kits and a sanitisation machine. All CACs in Selangor began operation in late January 2021.

Results

An overview of the operation of CAC in 9 districts describing the number and type of facilities used as CAC, operational hours, number of staff in each CAC and availability of digital technology is shown in **Table 1**.

Table 1. Overview of CAC operations in all nine districts in Selangor during the second wave of the COVID-19 pandemic from 1 to 28 February 2021.

District	Petaling	Klang	Hulu Langat	Gombak	Selangor	Kuala Selangor	Kuala Langat	Hulu Selangor	Sabak Bernam
Number of Covid-19 assessment centres	1	1	2	1	1	3	1	1	8
Type of facility used	Hall Stadium	Stadium	Community hall	Community hall	Stadium	Klinik Kesihatan	Klinik Kesihatan	Klinik Desa	Klinik Kesihatan
Capacity of facility (patients/day)	800–1100 patients/day	100–400 patients/day	100–200 patients/day	100–300 patients/day	100 patients/day	30 patients/day/clinic	60–80 patients/day	60–80 patients/day	20–80 patients/day
Number of staff/Covid-19 assessment center	46■ 70■	25–30	13	24▲ 15▲	9–10	3	10	7	3–10
Operational hours	Monday–Friday: 0830–1600 Saturday: 0800–1200 Sunday/Public Holidays: Closed	Monday–Thursday: 0830–1700 Friday: 0830–1700 Saturday: 0830–1230	MPKj hall: Monday–Friday: 0800–1600 Sunday/Public Holiday: 0900–1300 MPAJ hall: Monday–Friday: 0800–1600 Saturday/PH: 0900–1300	Monday–Friday: 0900–1600 Saturday: 0900–1200 Sunday/Public Holiday: Closed	Monday–Friday: 0800–1700 Saturday: 0800–1300	KK Jeram & K Selangor: Monday–Friday: 1400–1700 KK Bestari Jaya: Monday–Friday: 1400–1700 Saturday/PH: 0800–1300	Monday–Friday: 0900–1600 Saturday/Public Holiday: 0900–1300	Monday–Friday: 0800–1700	Monday–Friday: 0800–1700 Saturday/Sunday: 0800–1200
Type of information and communication technologies available at the CAC and usage in managing patients:	Personal broadband	Personal broadband	Personal broadband	Personal broadband	Personal broadband	Not used	Personal broadband	Personal broadband	Clinic and on-call paramedics' phone numbers Clinic computer and internet lines
1. Registration	1. Yes	1. Yes	1. Yes	1. Yes	1. Yes	1. No	1. Yes	1. Yes	1. Yes
2. Triaging	2. Yes	2. No	2. Yes	2. Yes	2. Yes	2. No	2. No	2. No	2. Yes
3. Assessment	3. Yes	3. No	3. Yes	3. Yes	3. Yes	3. No	3. Yes	3. Yes	3. Yes

*KK (Klinik Kesihatan) – Government health clinic

**KD (Klinik Desa) – Government rural health clinic

■ 46 staff were working in the first week at Dewan MBSJ SS15 Subang Jaya and 70 staff from the second week onwards at Melawati stadium.

▲ 24 staff were working in the first week at Dewan Komuniti Sri Siantan and 15 staff from the second week onwards at Dewan Seroja, Kg. Bendahara.

The cumulative attendance of each district's CACs for the initial 5 weeks of operation and characteristics of the CAC attendees are summarised in [Table 2](#).

At the beginning of operation, a total of 26,826 patients were clinically assessed in various CACs in the state. This volume translated into 60.4% of all 44,431 notified COVID-19 cases in Selangor from Epidemiology Week 4 to Week 8 in 2021. Petaling district had the largest CAC located at the Malawati stadium. This CAC provided care for over half (51.2%) of the total number of CAC patients assessed throughout Selangor during the same period. Three other major districts in Selangor – Hulu Langat, Klang and Gombak – also received the major bulk of CAC cases in the state.

