醫院管理局
HOSPITAL AUTHORITY

Quality and Safety

Annual Report 2020

Acknowledgements

The “Hospital Authority Quality and Safety Annual Report” highlights the latest practices and prevailing issues in quality and safety from each of the seven Clusters, Quality and Safety (Q&S) Division of Hospital Authority Head Office (HAHO), Coordinating Committees (COC) and Central Committees (CC).

In 2020, COVID-19 had brought about unprecedented disruption to our lives in so many ways. But in this challenging time, our dedicated and innovative colleagues have demonstrated sheer perseverance in pursuing quality healthcare services for our patients. We would like to express our heartfelt gratitude to our colleagues for their continuous efforts in providing better and safer services to the public.

We are grateful for each contributing team for sharing with us and the public their quality initiatives in 2020. Our sincere appreciation is also extended to those who have provided invaluable input and feedback to this publication.

Quality and Safety Division
Hospital Authority

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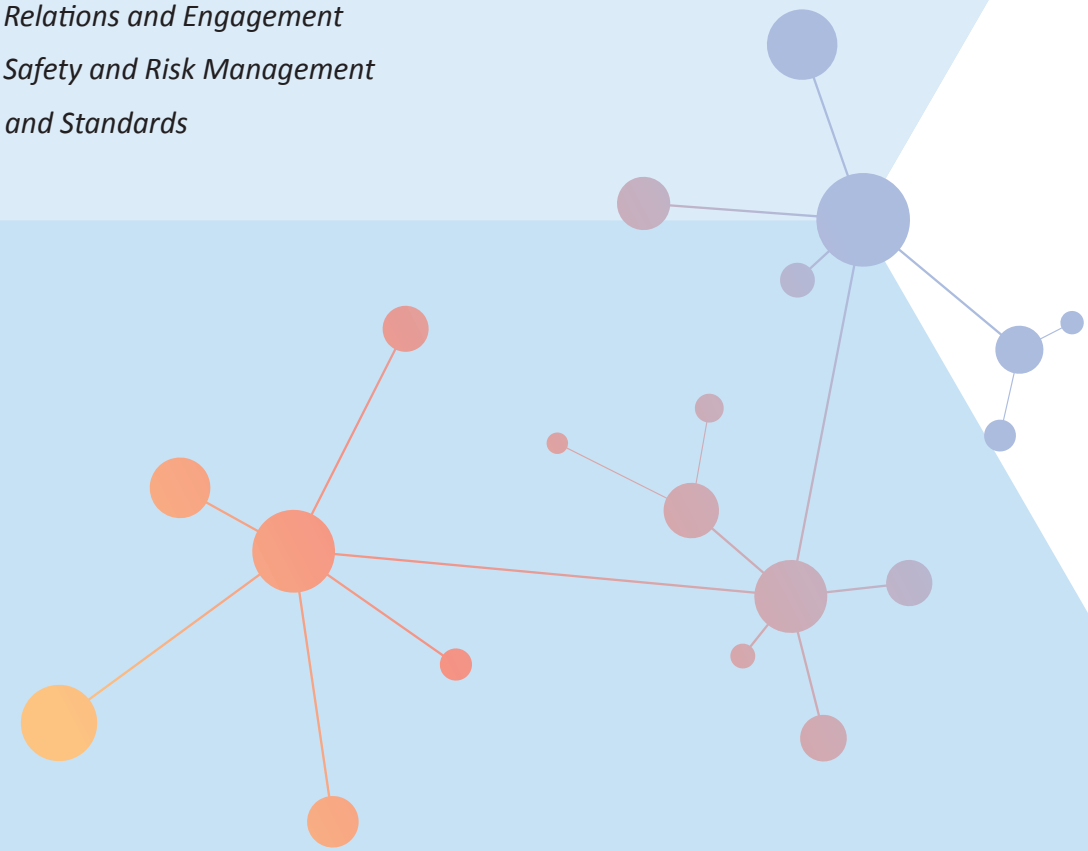


Opening Message

Our world in Year 2020 has been tumultuous in every sense as COVID-19 wreaked havoc around the world, threatening our lives, disrupting social and financial activities like never before. It is mind-blowing how COVID-19 has seared a wicked mark in the human history.

Yet in this darkness, we thrive. If there is one thing we learn from management of incidents, it would be that a radical change of practice is often triggered by a crisis or a failure. A painful process that breaks and unshackles, a golden opportunity to unfreeze and change, quoting Lewin's change management model. Through innovation and exnovation, we rise above ourselves to strive higher.「禍兮福之所倚、福兮禍之所伏」is our very own Chinese wisdom.

And we did just that. In 2020, our technology, our practice and most importantly, our mindset have adapted and evolved explosively. We have built robust infrastructure and consolidated contingency plans against infectious diseases. We have improved on telecommunications in clinical applications. And with staff dedication and perseverance, we have overcome challenges one after another, from overwhelmed hospital capacity, to shortage of personal protective equipment (PPE) and emerging COVID-19 variants.

I hope you will enjoy the latest issue of the Quality & Safety Annual Report as every article is a triumph.

Dr K L CHUNG
Director of Quality & Safety

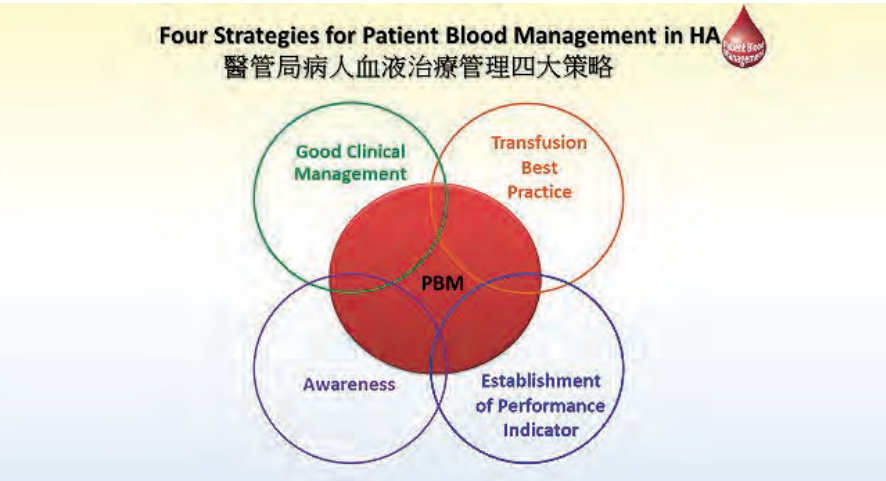
Hospital Authority Head Office

Clinical Effectiveness and Technology Management

Patient Blood Management

Introduction

Patient blood management (PBM) is to optimise the management of patient and transfusion of blood products for quality and effective patient care. Over the years, individual specialties, hospitals and Clusters in the Hospital Authority (HA) have adopted PBM at different paces. Noting the ongoing Cluster PBM initiatives and that PBM is pivotal in reducing demand for blood products, a coordinated approach has been taken through the PBM Steering Committee which oversees the development of PBM in HA. Four core strategies, namely good clinical management, transfusion best practice, awareness and establishment of performance indicator, have been adopted for PBM implementation.



Project Highlights

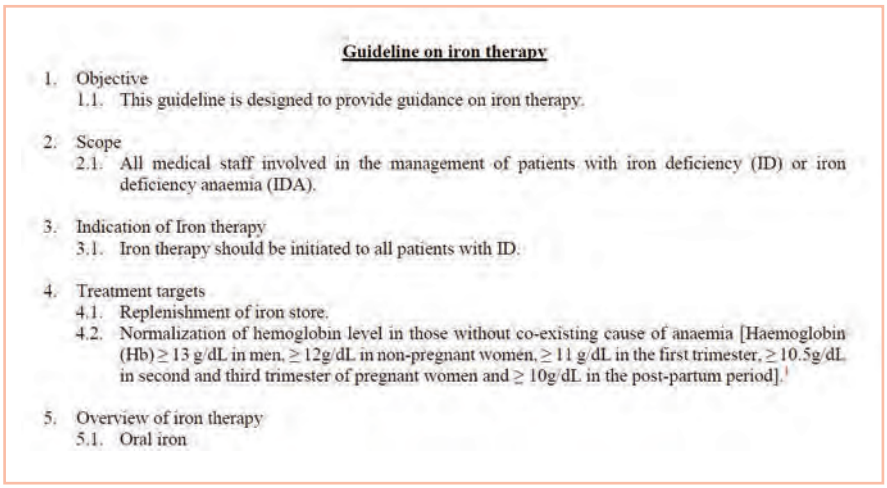
2020 was a particularly challenging year to blood donation owing to the outbreak of COVID-19 and PBM played an even more important role. With concerted efforts from seven Clusters to increase awareness and implement PBM measures via the following strategies, some favourable results were noted.

