

Smart Care Center in Clinical Management System (CMS)

By **Dr Joyce CHAN**, Senior Health Informatician, Information Technology and Health Informatics Division, HAHO

1 From "Clinical" menu

Or shortcut button on COVID-19 indicator function

2 Smart Care Center – by ward

Automatic generation of patients' clinical information, e.g. PCR/RAT Positive result within recent 14 days, Vital Signs from e-Vital system etc.

3 Overview of Smart Care Center

Figure 1: Smart Care Center by ward view

1 Double click the selected patient or click [+] button to view the details

2 Click [More] button to access ePR and other CMS functions

Figure 2: Smart Care Center by patient view

In This Issue:

COVID-19 Related Quality Programmes

- Smart Care Center in Clinical Management System (CMS)
- KWC COVID-19 Hospital/Ward Dashboard
- COVID-19 Building Enquiry System
- Enriching Patient Journey with "Rehab" Function of HA Go

The surge of Hong Kong's fifth wave of COVID-19 has overwhelmed Accident and Emergency (A&E) departments and inpatient medical services. Timely treatment and patient care management for the most vulnerable and high-risk patients were important. Apart from COVID-19 patients, our colleagues also have to take care of a large number of non-COVID-19 patients. It was difficult for frontline staff to gather patients' COVID-related clinical information which would allow frontline staff to visualise actionable data to optimise clinical care.

In May 2022, a new CMS function – Smart Care Center was implemented to provide an overview of COVID related information by ward view and patient details view. COVID patients' PCR/RAT test results, vaccination records, vital signs, oxygen therapy and awaiting time at A&E for admission to ward or isolation facilities such as the North Lantau Hospital Hong Kong Infection Control Centre (HKICC) were shown in an integrated view to facilitate the clinical care management and prioritise the support for the high risk patients. With the successful implementation for COVID patient management, we hope that the Smart Care Center function could be extended to support other clinical care management in the future.

Editorial Comments

Appreciated for the efforts in providing better care to the patients during the COVID-19 pandemic. The upgraded systems provided better support to our frontline colleagues, so that we can have better patient care and speedy treatments to the high-risk patients. With the success, we agreed to promulgate the Smart Care Center function to support more specialty and clinical care management in the future.

Dr M LEUNG, Senior Manager (Nursing), HAHO



KWC COVID-19 Hospital/Ward Dashboard

Integrating Data to visualise COVID-19 Patient Movements and Vaccination Eligibility by Hospitals/Wards/Patients At-A-Glance to Facilitate Vaccination, Discharge and Bed Management

By Information Technology Division; Central Nursing Division; Quality & Safety Department, Kowloon West Cluster

The healthcare system had been in the throes of Coronavirus outbreak since 2020. COVID-19 patients were once crammed and jammed in the Accident & Emergency (A&E) Department for hospital beds in Kowloon West Cluster (KWC). Despite continuous emersion of Community Isolation/ Treatment Facilities (CIF/CTF) for downloading of recovering patients, the systems were compromised by the overwhelming demand for patient turnover, fragmented information and communication bottlenecks.