Since the inception of the CACs, patients were encouraged to make an appointment prior to attending the CACs. This was performed to ensure a balanced HCW-to-patient ratio. However, the district health offices were overwhelmed with the great surge of COVID-19 cases during the start of Malaysia's second COVID-19 pandemic wave. Smaller districts managed to systematically slot in more appointments for CAC patients, but larger districts had seen a significant number of walk-in patients. Petaling and Hulu Langat districts recorded the highest number of walk-in cases (2529

and 2338 cases, respectively). For Hulu Langat district, the number was equivalent to almost half (47.5%) of all attendances to both of their CACs.

As part of the CAC secondary triage protocol, all patients positive for COVID-19 who attended the centres were assessed clinically. At the end of their assessment, each patient would be classified according to the COVID-19 clinical categories (CAT 1–5). The majority of the cases seen in our CACs were under CAT 1 and 2. Only 0.2% (n=53) of the cases were categorised as severe COVID-19 (CAT 3 and above) from early Epidemiology Week 4 to Week 8 in 2021.

Although Selangor advocates all individuals positive for COVID-19 to be isolated in low-risk treatment centres in Malaysia Agro Exposition Park Serdang, the majority of asymptomatic patients with COVID-19 with suitable home environments were allowed to self-isolate at their own homes. These patients were closely monitored by the home monitoring team of each district. The majority of them were safely discharged by the CACs after completing 10 days of isolation.

Considering the significant number of walk-in cases, some vulnerable groups of patients progressed into more severe COVID-19 before arriving at the CACs. Approximately over 2% of CAC patients needed referral

Table 2. Cumulative attendance and characteristics of CAC patients in all nine districts in Selangor from 1 to 28 February 2021.

District	Petaling	Klang	Hulu Langat	Gombak	Sepang	Kuala Selangor	Kuala Langat	Hulu Selangor	Sabak Bernam
Attendance	13,736	2025	4924	3609	883	396	522	429	302
Type of CAC attendance:									
1. Appointments	11,207	1373	2586	2565	618	319	480	391	248
2. Walk-in	2529	652	2338	1044	265	77	42	38	54
Clinical categories of COVID-19 for Covid-19 CAC attendees:									
CAT 1	11,347	363	4416	3156	712	115	487	72	197
CAT 2	2359	309	418	524	169	19	34	4	105
CAT 3–5	22	8	11	9	2	0	1	0	0
Cumulative number of patients who were allowed home quarantine:									
	755	254	446	816	285	257	131	34	34
Cumulative number of discharged patients from CACs (including those who were served a release order or received a discharge letter):									
	10,589	1371	4053	2462	694	384	334	345	34
Cumulative number of patients referred to hospitals from CACs:									
	251	103	28	99	13	3	10	5	36
Cumulative number of patients referred to low-risk treatment centres from CACs:									
	2134	372	216	351	176	48	31	10	232
Cumulative number of discharged clients from CACs	10,589	1371	4053	2462	694	384	334	345	34
Cumulative number of patients referred to hospitals	251	103	28	99	13	3	10	5	36
Number of patients referred to low-risk treatment centres	2134	372	216	351	176	48	31	10	232

to COVID-19 designated hospitals for stabilisation and admission. The total rate of referrals varied in different districts, ranging from 3.5% to 23.5%, but the majority of patients (83.4%) were referred to low-risk treatment centres catering to clinical categories of CAT 2A and CAT 2B.

Discussion

Principal findings

Data from the initial 5 weeks of operation revealed that most patients with COVID-19 had mild disease, and only a small percentage had severe forms of the disease. These reaffirm the findings from the initial study conducted in the first and second waves of the pandemic.⁴ These findings should reassure policymakers and patients with COVID-19 themselves that CAT 1 and CAT 2 cases can be safely managed at home. Most patients under CAT 1 or CAT 2 were transferred to low-risk quarantine centres because of an unsuitable home environment; a suitable home environment is needed to ensure proper home isolation.