Good Clinical Management

Proactive management of anaemia and use of alternative therapies to transfusion such as oral/intravenous (IV) iron and fibrinogen concentrate are recommended. Encouraging outcomes were observed in different Clusters, for example, more widespread use of IV iron therapy and erythropoiesis-stimulating agents, and promotion of iron therapy in pre-operative setting. The number of patients, for instance, receiving iron therapy before elective colectomy in Prince of Wales Hospital (PWH), has been increased by almost 90% while patients requiring transfusion have been reduced by 25% since 2016. Enhanced Recovery After Surgery (ERAS) programme and Iron Therapy Clinic were also adopted with positive results in some hospitals.

In fostering PBM development, the engagement and involvement of Coordinating Committees/ Central Committees (COCs/CCs) are indispensable. COCs/CCs concerned provided great support in devising PBM guidelines to enhance proactive anaemia management and minimise blood loss. Aiming to facilitate frontline in implementing PBM in daily operation, a number of guidelines were formulated as listed below:

- 'Guideline on Iron Therapy' (2020)
- 'Recommendations on Management of Iron Deficiency and Iron Deficiency Anaemia in Gastrointestinal Conditions' (2020)
- 'A Guide on Patient Blood Management' (2019)
- 'Dietary Guideline for Iron Deficiency Anaemia' (2019), and
- 'Guideline on the Management of Iron Deficiency and Iron Deficiency Anaemia in the Obstetrics and Gynaecology Unit' (2019).



Guideline on iron therapy

1. Objective
   1.1. This guideline is designed to provide guidance on iron therapy.
2. Scope
   2.1. All medical staff involved in the management of patients with iron deficiency (ID) or iron deficiency anaemia (IDA).
3. Indication of Iron therapy
   3.1. Iron therapy should be initiated to all patients with ID.
4. Treatment targets
   4.1. Replenishment of iron store.
   4.2. Normalization of hemoglobin level in those without co-existing cause of anaemia [Haemoglobin (Hb) ≥ 13 g/dL in men, ≥ 12g/dL in non-pregnant women, ≥ 11 g/dL in the first trimester, ≥ 10.5g/dL in second and third trimester of pregnant women and ≥ 10g/dL in the post-partum period].[1]
5. Overview of iron therapy
   5.1. Oral iron

Guideline on Iron Therapy issued in 2020

Furthermore, positive changes to transfusion were noted after adopting point-of-care (POC) viscoelastic testing (VET). By using this technology, the real-time monitoring of coagulation status would guide optimal therapy including appropriate use of various blood products to improve haemostasis and reduce blood loss. Blood management was enhanced, with less blood transfusion and shorter hospital stay.

[Courtesy: photo from Queen Mary Hospital - VET adopted]

Transfusion Best Practice

As suggested, different Clusters promoted PBM practices/activities through various strategies including promulgation of appropriate transfusion threshold and single unit transfusion for stable patients without active bleeding. In a few hospitals, there was increasing tendency for single unit transfusion.

Awareness

Multiple ongoing education strategies are vital to bring about practice change and sustained realignment of hospitals' culture. There is regular sharing of online up-to-date PBM information to Clusters via representatives from Hospital Transfusion Committees, CC (Transfusion Service) and PBM Steering Committee for dissemination to concerned colleagues. A poster was also designed to promote single unit transfusion in Hong Kong East Cluster (HKEC).

[Courtesy: HKEC Quality and Safety Publicity Team – poster designed by HKEC Staff]

Establishment of Performance Indicator

Together with Blood Transfusion Service and Head Office Information Technology and Health Informatics Division, data exploration for developing performance indicators to monitor the outcomes on blood utilisation and PBM is underway.

Way Forward

No matter what lies ahead, we are determined to do our best to assist the implementation of PBM initiatives via the above four strategies. Wider use of VET and ERAS programme, formulation of PBM guidelines for various clinical conditions, sharing of PBM via multi-media/forum, and development of indicator(s) for monitoring PBM would be our ongoing targets.

Infectious Disease Control Training Centre

Infection Control Advice and Guidelines

Introduction

Infection control is the discipline of adopting practices to prevent and stop the spread of infections. One of the major roles of Infection Control Branch (ICB)/Infectious Disease Control Training Centre (IDCTC) is to promulgate best practices in infection control, by developing infection control guidelines and recommendations.

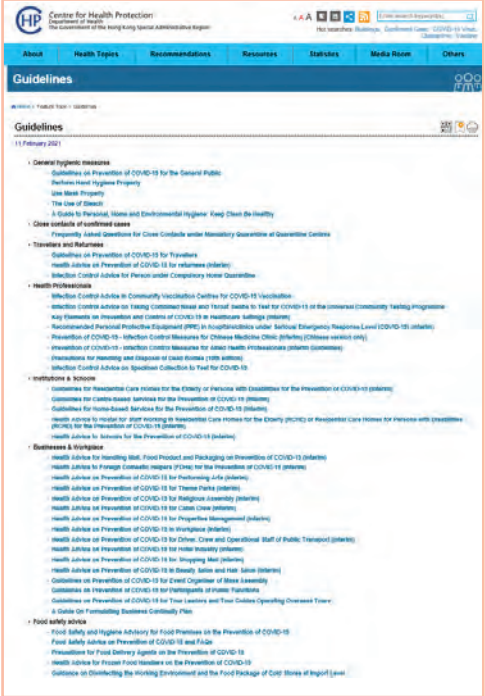
Project Highlights

Since the start of the COVID-19 pandemic, ICB/IDCTC had developed different health advices and guidelines for the general public, health professionals, institutions (e.g. residential care homes for the elderly), schools, businesses and workplace. The time needed to develop a guideline usually ranges from a few days to weeks, which involved collecting comments and feedback from different stakeholders including officers from related government bureaux and departments. In the process of developing health advice or guidelines, we would make reference to overseas and mainland practices, and modify them for local adoption after assessing the feasibility, focusing mainly on infection control principles rather than specific operational details.

The main challenge was to keep the health advice/guidelines updated in response to the evolving local and international pandemic situation, as well as referring to the new policies and regulations. For instance, the advice for hotel industry had been revised multiple times to the latest recommendations on use of hotels as designated quarantine facilities; and the guideline for handling mail, food products and packages were developed in collaboration with the Centre for Food Safety upon reported findings of SARS-CoV-2 on delivered goods. At the time of writing the present report, over 40 health advice/infection control guidelines were produced and uploaded in the Centre for Health Protection website. Different stakeholders are making reference to them in combatting COVID-19.

Way Forward

Guidelines serve as an important element in tackling COVID-19 pandemic and other emerging infections. ICB/IDCTC will continue to develop recommendations on best practices in infection control for both healthcare and community settings.



Training and Education

Introduction

Another important role of ICB/IDCTC is to organise training on infection prevention and control. During the COVID-19 pandemic, we had provided training sessions to different stakeholders to address their various operational needs.

Project Highlights

The need for infection control training varies along the evolution of the COVID-19 pandemic. To support different government initiatives and control strategies, ICB/IDCTC would provide training to different government bureaux/departments and healthcare workers. For example, we conducted infection control training to the team which supported the government evacuation operations in Diamond Princess, Yokohama, Japan in February 2020 and Wuhan of Mainland in March 2020. We have also provided training to staff working in Temporary Specimen Collection Centre (TSCC) at AsiaWorld-Expo and Hong Kong International Airport (HKIA) since March 2020. Other training occasions included Universal Community Testing Programme in August 2020 and use of designated hotels for quarantine of inbound travelers in December 2020. The contents of the training revolved around basic infection control measures such as hand hygiene, use of masks, proper use of PPE, environment cleaning and disinfection and waste handling, with the context being as practical to the specific settings as possible. The train-the-trainer approach was usually adopted to enhance the efficiency of knowledge dissemination. Over a hundred sessions had been organised for different stakeholders with over 4,400 attendees having received training from ICB/IDCTC.

ICB/IDCTC also conducted local infection control forums such as “Symposium on Advanced Infection Control 2020 (Theme on Antibiotic Stewardship Programme)” held on 19-20 November 2020 and “COVID-19 Symposium: From Prevention to Control” held on 8-10 December 2020. Renowned international and local speakers were invited on selected topics, giving the audience a balanced and comprehensive experience. Both events were organised as online webinars with hundreds of registered attendances. The arrangement of online webinar was the first time in the HA and was well received with highly favourable comments and feedback. Some very insightful viewpoints were shared by the speakers which were useful in driving changes in public health policies.