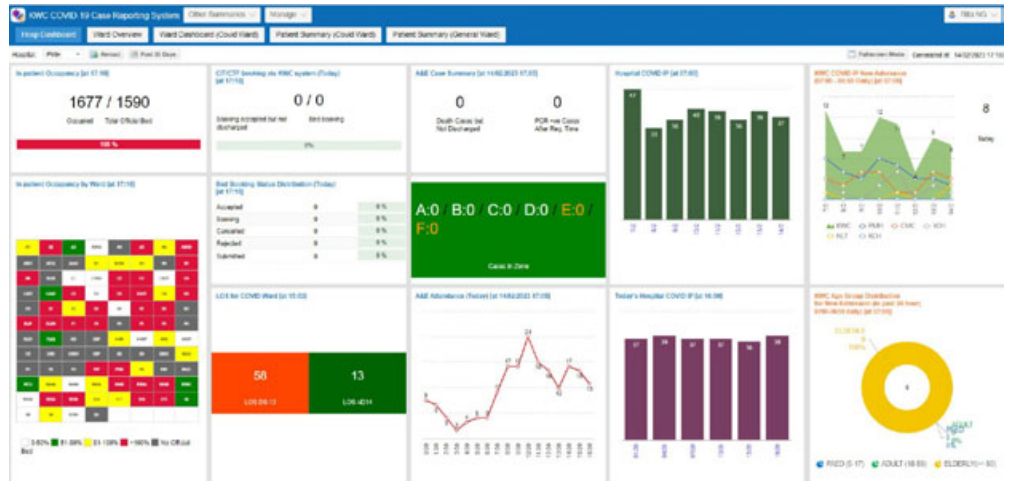


Figure 1: COVID-19 Hospital Dashboard

Clinical dashboard has been well-utilised in daily ward operations over the past years. With a view to battle against the situation faced by hospitals, KWC had extended its use to integrate the available data and display in a convenient fashion to facilitate the in and out management of COVID-19 patients at hospital level via the **“COVID-19 Hospital Dashboard”**. By showing the number of COVID-19 patients at certain specific hours/at regular intervals; number of newly admitted COVID-19 cases per day; age distribution of newly admitted COVID-19 cases per day; real-time number of A&E COVID-19 attendances over 24 hours; individual summary of COVID-19 inpatients etc. at-a-glance, real-time situation and trends could be easily mastered by hospital management to deliver more prompt and accurate strategies for resource utilisation and capacity management.

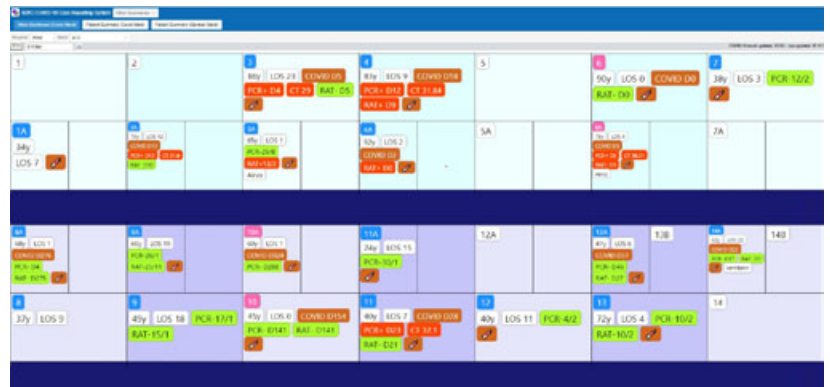


Figure 2: COVID-19 Ward Dashboard

With incorporation of **“Patient Vaccine Eligibility Calculator”** and other essential information (e.g. CT value, Day from 1st positive PCR/RAT, testing requirement & information, latest PCR/RAT results, etc.) into the **“COVID-19 Ward Dashboard”**, the vaccination status & eligibility, days of contracting COVID-19 vs length of hospital stay and individual summary of inpatients could be generated and visualised at-a-glance by ward users to facilitate adherence to necessary COVID-19 testing, vaccination regimen and seamless discharge of patients to suitable CIF/CTF or back to the community.