A networking connection was established to ensure the smooth transfer and coordinated care of patients with COVID-19 to low-risk quarantine centres. This allowed an easy exchange of information on the ever-changing admission criteria for patients with COVID-19 to low-risk quarantine centres. To assist in the care of patients with COVID-19 in low-risk quarantine centres, family medicine specialists in Selangor were rotated to provide their clinical expertise in the care of patients under CAT 1 and CAT 2, children and pregnant women who were quarantined therein.

An interesting finding of the study is that despite the presence of primary teams that functioned as an initial triageur at the district health office and assessed patients with COVID-19 through teleconsultation, patients under CAT 3 and CAT 4 were still seen at the CACs. This finding shows the importance of CACs in identifying this category of patients who may have under-reported their symptoms or had a low awareness of their disease severity. This may otherwise result in increased COVID-19 mortality at home.

Challenges and facilitators

The challenges in operating the CACs are the limitations in manpower, availability of internet and telecommunication gadgets, poor literacy of patients with COVID-19 in using MySejahtera and availability of an ambulance

on site. There has been some improvement in the equipment and facilities used at CACs, which was made possible by the collaborative effort of government and non-government agencies. However, there is shortage of manpower to operate CACs daily. With the expansion of COVID-19-related activities, the limited manpower in primary care settings will result in fatigue and burnout among healthcare providers.

Implications for future practice

There is an urgent need for stakeholders at all levels to re-evaluate the current policies and strategies for CACs. At the time this article was written (between January and March 2021), patients with COVID-19 requiring home isolation were managed solely in government health facilities. Encouraging private-public partnership in managing patients under home isolation needs to be considered. This will allow sharing of resources between private and public healthcare facilities. Private general practitioners were eventually involved in the management of patients with COVID-19 since July 2021 after undergoing national-level training.

There is accumulating evidence that silent hypoxia among patients with COVID-19 who are otherwise symptom-free can result in poorer prognosis and outcome, emphasising the need for the usage of pulse oximeters by patients during home isolation.⁹⁻¹¹ In 2021, patients with COVID-19 were provided with pulse oximeters in accordance with certain criteria.

Conclusion

CACs coordinated by primary care providers play an important role in triaging, assessing and monitoring patients with COVID-19 undergoing home isolation in the community. Despite primary triaging and assessment, there is still a small percentage of patients who present to CACs with severe COVID-19. The shortage of human resources, financial constraints and limited resources need to be addressed. An improved partnership between various stakeholders, including the private healthcare sector, can enhance the provision of services to patients with COVID-19.

With the availability of teleconsultation, a centralised dedicated digital team can help monitor COVID-19 cases from each CAC. The development of a software that will allow real-time data entry and efficient monitoring by individual CACs is needed. This will permit effective and timely action during the pandemic.

In 2021, patients with COVID-19 were provided with pulse oximeters in accordance with certain criteria, which helped reduce mortalities.

Recommendations

Community education on COVID-19 warning symptoms and the importance of seeking early treatment need to be continued. Should resources be available, pulse oximeters should be provided to all patients with COVID-19. Continued collaborative networks between public and private health sectors should be promoted with an emphasis on simultaneous training to enhance service.

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Author contributions

N.M and A. Samad were involved in study conceptualization. A.M drafted the manuscript. All authors were involved with data collection, manuscript editing and revisions. All authors approved the final version.

Ethical approval

This study obtained ethical approval from the Medical Research Ethics Committee of Malaysia (NMRR ID-21-02197-IVH) and followed current regulations on the protection of personal data.

Conflicts of interest

The authors declare that they have no conflicts of interest.

Funding

This study did not receive any supporting funding or grant.