Way Forward

Both regular and ad hoc trainings related to infection control will continue to be provided by ICB/IDCTC as necessary.

Infection Control Assessments and Support for Designated Hotels for Quarantine of Inbound Travelers

Introduction

In the search for quarantine facilities to house inbound travelers and close contacts in the COVID-19 pandemic, hotels were considered a potential setting where the accommodation environment allow separation among different groups of people. Although proven successful in Mainland China and several overseas countries, it was a relatively new idea in local setting. There were challenges to be addressed before using hotels for quarantine purposes.

Project Highlights

ICB/IDCTC provided support in the assessment of hotels in the infection control aspect. We had developed infection control checklist and conducted site visits in conjunction with the Buildings Department (BD) and the Electrical and Mechanical Services Department (EMSD). During a typical site visit, we would assess and provide necessary suggestions on the physical layout, routes of confinees, work practices such as management of confinees and handling of contaminated items. Infection control principles were highlighted in the communications with the hotel management. BD colleagues would assess the drainage system whereas EMSD colleagues would check on the ventilation settings. Following the joint site visits, some hotels underwent improvement work before serving as quarantine facilities. We developed guidelines and provided trainings to hotel operators to empower them on infection control practice. In preparation for inbound travellers quarantine scheme in designated hotels, we had conducted over 60 joint site visits with BD and EMSD during the second half of Year 2020.

ICB/IDCTC continued to work closely with Food and Health Bureau and Department of Health in monitoring the infection control compliance of the designated hotels since their operation. ICB/IDCTC also provided training and was involved in monitoring the practice of collection of swab specimens of inbound travelers during their hotel quarantine period. These are amongst the key important measures to prevent the spread of COVID-19 and safeguard people in Hong Kong.

Way Forward

ICB/IDCTC stands ready to offer infection control expertise and advice to assist the combat of COVID-19 pandemic and other emerging infectious diseases.

Infection, Emergency and Contingency

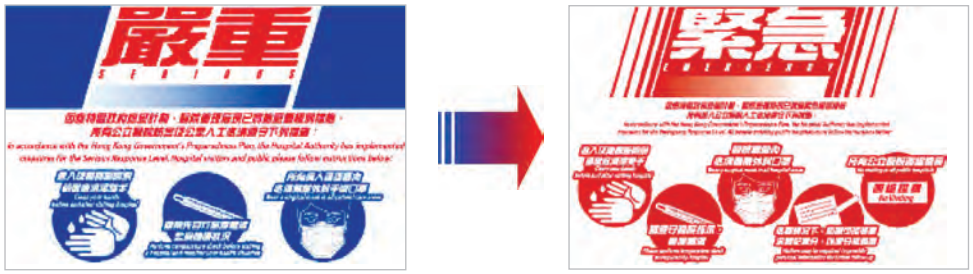
Introduction

The Department of Infection, Emergency and Contingency (IEC) strives to combat infectious diseases, coordinate emergency response as well as enhance contingency planning and preparedness. The department consists of three teams:

- **Head Office Major Incident Control Centre (HOMICC)** – Coordinates HA's emergency preparedness and response measures and acts as an information hub in relaying information during HA-wide major incidents or disasters
- **Chief Infection Control Officer (CICO) Office** – Provides professional advice on infection prevention and control, and supports emergency response in infectious disease outbreaks
- **Corporate Clinical Psychology Services (CCPS)** – Promotes psychological well-being of HA staff to ensure the provision of high quality and person-centred services for patients

Highlights of Actions for COVID-19

Corresponding to the Government's Preparedness and Response Plan for Novel Infectious Disease of Public Health Significance, HA has activated the Serious Response Level and Emergency Response Level on 4 and 25 January 2020 respectively. Based on the three-pronged approach namely "early identification, early isolation, and early diagnosis", HA has put in force a series of various measures in public hospitals and clinics so as to prevent the transmission of COVID-19 in both community and healthcare settings. HA has also kept reviewing strategies against continuous risk assessment of the latest situation.

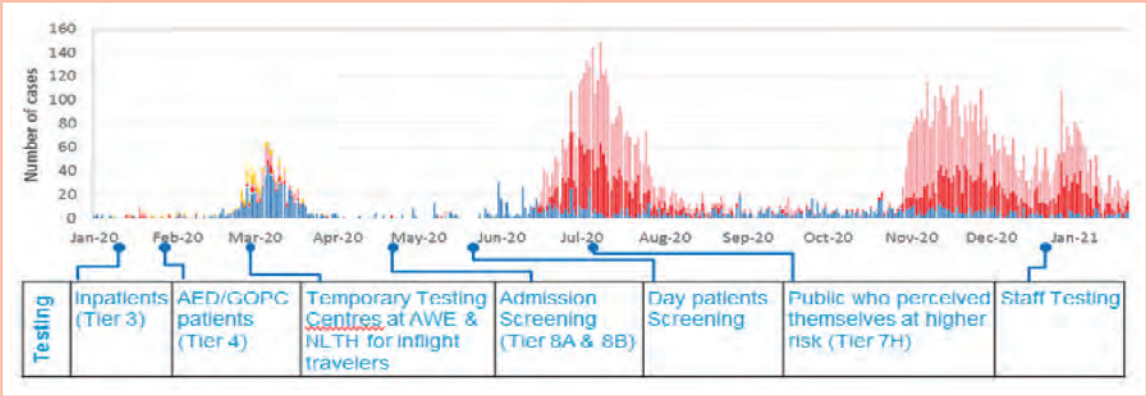


The CICO Office provides professional advice on infection prevention and control, and supports emergency response in infectious disease outbreak. It also serves as the executive arm of the Central Committee on Infectious Diseases and Emergency Response (CCIDER). In 2020, since the emergence of COVID-19, CICO office is committed to coordinate inter-departmental and multi-disciplinary efforts to combat the COVID-19 pandemic.

Enhanced Surveillance

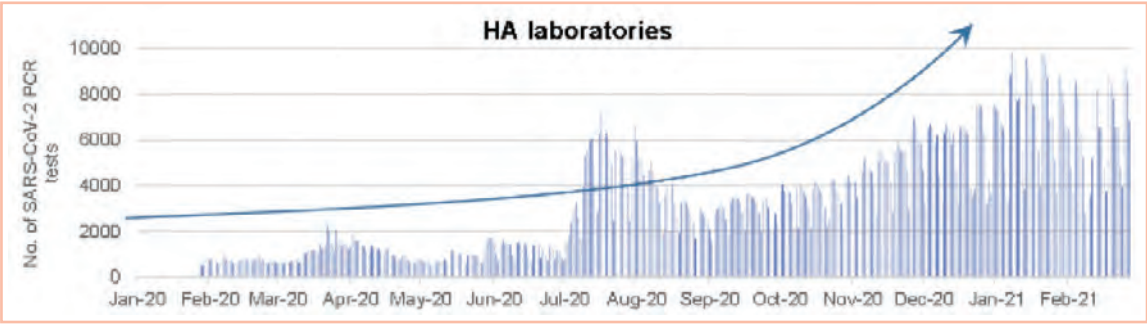
In order to stop the transmission chain as soon as possible, early identification of cases via enhanced surveillance has been put in place in HA since December 2019. On top of routine FTOCC assessment (i.e. Fever, Travel history, Occupation, Contact history, Clustering), the scope of COVID-19 testing has been gradually extended from symptomatic patients to asymptomatic patients, and from in-patients to out-patients and further to day patients.

To broaden the surveillance at the community level, HA has supported the distribution of specimen collection packs at the general outpatient clinics (GOPCs) to assist public members who perceive themselves to have higher risk of exposure or experience mild discomfort to undergo COVID-19 testing under Tier 7H enhanced laboratory surveillance (ELS).



Enhanced Laboratory Capacity

To meet the overwhelming demand of COVID-19 testing, the testing capacity has been enhanced in all of the seven Clusters since 1 February 2020. On average, around 5,000 specimens were tested daily by HA since mid-July 2020 and over 7,000 tests were done on some days.



Moreover, HA has introduced the use of new rapid nucleic acid amplification test (NAAT) in April 2020, which greatly shortens the waiting time of Accident and Emergency Department (AED) patients from 4-6 hours to 2-3 hours. Further to this, HA has acquired high-throughput machines to boost the testing capacity to 9,500 tests per day. As HA focused its resources on patient services with immediate needs, laboratory services for Tier 7H and staff testing has been outsourced to private sectors since July 2020.