Bed No	Age Group	Recommendations for General Public			Recommendations for Immunocompromised Persons		
		Minimum interval for next dose	Date of next dose as early as	Status (Remarks)	Minimum interval for next dose	Date of next dose as early as	Status (Remarks)
16	>= 50 years	0	14 Feb 2023	✓ Eligible	0	14 Feb 2023	✓ Eligible
06	>= 50 years	0	14 Feb 2023	✓ Eligible	0	14 Feb 2023	✓ Eligible
06A	>= 50 years	0	14 Feb 2023	✓ Eligible	0	14 Feb 2023	✓ Eligible
16	>= 50 years	0	14 Feb 2023	✓ Eligible	0	14 Feb 2023	✓ Eligible
06A	>= 50 years	30	10 Jan 2023	✓ Eligible	30	10 Jan 2023	✓ Eligible
04	>= 50 years	28	06 Dec 2022	✓ Eligible	28	06 Dec 2022	✓ Eligible
12	>= 50 years	28	26 Nov 2022	✓ Eligible	28	26 Nov 2022	✓ Eligible
07	>= 50 years	28	14 Apr 2022	✓ Eligible	28	14 Apr 2022	✓ Eligible
05B	18-46 years	90	18 Oct 2022	✓ Eligible	28	16 Aug 2022	✓ Eligible
06	>= 50 years	90	10 May 2022	✓ Eligible	28	06 Mar 2022	✓ Eligible
06	>= 50 years	90	08 Jun 2022	✓ Eligible	28	07 Apr 2022	✓ Eligible
14A	>= 50 years	90	28 Dec 2022	✓ Eligible	28	27 Oct 2022	✓ Eligible
42	>= 50 years	90	18 Jan 2023	✓ Eligible	28	17 Nov 2022	✓ Eligible

Figure 3: Patient Vaccine Eligibility Calculator

Editorial Comments

An unknown adversary is always harder to tackle than a known one. The KWC COVID-19 Hospital/Ward Dashboard is an excellent tool that allows the users a real-time, at-a-glance grasp of vital but useful information of the tasks on hand, and facilitate the formulation of strategies that pinpoint spare capacity or stress points for better resources management and enhances quality of care.

Hon. Assoc. Prof. William C M CHUI, Clinical Stream Coordinator (Pharmacy), HKWC

COVID-19 Building Enquiry System

By **Mr K L AU YEUNG¹, Mr Alex LAU¹, Mr Herman LEE¹, Mr Wallace CHENG¹ and Dr Calvin MAK²**

Kowloon Central Cluster Information Technology Division

¹KCC IT, ²KCC CC(IT/IS) / Department of Neurosurgery, Queen Elizabeth Hospital

Special acknowledgement: **Mr H L CHEUNG and Mr M K KWONG**, Central Nursing Division, Queen Elizabeth Hospital

During the third wave of COVID-19 outbreak in Hong Kong, community-acquired COVID-19 infection resulted in a cascade of epidemics in several buildings. To ensure early identification of asymptomatic cases from community outbreak of COVID-19 infection, the residential address of patients had been used as one of the key factors in triaging patients.

However, as the residential address of COVID-19 confirmed/suspected cases scattered in different government records issued every day, the workload on manual checking of patient's address increased day by day. Despite the effort of frontline colleagues, it was difficult to ensure the checking of all the records was done accurately and patients with high risk of COVID-19 infection from the community might not be spotted during admission for proper handling, which increased the chance of nosocomial transmission of COVID-19 infection.

In view of the situation, Information Technology Department of Kowloon Central Cluster (KCC) developed a COVID-19 Building Enquiry System in only two days in order to assist frontline colleagues to identify asymptomatic cases in advance. In mid-July 2020, the system was officially launched in all KCC hospitals. Later, in response to the growth of the epidemic, the list of buildings for compulsory testing was added to the system in mid-Feb 2021, so that frontline staff could assess the potential risk of COVID-19 infection more thoroughly. During the fourth wave of COVID-19 outbreak, the system was further rollout to all HA hospitals in March 2021. In the fifth wave of COVID-19 outbreak, the monthly search volume of the system grew to over 244,502 searches.