Describe your data sharing plan: State whether your raw data are uploaded in publicly available databases, shared via controlled access repositories or only available upon request

Data sharing statement

Data collected from this study can be obtained from the corresponding author upon reasonable request.

How does this paper make a difference in general practice?

- COVID-19 assessment centres are a community-based model in managing patients with COVID-19.
- Strong management in primary care settings helps reduce the burden in hospitals.
- Inter-agency collaboration is essential in managing an outbreak.
- Health-seeking behaviour can be improved by community empowerment.

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Appendix 1. Home monitoring suitability checklist.

SUITABLE HOME CONDITION

Patients fulfilling the selection criteria and with the following conditions are allowed to be monitored at home:

- Always has access to telephone
- Home isolation (separate bedroom or isolation area preferably with attached bathroom)
- Occupants in the house are not immunosuppressed
- Appropriate caregivers are present in the house



Appendix 2. Adult clerking sheet.

CLERKING SHEET FOR COVID 19 POSITIVE CASE (ADULT)

Personal details

1) Name :

2) Age :

3) Gender :

4) IC / Passport Number :

5) Nationality :

6) Phone Number :

7) Address :

History

1) Sample date (positive result):

2) Sysmtoms:

Sorethroat Running nose Cough Lost of taste Lost of smell Diarrhea Nausea or vomiting Myalgia Others. Please specify _____	RED FLAGS: Fever Shortness of breath Chest pain Unable to tolerate orally Worsening of lethargy Unable to ambulate without existance Worsening or persistent symstoms eg: cough, nausea, vomiting, diarrhea Reduced level of consciousness Reduced urine output in last 24 hours
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3) Co-morbidity:

Physical examination

General examination: (appear healthy/ unwell/ lethargy)

Hydrational status:

Vital signs

BP:

PR:

Temperature:

RR:

SPO2:

Lungs:

Clinical Staging: (Cat 1 / 2A, 2B / 3 / 4)

Impresion:

Management:

Appendix 3. Paediatric clerking sheet.

CLERKING SHEET FOR COVID 19 POSITIVE CASE (PAEDIATRIC)

Personal details

8) Name :

9) Age :

10) Gender :

11) IC / Passport Number :

12) Nationality :

13) Phone Number :

14) Address :

History

4) Sample date (positive result):

5) Sysmtoms:

Fever Sorethroat Running nose Cough Lost of taste Diarrhea Nausea or vomiting Others. Please specify _____	RED FLAGS: Respiratory and GI symptomps 3 days and more Worsening respiratory or GI symptoms Fever more than 24 hours Fever with rash or abnormal bruises Lethargy Difficulty in breathing Reduces oral intake Chest pain Signs of dehydration: reduced urine output, sunken eyes, dry mucosa Worsening or persistent symstoms eg: cough, nausea, vomiting, diarrhea Altered mental status/ behaviour Seizures Signs of shocks: cold clammy peripheries, pale, poor pulse volume
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6) Co-morbidity/ Medical illness:

Physical examination

General examination: (appear healthy/ unwell/ lethargy)

Hydrational status:

Vital signs

BP:

PR:

Temperature:

RR:

SPO2:

Lungs:

Clinical Staging: (Cat 1 / 2A, 2B / 3 / 4)

Impresion:

Management:

Appendix 4. Adult home assessment tool.

HOME ASSESSMENT TOOL FOR ADULT PATIENTS

INSTRUCTION

1. Use this home assessment tool to monitor your symptoms **daily**
2. If you have any symptoms during office hours kindly call this number
CAC HOTLINE: _____
 Our Home Monitoring Team will contact and assist you
3. For any serious or life threatening symptoms after office hours please call **999** or go to the nearest hospital with own transport (Use of public transport is forbidden)

	SYMPTOMS	DAY	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
		DATE										
1.	Fever											
2.	Sorethroat											
3.	Nausea and vomiting											
4.	Diarrhea											
5.	Cough											
6.	Difficulty in breathing											
7.	Loss in taste											
8.	Loss in smell											
9.	Chest pain or chest discomfort											
10	Face or lips turning blue											
11	Feeling faint or drowsy											
12	Any other symptoms Please specify											

Appendix 5. Paediatric home assessment tool.