Roche cobas® 8800 System

Cepheid GeneXpert System

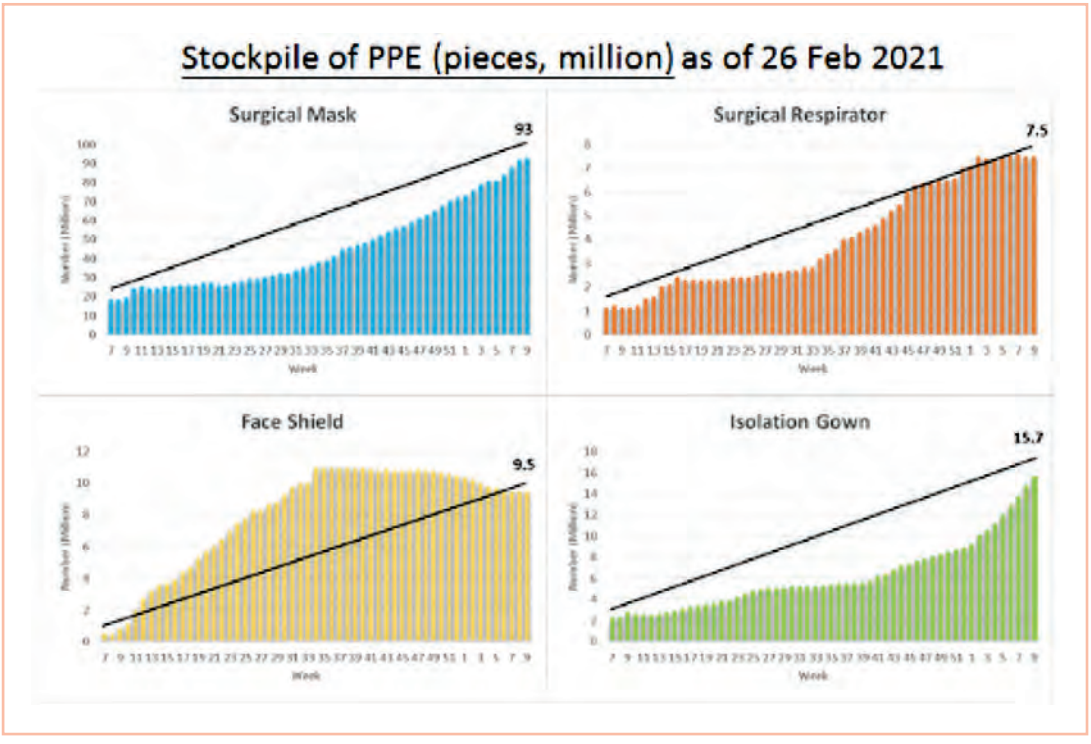
Strengthened Infection Control Measures

In late December 2019, upon the report of viral pneumonia cases with unknown cause in China, HA has implemented stringent infection control measures aiming to protect both staff and patients. A variety of actions were promulgated, including universal masking, reinforcement of good hand hygiene practices, increased accessibility of alcohol-based hand rub solution at clinical areas, corridors and hospital/ clinic entrances, temperature check at entrances of hospitals/clinics etc. Social distancing measures have also been implemented, e.g. partitioned by physical barriers, sitting in one direction in canteens and staggering meal times.

To safeguard patient safety in AEDs and GOPCs, hospitals have completed the widest opening of fresh air dampers in air handling equipment in the waiting areas of AEDs and GOPCs to achieve higher fresh air rate with improved air dilution. Hospitals have also completed wheeling in mobile High-efficiency particulate air (HEPA) units to augment the total air change rates in AED waiting

areas where necessary so as to reduce the risk of cross contamination in AEDs and GOPCs. Since March 2020, advanced disinfection technology such as hydrogen peroxide vapor (HPV) and ultraviolet C (UVC) was introduced in acute hospitals to strengthen environmental disinfection. Dedicated use of non-critical patient care equipment and touchless technology (e.g. self check-in and e-payment) were put forward as well.

In view of the tight global supply of PPE, HA has expedited the procurement of PPE in large quantities since January 2020 and increased the stockpiling target to six months. In addition, HA proceeded with global procurement through the flexible approach of direct purchase, and also explored other sources of PPE production including local production, with a view to procuring the up-to-standard PPE soonest possible. On the other hand, prudent use of PPE in accordance with HA's infection control recommendation has been advocated.



Enhanced Isolation Capacity

Isolation capacity is another crucial component to prevent nosocomial transmission. In addition to the existing airborne infection isolation (AII) beds in hospitals, some general wards were converted to standard negative pressure beds (2nd Tier isolation facilities) to alleviate the demand pressure for isolation beds. Amid another wave of COVID-19 epidemic in July 2020, the isolation capacity was further enhanced by setting up of community isolation facility (CIF) at Lei Yue Mun Park and Holiday Village to receive recovering patients in stable condition.

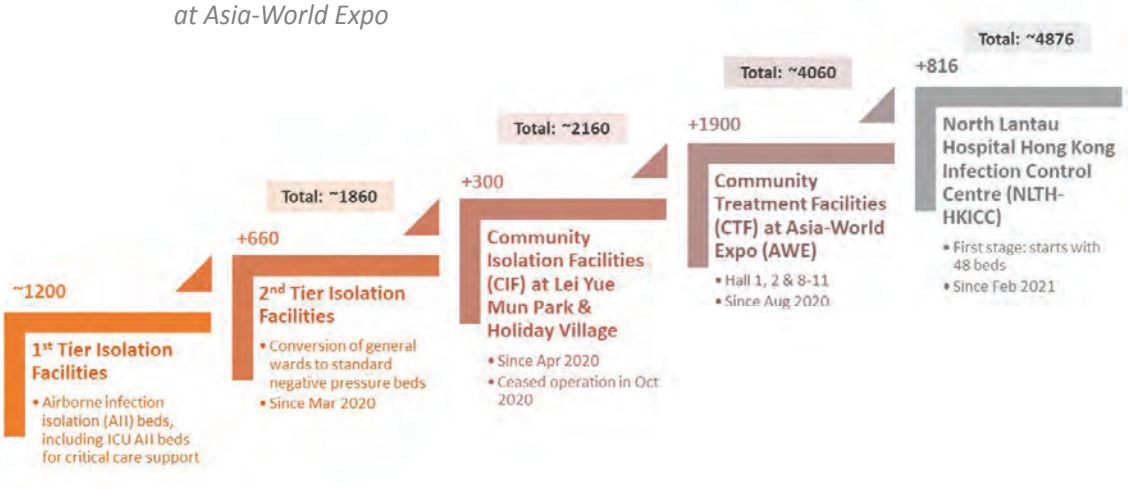
With further support from the Government, the Community Treatment Facilities (CTF) was established at Asia-World Expo (AWE) to receive COVID-19 confirmed patients with suitable clinical condition. Within about one week of the operation, the waiting list of COVID-19 confirmed patients in the community was cleared. To further off-load the burden of acute medical beds, North Lantau Hospital Hong Kong Infection Control Centre (NLTH-HKICC) has commenced operation since 26 February 2021 for COVID-19 confirmed patients in mild or moderate clinical conditions.

2nd Tier isolation facilities

Community Isolation Facility

Community Treatment Facilities at Asia-World Expo

NLTH-HKICC



Treatment

Currently, there is no standardised specific anti-viral treatment against COVID-19. Antiviral drugs, for instance, Interferon beta-1b, Ribavirin, Kaletra and Remdesivir are potential treatment options under HA's clinical management guidelines for COVID-19 patients and might be administered to patients with their consent. The effectiveness and side effects of the drugs will be closely monitored. The guidelines will be continually reviewed based on the latest scientific evidence available.

Risk Communication

Various channels including a thematic webpage, COVID-19 Bulletin (防疫快訊), newsletter (HASLink), staff forums, as well as staff hotlines are being used to relay information to staff in a timely manner. A communication kit was prepared since the beginning of the pandemic to serve as a quick guide for ICTs and frontline staff on disease knowledge, isolation precautions, laboratory testing, clinical management, reporting mechanism and infection control measures. HA also attended joint press briefings on updates of COVID-19 cases with Department of Health to provide updated situation of hospitalised COVID-19 patients.