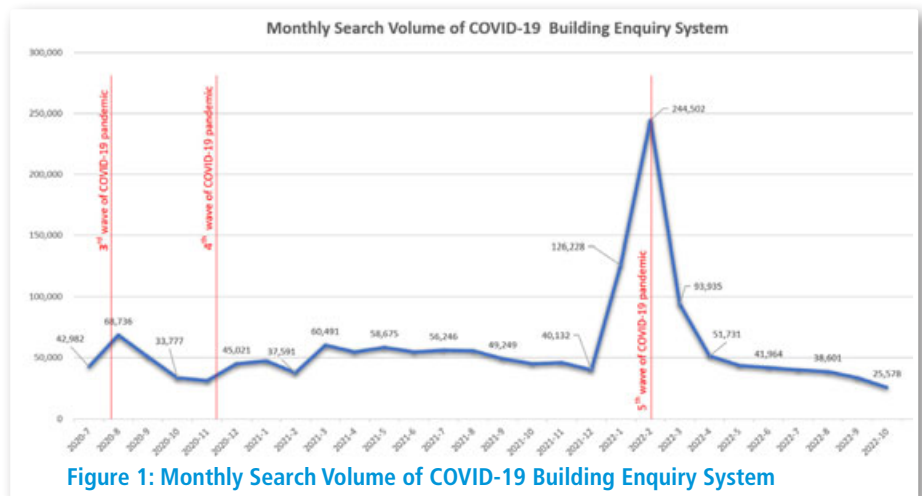


Figure 1: Monthly Search Volume of COVID-19 Building Enquiry System

2019 冠狀病毒病個案大廈名單查詢系統 Logout

大廈名單 · 系統最後更新於 12/12/2022

病人 HKID: Submit

病人 [A123xxxx] 部 地址: 寧華街正邨正和樓
TANG, [REDACTED] CHING YUK HOUSE, TSZ CHING ESTATE, NING WAH STREET

類似地址: 沒有

近似地址:	結果
1	黃大仙慈正邨正和樓 CHING FAI HOUSE, TSZ CHING ESTATE WONG TAI SIN
2	黃大仙慈正邨正康樓 CHING HONG HOUSE, TSZ CHING ESTATE WONG TAI SIN
3	黃大仙慈正邨正安樓 CHING ON HOUSE, TSZ CHING ESTATE WONG TAI SIN
4	黃大仙慈正邨正泰樓 CHING TAI HOUSE, TSZ CHING ESTATE WONG TAI SIN
5	黃大仙慈正邨正和樓 CHING WO HOUSE, TSZ CHING ESTATE WONG TAI SIN
6	黃大仙慈正邨正怡樓 CHING YI HOUSE, TSZ CHING ESTATE WONG TAI SIN
7	黃大仙慈正邨正逸樓 CHING YUEN HOUSE, TSZ CHING ESTATE WONG TAI SIN

Figure 2: Search results demo screen of the COVID-19 Building Enquiry System

With the development of the building enquiry system, instead of checking individual records one by one, frontline colleagues could simply scan the patient's barcode or input the patient's HKID to complete the checking. Not only the checking time had been significantly reduced, but also the accuracy of the checking could be ensured. The system assisted frontline colleagues effectively to take the appropriate infection control measures and divert patients to appropriate facilities, protecting both patients and frontline colleagues.

Editorial Comments

The speedy development of the COVID Building Enquiry System by the KCC colleagues not only increase their efficiency on checking, the benefit was extended to every cluster. The beauty was not limited to time saving and more accurate on making the building list; more importantly, protection of frontline staff, better utilization of resources by proper diversion of patients was nicely demonstrated.

*Dr Carmen CHAN, Deputy Service Director
(Quality & Standards), HKWC*

Enriching Patient Journey with “Rehab” Function of HA Go

By **Ms Alicia Y W YAM**, Occupational Therapist I, Occupational Therapy Department, Macle hose Medical Rehabilitation Centre
Ms Maggie S H LI, Physiotherapist I, Physiotherapy Department, Macle hose Medical Rehabilitation Centre
Ms Victoria Katherine TANG, Clinical Psychologist, Queen Mary Hospital/ Macle hose Medical Rehabilitation Centre
Ms Judy W L WONG, Health Informatics Analyst I, Information Technology and Health Informatics, HAHO
Ms H L CHENG, Health Informatician, Information Technology and Health Informatics, HAHO

It is never an easy path in rehabilitation for patients and their carers. Finding ways to enrich patients’ and their carers’ rehabilitation journey has always been one of the goals for allied health professionals.