HOME ASSESSMENT TOOL FOR PAEDIATRIC PATIENTS**INSTRUCTION**

1. Use this home assessment tool to monitor your child's symptoms **daily**
2. If your child has any symptoms during office hours kindly call this number
CAC HOTLINE: _____
Our Home Monitoring Team will contact and assist you
3. For any serious or life threatening symptoms after office hours please call **999** or go to the nearest hospital with own transport (Use of public transport is forbidden)

	SYMPTOMS	DAY	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
		DATE										
1.	Fever											
2.	Sorethroat											
	Cough											
3.	Nausea and vomiting											
4.	Diarrhea											
5.	Poor feeding											
6.	Fast breathing											
7.	Face or lips turning blue											
8.	Inactive on handling/ Lethargy											
9.	Chest pain or chest discomfort											
10	Seizures/Fits											
11	Any other symptoms Please specify											

Appendix 6. Adult COVID-19 home assessment tool for healthcare providers.

ADULT COVID-19 HOME ASSESSMENT TOOL (A-COHAT) FOR HEALTH CARE PROVIDER												
Health Care Provider to ask patient if they have the following:												
	SYMPTOMS	DAY	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
		DATE										
1	Sorethroat or running nose											
2	Cough											
3	Loss of taste											
4	Loss of smell											
5	Diarrhea < 2x/24 hrs											
6	Nausea and vomiting											
7	Lethargy											
8	Myalgia											
9	Able to carry out daily activities											
10*	Fever											
11*	SOB											
12*	Chest pain											
13*	Unable to tolerate orally											
14*	Worsening of lethargy eg: more lethargic with usual activities or struggling to get out of bed											
15*	Unable to ambulate without assistance											
16*	Worsening or persistent symptoms such as cough, nausea, vomiting or diarrhea											
17*	Reduced level of consciousness											
18*	Reduced urine output in the last 24 hours											

NOTE:
 Symptoms 1-9: If present patient is CAT 2A (MILD) and need referral to PKRC for further assessment
Symptoms 10-18*: RED FLAGS - If present patient is CAT 2B (MODERATE) and needs urgent referral to hospital for further assessment

Appendix 7. Paediatric COVID-19 home assessment tool for healthcare providers.

PAEDIATRIC COVID-19 HOME ASSESSMENT TOOL (P-COHAT) FOR HEALTH CARE PROVIDER

Health Care Provider to ask the parents/carer or the child whether the child/they have the following:

	SYMPTOMS	DAY	D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
		DATE										
1.	Sore throat or running nose with no difficulty in breathing (< 3 days)											
2.	Cough with no difficulty in breathing/chest pain (< 3 days)											
3.	Fever less than 24 hours											
4.	Diarrhea/vomiting with no signs of dehydration (< 3 days)											
5.	Active and tolerating orally well despite the symptoms											
6*	Respiratory or GI symptoms persist 3 days and more											
7*	Worsening respiratory or GI symptoms											
8*	Fever persist more than 24 hours											
9*	Fever with rash or abnormal bruises											
10*	Fast breathing or increase breathing effort											
11*	Chest pain											
12*	Lethargy											
13*	Reduced oral intake											
14*	Signs of dehydration: reduced urine output, sunken eyes, dry mucosa											
15*	Altered mental status/behaviour											
16*	Seizures											
17*	Signs of shock: cold clammy peripheries, pale											

NOTE:

Symptoms 1-5: If present patient is CAT 2A (MILD) and need referral to PKRC/hospital for further assessment

Symptoms 6-17*: RED FLAGS - If present patient is CAT 2B (MODERATE) and needs urgent referral to hospital for further assessment