Date	Topic
29 Jan 2020	Infection Control Measures of Public Hospitals
24 Apr 2020	Introduction of NASK as Surgical Respirator in HA
9 Sep 2020	Healthcare in Perspective: COVID-19 Data and Preparation for Next Wave Pandemic

"Healthcare Perspective" media workshop, 9 September 2020

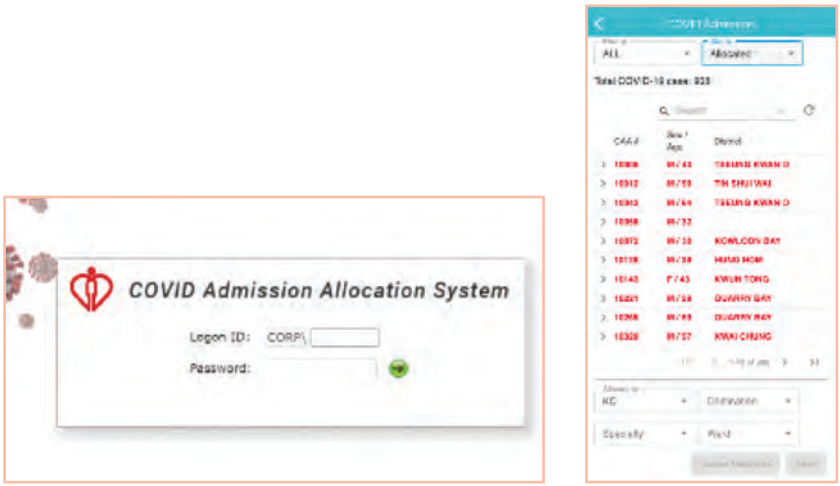
Media workshops are held from time to time, with collaboration between Corporate Communication Department, to update the current situation and explain the infection control measures in public hospitals. These two-way communication and regular updates can address public concerns and build public confidence in HA.

Emergency Response for COVID-19 Pandemic

Since the start of 2020, the HOMICC, as an information hub, has been continuously involved in the corporate response to support the Government's strategy in combating the COVID-19 Pandemic. Situation updates such as hospitalised COVID-19 confirmed patients and occupancy rate of HA isolation facilities have been issued since the outbreak to facilitate HA Press Release along with keeping senior management of HA and Food and Health Bureau updated for strategic response planning.

Throughout the different waves of outbreak, HOMICC has been responsible for balancing the distribution amongst the Clusters by assisting the diversion of COVID-19 related cases, both confirmed and suspected, to HA hospitals. Upon the referral from the Centre for Health Protection (CHP), Head Office Duty Officers (HODOs) worked conjointly with the Clusters' Bed Coordinators and Hospital colleagues to expedite the patient allocation process for prompt treatment/testing. At the critical time of the early stage of pandemic, HA received over 100 cases referrals through different means, including telephone calls, fax and email from different units each day.

In order to streamline the diversion process, HOMICC collaborated with a multi-disciplinary team, composed of colleagues from the HO Cluster Services Division, Information Technology and Health Informatics Division, Cluster Bed Coordinators as well as Department of Health, to orchestrate a COVID-19 Admission Allocation System (CAAS), an automated bed allocation IT system, within weeks' time to divert cases tested positive with COVID-19. The CAAS significantly reduced the paper-based communication between the referring parties and HA, hence allowing timely bed allocation to HA hospitals as well as the Community Treatment Facilities in AWE. As of 1 February 2021, over 3700 cases were successfully allocated via the CAAS.



CAAS (Web Portal & myHR App version)

HA medical team for EROOHK

In addition, HOMICC also coordinated 11 medical teams, consisted of 19 HA doctors and nurses from the AED and Obstetrics & Gynaecology specialty, for the Government-led Emergency Response Operations Outside the Hong Kong (EROOHK) upon request to repatriate Hong Kong residents stranded on board the Diamond Princess Cruise in Japan and Wuhan. Over 600 HK residents, including pregnant women and people requiring medical treatment for serious illnesses have been escorted back by the medical teams with en-route emergency medical assistants.

HOMICC and HODOs continue to stay alert throughout the COVID-19 pandemic, cooperating with concerned departments for patient management and related incident response, such as Restrictive Testing Direction and COVID-19 Vaccination Programme in which the commissioning of HA-Community Vaccination Centres would be one of the meaningful tasks to combat the pandemic.

Staff Psychological Services for COVID-19

In the face of the prolonged pandemic, CCPS has initiated diversified psychological services for HA staff to strengthen their psychological resilience and coping skills. Staff can access service details easily via Oasis webpage, HA.home, myHR App, mSHR, HR Bulletin, promotion poster and various other channels.

Self-Help Services

Since February 2020, CCPS has launched a series of self-help psychoeducational resources, namely the "Psychological Service Amidst the Pandemic"（防疫心理服務）, to help HA staff deal with various acute stress reactions and emotions. The content has covered emotion regulation, stress management, sleep hygiene, personal and family contingency plans, crisis intervention, spiritual care, community resources and the like.

The resources have been published online and in pamphlets/cards. Whatsapp Broadcast has also been established since July 2020 to regularly share wellness tips and service updates with about 1,700 subscribed colleagues (as on 31 December 2020). By December 2020, the various resources have attained over 11,000 monthly hit counts in the internet.

Psychological Service Amidst the Pandemic

Individual Services / Telecare

Staff Psychological Support Helpline

Staff Psychological Support Helpline

Staff Psychological Support Helpline has commenced since February 2020, aiming to provide timely psychological and emotional support for HA staff due to the outbreak of COVID-19.

Through this service, staff can receive psychological first aid and acquire simple relaxation skills and information of relevant resources such as community and spiritual support services. If necessary, triage and individual consultation in Staff Psychological Services Clinics will also be arranged.

Telecare

To provide uninterrupted services during the outbreak, CCPS has enhanced its service delivery to provide individual services via tele-communication since January 2020. Service users can opt for services via phone, Zoom, and tele-conferencing facilities apart from face-to-face consultations.

Building on the existing e-psychological services, a new Chatbot e-Triage platform has also been piloted since mid-2020. Staff can now enjoy extra flexibility with the after-hours e-triage services out of their busy schedule. In the coming year, the e-triage service will be extended to all HA staff round the clock through the new MyOasis app.

Treatment Group

In response to the ongoing service demand on treatment groups during HA-wide training/ group service suspension, a new series of Zoom treatment groups and talks “Fuel your heart” were launched in 2020. The series aim to equip colleagues with essential and practical psychological skills for the pandemic. For example, the popular new COVID-19 group covers hands-on skills to build psychological resilience and mental toughness in facing increased level of work and life stressors. Another 45-min lunch Wellness Tips group transforms evidence-based theories including mindfulness and behavioral skills into lively course materials that helps colleagues to prevent mental fatigue.

Wellness Tips – Newly Designed Group for COVID-19

Encouraging feedback was received and many colleagues found the courses helpful in facing everyday scenarios. As in December 2020, over 40 treatment groups have been rolled out with over 750 attendances.

Feedback from Group Participants

In view of the uncertain development of the pandemic, CCPS will continue to adopt flexible approach in the mode of delivery of individual and group services to provide ongoing and timely psychological support to colleagues.

Pre-Deployment Briefing

To strengthen resilience of staff to be deployed to/working in high risk areas during the COVID-19, two online videos have been produced to share the tips to strengthen self-resilience (for HA staff) and team resilience (for supervisors) before, during and after deployment.

Videos of Pre-Deployment Briefing

Crisis Intervention Services

Psychological Support Kit

Psychological Support Kits

As early as January 2020, psychological support kits containing psychoeducational pamphlets, wellness tips, relaxation/spiritual audios and caring gifts such as inspirational book and phone holder, had been provided for quarantined staff, infected staff and their families so as to support their psychological wellbeing during the hard times.

By January 2021, over 400 kits had been dispatched. The feedback was encouraging. Appreciation was received for the warmth and care offered via both tangible supplies/informative resources and the intangible support/encouragement.

Critical Incident Management

Timely provision of psychological support to staff/department experiencing critical incidents continued in 2020, with approximately 600 staff in nine critical incidents across Clusters from April to December. In response to the outbreak of COVID-19 at wards, CCPS proactively collaborated with Critical Incident Psychological Services (CIPS) Centres, Critical Incident Support Teams (CISTs) and Cluster HRs to render a series of tele-care groups and provide online self-help psycho-educational materials to enhance staff's resilience against the acute stress.