Since the launching of Rehabilitation domain under HA Go in 2019, there has been a revolutionary change to deliver/ receive prescribed home training for patients receiving rehabilitation. Since 2019, training videos from Physiotherapy, Occupational Therapy and Speech Therapy have become available to support onsite rehabilitation training with home programs. In 2020 and 2021, neurocognitive training paradigms (N-back and Task-switching training) and electronic tele-information were rolled out for enhancing patients’ rehabilitation outside therapy rooms.

The Rehabilitation domain was developed with a multi-disciplinary approach. The prescription of either training videos, neurocognitive training paradigms or tele-information is prescription-based, patient-centered and individualised, which focuses on the patient’s disease condition and needs. With its development, the prescribed training from the Rehabilitation domain enhances onsite intervention by promoting treatment effectiveness through increasing flexibility in practicing time and place, and generalisation of training effect to one’s daily life. Training videos also enable multi-media guidance for both patients and their carers to review and perform the prescribed home program at anytime and anywhere. Various literature well demonstrated that repetitive training could facilitate rehabilitation progress by promulgating neuroplasticity, especially for patients with neurological disorders. Last but not least, the application enables allied health professionals a timely and more objective way to monitor patients’ home program progress for refinement of intervention strategies.

With the advancement of technology, the rehabilitation journey of our patients could be enriched and well-supported, in addition to face-to-face rehabilitation. Further development of the Rehabilitation domain under HA Go, such as increasing variety of training videos, use of artificial intelligence for remote assessment and online Patient Reported Outcome measures, more patients could be benefited from advanced tele-health development.



Figure 1: Rehab training videos

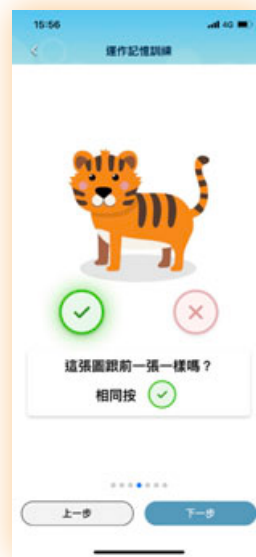


Figure 2: N-back training



Figure 3: Tele-information

Editorial Comments

COVID-19 pandemic has pushed forward the service digitalization in healthcare industry. Implementing mobile application to improve healthcare services in different disciplines is a global trend. The “Rehab” function of HA Go demonstrates the evolution of patient care delivery outside therapy rooms. Not only by words, health information nowadays can also be provided in form of multi-media accessible via mobile devices which facilitate patients to follow instructions. With the use of the interactive platform, the limitation of traditional onsite intervention is alleviated.

Dr Osburga CHAN, Service Director (Quality & Safety), KCC

Editorial Board Members:

Dr Jeffrey LAI Dep CM(Q&St)/ CM(CE&TM), HAHO
 Dr M LEUNG SM(N), HAHO
 Ms Karen MAK SM(AH), HAHO
 Prof William CHUI CSC(PHAR), HKWCI DM(PHAR), QMH
 Dr Joanna PANG CMO, HAHO

Dr Henry HUI Deputy SD(Q&S), HKEC
 Dr Carmen CHAN Deputy SD(Q&St), HKWC
 Dr Osburga CHAN SD(Q&S), KCC
 Dr Kwok Leung NG Dep SD(Q&S), KEC
 Ms Judy CHU CM(Q&S), KWC
 Dr L P CHEUNG Deputy SD(Q&S), NTEC
 Ms Bonnie WONG CM(Q&S), NTWC

Comments are welcome

Please email us at address:
 HO Quality & Standards Department