Way Forward

The COVID-19 pandemic has been a great challenge for the Department of IEC, everyone in Hong Kong and around the world. It is crucial for IEC to learn from this valuable experience and keep enhancing corporate preparedness for major infectious disease outbreaks. In view of the increasing demand for public healthcare services due to population growth and aging, IEC shall remain vigilant and will continue its efforts in executing infection prevention and control, providing timely response actions during disasters, enhancing contingency planning for major incidents as well as strengthening staff resilience in response to crisis and adversity.

Patient Relations and Engagement

Introduction

As an accountable public organisation committed to providing people-centred care, HA values the opinions expressed by our patients and the general public. Complaints, feedback and appreciation, serving as indicators of public's satisfaction towards our services, help us identify potential areas to implement enhancement measures for continuous quality improvement and to meet the needs of the community.

Since its inception, HA has established a two-tier system in handling public complaints with the aim to provide an easily accessible, efficient and effective avenue for addressing complaints fairly, impartially and effectively, both for the complainants and those being complained against. Local resolution at hospitals/clinics is often the main emphasis in the first-level case handling, with appropriate assistance to be provided to patients and complainants as far as possible. Complainants who are dissatisfied with the outcome of their complaints handled by the respective hospitals/clinics can appeal to the Public Complaints Committee (PCC) for a review of their cases. The PCC is established under the HA Board to independently consider and decide on all appeal cases. The Patient Relations and Engagement Department (PRED) of Quality and Safety Division oversees the corporate complaints and feedback management work. It also provides executive support to the PCC and the Central Committee (Complaints Management and Patient Engagement) (CC(CM&PE)).

The CC(CM&PE), comprising clinical leaders and management from seven Clusters, was established to enhance the overall management of patient relations. It advises on the strategic direction of complaints management of HA and is tasked to align the policies, standards and practices of various aspects of patient relations and complaint management of public hospitals.

Project Highlights

Patient Experience Survey (PES)

Employing experience/satisfaction survey to proactively gauge patients' experience has become an international trend. HA has commenced the first In-patient Survey in 2010, also the first territory-wide PES, using a structured and validated tool in Chinese community in Asia. Significant progress has been made for systematic planning, development and follow-up on PES in HA. The following PES projects and follow-up actions were undertaken in 2019/20:

PES on Inpatient Service

Following the Corporate PES Service Plan, the PES on Specialist Outpatient Service was launched in October 2019 and its results were reported to the public in December 2020. Covering 9,800 patients from 27 public hospitals, the survey results were positive and encouraging. On a scoring scale of 0 to 10, the overall score on in-patient service was 8.2, with outstanding performance on the "confidence and trust" in healthcare professionals (9.3 for doctors, 9.6 for nurses and 9.7 for allied health professionals), explanation on how to take medications (9.2), sufficient privacy given (9.3) and being treated with respect and dignity (9.6). Areas for service improvement were identified, including the provision of post-discharge information on danger signals and contacts, as well as the information on the channels for expressing opinions/ appreciations/complaints.

The survey results have suggested sustained momentum with a high degree of engagement for both staff and patients towards PES and patient-centred care. Appropriate follow-up actions are in progress.

Future Corporate Survey Plan

To ensure a structured longitudinal monitoring of patients' views, HA will continue to conduct corporate-wide In-patient Surveys at regular intervals. In between, there will be Surveys on Specialist Outpatient Service or Specialty-based Service to address specific areas or issues. As the outbreak of COVID-19 had affected the mode of service of Specialist Outpatient Clinics, the fieldwork of the PES on Specialist Outpatient Service originally scheduled for 3Q 2020 was tentatively postponed to 3Q 2021.

Follow-up of PES Results

The PES findings have given an overview of HA's in-patient service and highlighted areas for quality improvement. Building on the positive response of the "Patient Discharge Information Summary" (PDIS) project in medical and geriatrics wards, HA will explore the feasibility of developing mobile applications for providing discharge information and to roll out the project to other specialties. HA will also consider making use of technology (such as HA's mobile application, i.e. HA Go) to improve patients' engagement and experience in self-care management and feedback collection. Given the significance of cultural and contextual factors in affecting patients' expectations on some aspects of care, such as their engagement in the care process and self-introduction by healthcare professionals, further analysis is required for planning the appropriate follow-up improvements.

Building a Sustainable Complaint Management Service

With HA's increasing service volume and complexities, and public awareness of the right to complain, demands on complaint handling personnel service/support to mediate disputes is on the rise. There is also an increasing trend in complexity and severity of complaint cases with involvement of high-powered complaint redress organisations requiring intensive coordination and collaboration across hospitals/Clusters. In face of these challenges, a three-pronged approach is adopted to build a sustainable complaint management service.

Building a Cluster-based Patient Relations Office Structure

To enhance the Cluster governance structure and capacity in complaint management, the direction was to establish a Cluster-based Patient Relations Office structure led by a Cluster Patient Relations coordinator to oversee the complaint management services in the Cluster. The Cluster Patient Relations coordinator serves as the resource person for complex complaints/issues, align the practices, oversee the performance of complaint management as well as to plan the training and development of Patient Relations Officers (PRO). Phase I implementation was supported in three Clusters, namely Hong Kong West Cluster (HKWC), HKEC and New Territories East Cluster (NTEC). Further implementation in other Clusters is in the pipeline subject to operational readiness.

Meanwhile, a partnership programme was launched to engage Cluster PROs/frontline staff/clinical leaders to attend PCC meetings. It aims to facilitate direct communication between PCC Members and Clusters/hospitals and enhance understanding of the operation of the second-tier complaint mechanism. As of March 2021, 14 PROs from six Clusters attended the PCC Panel Meetings.

Developing a Competence-based Training & Development Programme

To nurture the pool of talents for PRO job and enhance the professionalism of PROs in the face of new development in the complaint environment, a full curriculum of specialist training from induction for new recruits to expert level for PROs with potentials to take up a leadership role in the Cluster was developed.

Following the training and development framework, a half-day Complaints Management Training Workshop at advanced level targeting at experienced PROs was conducted in January 2020. Handling of appeal cases and cases of high complexity, as well as the effective writing in response to high-powered complaint organisations were shared with 50 participants. The overall feedback of the workshop was positive and encouraging.

With the outbreak of COVID-19 since early 2020, classroom training on complaints management was suspended. Continued efforts have been made to enhance staff competence and capabilities in complaints management with due consideration of the current epidemics. The use of technology, e.g. webinar was being explored to engage Clusters in organising training and sharing.

Staff Development Rotation Programme

With a view to providing opportunities for career development/exposure of PROs and Complaint Managers, and facilitating succession planning in Head Office and Clusters, a Staff Development Rotation Programme has commenced since 2019. In 2020, four complaint handling personnel from Head Office and three Clusters (Kowloon West Cluster (KWC), NTEC and New Territories West Cluster (NTWC)) participated in the rotation programme. Participants revealed positive feedback on how the programme had enhanced their understanding of HA complaints management system and provided fresh perspectives on their roles as a Patient Relations Officer (PRO)/Complaint Manager in HA.

Way Forward

A good and harmonious healthcare professionals-patient relation is essential to keep the quality of patient care. However, complaints are unavoidable, given the complexity of the healthcare systems, limitations of medicine and the unmet expectations regarding public health services. To foster a healthy relationship between the healthcare professionals and patients, PRED will continue to work with stakeholders to advocate public education and promote a positive and just complaints culture to enhance communication and prevent misunderstanding.

Patient Safety and Risk Management

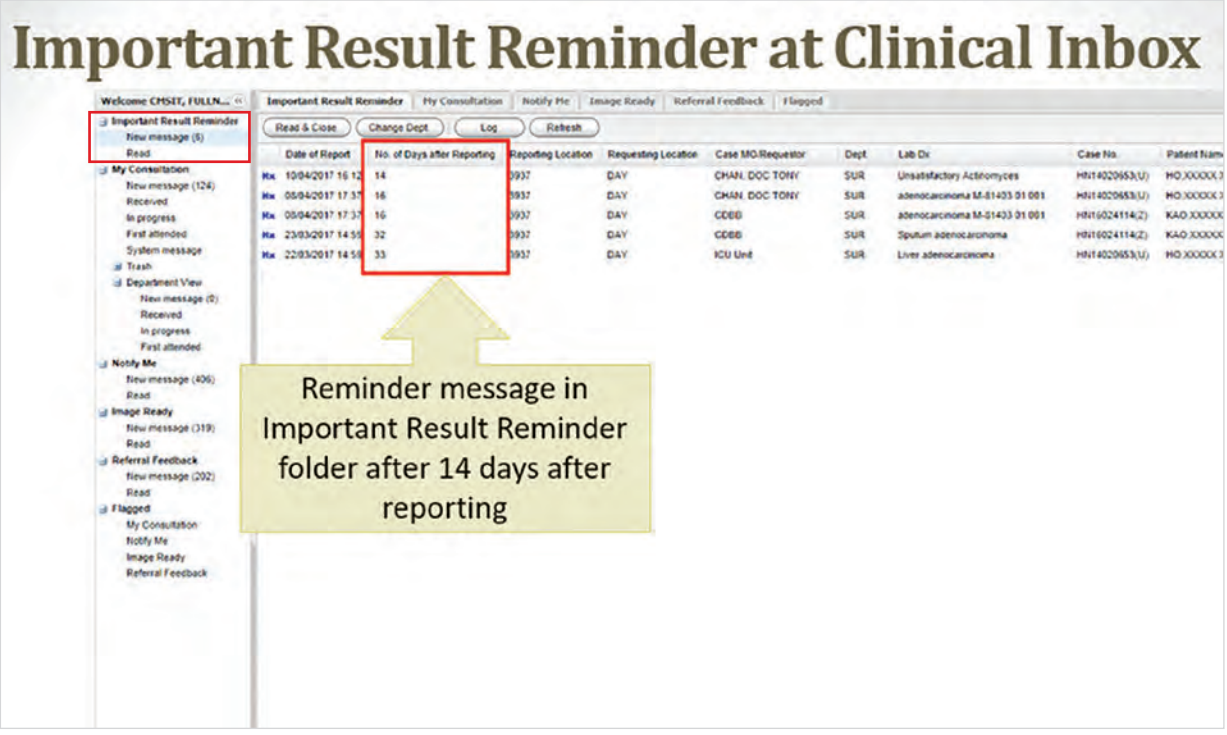
Introduction

Patient Safety and Risk Management Department (PS&RM) was established to coordinate improvement in patient safety and quality of care across the HA. Through analysing reported incidents, PS&RM identifies risks in patient care processes, introduces various risk reduction measures and organises educational programmes.

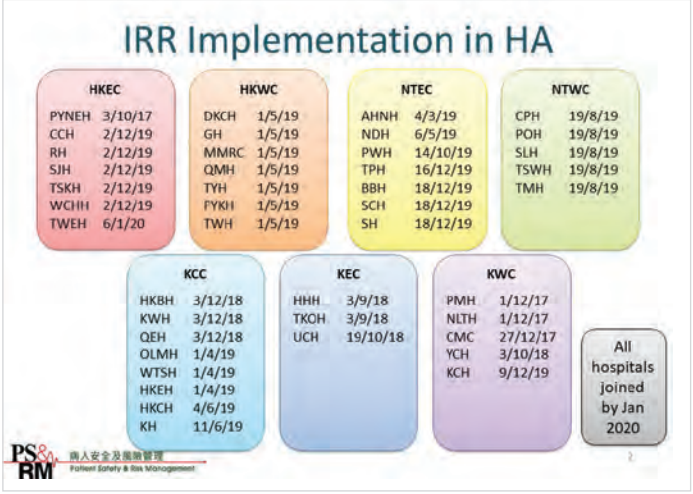
PS&RM also provides secretarial support to four COCs – Orthopaedics & Traumatology, Ophthalmology, Obstetrics & Gynaecology (O&G) and Paediatrics. Although the usual functioning of the Department and our counterparts in the Hospitals was significantly disrupted due to COVID-19 last year, some projects continued to make progress and a few highlights from 2019/2020 are described as follows.

Project Highlights

Important Result Reminder



Thanks to the perseverance of our clinical colleagues and implementation team, it is with great pleasure to report that Stage I of the Important Result Reminder (IRR) project was completed. As of January 2020, all important histopathology results, mainly malignancy are sent to the clinical inbox of the respective departments two weeks after the report becomes available. This initiative has been rolled out across all HA hospitals as charted. IRR creates a safety net for our clinicians who might have otherwise missed abnormal histopathology results due to their incredibly heavy workload, and ultimately ensures that these patients are provided with appropriate treatment in a timely manner.



A post implementation review was performed. The majority of users expressed satisfaction with the system and more importantly, indicated that it has helped improve patient safety. A number of cases were provided by users to demonstrate how this feature has helped identify patients with malignancies that would have otherwise fallen through the cracks. Following this valuable feedback, ongoing tweaks are made to the system architecture to improve its operational usability.

Root Cause Analysis Training

PS&RM has worked together with the Root Cause Analysis (RCA) Training Work Group members to organise a Root Cause Analysis training for Cluster colleagues, finally held in February 2021. A not-for-profit organisation from the United Kingdom – Patient Safety Science (PSS), was chosen to deliver this training.


PATIENTSAFETYSCIENCE

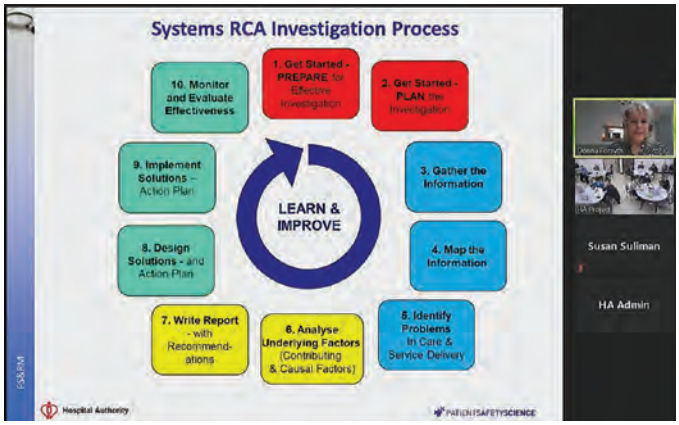
Hong Kong Hospital Authority
Root Cause Analysis (RCA) Training

Training Programme

Time		DAY 1 (1 Feb 2021)
09:00	Registration	
09:30	1	Welcome *Get Started - PREPARE for effective investigation* • A systems approach to Investigation • Human Factors and Error Wisdom
11:30	Break	
11:45	2	The Incident - *Case study* *Get Started - PLAN the investigation* • Involving the patient / family • Open Disclosure
13:00	Lunch	
14:00	3	Gather Information
15.45	Break	
16:00	4	Map the information
17:15	Close	

Time		DAY 2 (2 Feb 2021)
09:00	Registration	
09:30	5	Identify Problems - *In Care and Service Delivery* • Just Culture
11:30	Break	
11:45	6	Analyse Problems • *Identify Underlying Factors (Contributory & Causal Factors)*
13:00	Lunch	
14:00	7 8	Write the Report - *with Recommendations* Design Effective Solutions
15.45	Break	
16:00	9 10	Implement Solutions - *Action plan* Monitor and Evaluate Effectiveness Course Debrief and Evaluation
17:15	Close	

Despite repeated postponement due to travel restrictions, Work Group successfully worked with PSS to develop two web-based training sessions over five consecutive days for our colleagues. The aim of the web-based training was to ensure good learning experience for those involved, without compromising on the quality of the contents. Positive feedback has been received from the participants. The evaluation of such method of delivery will guide future approaches to RCA training within HA.



Mixed Gender Ward

HA is committed to ensuring that the privacy and dignity of patients are respected during their care experience. Whilst there have been guidelines outlining the management of mixed gender wards (MGW), it is common for HA to be questioned about the increase in MGWs across the organisation.

According to the register on mixed gender ward, the number of mixed gender ward in HA has increased by 30.9% from 375 in 2013 to 491 in 2020. The usual approach of simply tallying the number has always felt unsatisfactory, as a single rising number did not give full justice of the actual circumstance. When the total number of wards or hospitals increased, the absolute number would increase inevitably. Besides, careful breakdown of the mixed gender ward distribution suggested that a large proportion of the increase had been attributed to day and ambulatory care wards. Therefore, it was not immediately clear what the increase in number of mixed gender wards indicated, for future planning and action.

PS&RM together with Mixed Gender Ward Working Group, thus undertook the mission, to review the situation and develop a consultation paper outlining the current condition and opportunities for change, including governance structures, roles and responsibilities, as well as taking a risk stratification approach to managing different ward areas.

The consultation paper was widely consulted within HA and rich feedback was obtained throughout the process. A new stratification of mixed-gender accommodation will be adopted, and our aim is to develop a Policy and an implementation plan that protects the interests of our patients going forward.

Breast Feeding Promotion

Every year, the HA Breastfeeding Promotion Subcommittee (HABFPSC) holds an annual conference to share the latest management and practice in breastfeeding with health care professionals in Hong Kong.

Last year, the HA Breastfeeding Conference 2020 was held successfully on 16 October 2020 with around 500 participants including healthcare staff from HA, Department of Health and private hospitals. The main theme of the Conference was "Learning from Experience on Setting up Milk Bank". Dr Chua Mei Chien (Senior Consultant and Head, Department of Neonatology, KK Women's and Children's Hospital & Director, KK Human Milk Bank) and Ms Candice Chin Yuet Pik (Advanced Practice Nurse (O&G), United Christian Hospital (UCH)), were invited to share their invaluable experience and knowledge with us.

During the 21st HA Steering Committee on Breastfeeding Meeting conducted on 27 October 2020, issues on "Arrangement of breastfeeding and visit under COVID-19" was discussed. Dr Patricia Ip shared the practices in Singapore which followed WHO's recommendation, that encouraged mothers with suspected or confirmed COVID-19 to initiate and continue breastfeeding. Skin-to-skin contact, after birth and rooming-in was continued according to the Ten Steps. Visiting by one person was allowed. CCIDER acknowledged this concern and subsequently issued a recommendation on breast milk feeding in the midst of COVID-19 pandemic.

Enhancing Procedural Sedation Safety in HA

Background

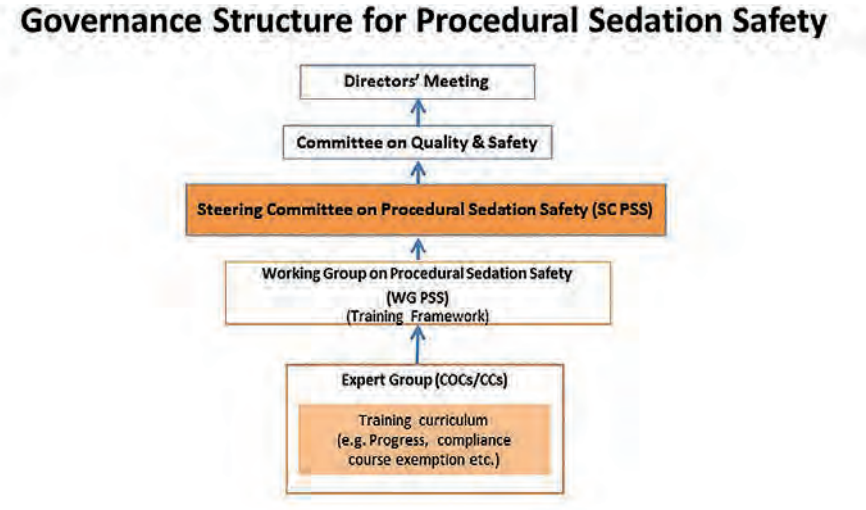
Procedural sedation is not without risk. To enhance procedural sedation safety (PSS) in clinical settings, a set of procedural sedation guidelines was first issued by the Hong Kong Academy of Medicine (HKAM) in 2009. The guidelines serve as a minimum standard of safety measures when performing conscious (moderate) sedation for patients across various clinical specialties so as to mitigate the risks of sedation as far as possible. In HA, a Steering Committee on Procedural Sedation Safety (SC PSS) was set up in 2011 to steer the direction of implementation issues in response to the HKAM guideline. For example, developing web-based learning and simulation trainings on procedural sedation safety for doctors and nurses of various specialties organised by Clusters, convened by COCs.

Around January 2019, the set of HKAM "Guidelines on Procedural Sedation Version 2.0" had uplifted the competency requirements (for adult), focusing on the need of providing CO_2 monitoring (capnography) for high-risk patients receiving conscious (moderate) sedation. In view of this, a gap analysis was conducted to assess the corporate preparedness and overall readiness. Broadly speaking, there were observed gaps in two key areas- i) the provision of existing monitoring equipment (capnography) and ii) staff training in procedural sedation. As a start, the goal is to progressively improve and meet the HKAM requirements within two years.

Key milestones

(i) Enhance Governance Structure and Set up Designated Working Group

In 2019, the SC PSS membership was enhanced by including representatives from all COCs as well as the Q&S Service Directors of seven Clusters. A designated Working Group was set up to oversee the plan to ensure equipment availability and ensure all doctors and nurses involved in moderate procedural sedation are appropriately trained. If necessary, the Expert Group will be called upon for advice on the PSS training and curriculum matters.



(ii) Enhanced Two-Tier Training Framework for Doctors

Beef up HA Training Course on procedural sedation recognised by HKAM/Colleges as follows:

1. Acknowledge mandatory sedation training under specialist training curriculum and Enhancing Safety in Sedation Workshop in North District Hospital (NDH) Training Centre organised by the HK College of Anesthesiologist
2. Formulate HA sedation Training Course in three (HKEC, Kowloon Central Cluster (KCC), NTWC) simulation training centres with aligned curriculum recognised by HKAM
3. Expand to a total of 256 quotas each year for doctors of various specialties to enroll in simulation trainings

(iii) Enhanced Two-Tier Training Framework for Nurses

1. Mandatory e-Learning for all nurse as basic skill
2. Nurses with advanced needs will take mandatory sedation training course (such as Procedural Sedation Safety for Nurses (PSSN) in NDH Training Centre or courses organised by Institute of Advanced Nursing Studies (IANS), Hong Kong College of Anaesthesiologists & NTEC Simulation Training Centre)

(iv) Set out Prioritisation Mechanism for Cluster

Assign training quotas across various clinical specialties with priority for specialties with more needs such as Accident and Emergency (A&E) and Radiology

(v) Revamp Common PSS Web-based Learning Module for Doctors and Nurses

Plan to roll out new module around 4Q 2021

(vi) Formulate Rolling Plan for Procurement of Additional Monitoring Equipment (Capnography)

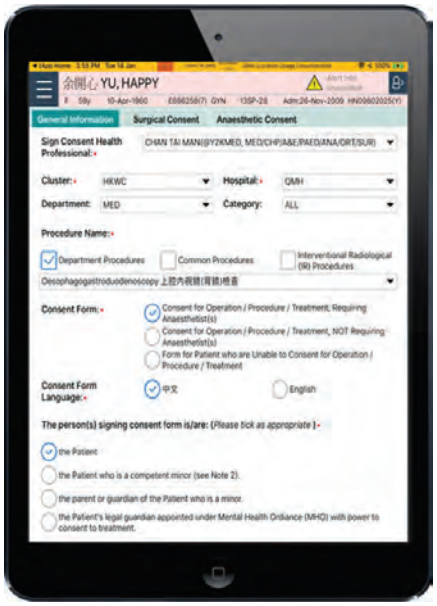
Work with Cluster Q&S to orderly procure capnography equipment according to the need across clinical departments of hospitals/Clusters

Quality and Standards

Informed Consent

To support and facilitate staff in performing informed consent in clinical processes and to pursue quality and safety in medical services, HA makes continuous improvement of informed consent through information technology enhancements. For the Web-based Custom Print Informed Consent Form (ICF) System, as till September 2020, over 2,940 procedures have been aligned in the database. Over 4.4 million consent forms were generated from the ICF System, of which 94% were in Chinese.

For the implementation of eConsent System under the Clinical Management System (CMS) IV development, the user acceptance test of the eConsent prototype was completed and would be piloted in some HA hospitals in 1Q 2021. In addition, a new electronic database, namely "eConsent Data Maintenance (eCDM)" was developed to support the creation and maintenance of eConsent data, including details of each procedure/treatment and its respective patient information leaflet. The eCDM was formally launched on 19 November 2020. Over 2,700 procedures from Clusters or specialties currently used in ICF have been migrated to eCDM. Training of eCDM to Clusters and concerned COCs/CCs were conducted from October to December 2020.



eConsent (Mobile version)

eConsent Data Maintenance

Access Management – Specialist Out-Patient Clinic

In 2019-20, with the review of local situation and approval by Cluster management, HA introduced a Specialist Out-Patient Clinic (SOPC) Support Programme at corporate level to provide policy and funding support to Clusters for the implementation of Special Honorarium Scheme (SHS) programmes. This enables the opening of additional SOPC sessions in the eight major specialties, namely Ear, Nose & Throat, Gynaecology, Medicine, Ophthalmology, Orthopaedics & Traumatology, Paediatrics, Psychiatry and Surgery.

Upon the completion of the Support Programme in March 2020, SHS allowance for managing planned clinical activities affected by COVID-19 was arranged at Cluster level to continue to enhance the management of SOPC new cases in various specialties.

In January 2020, Task Group on Sustainability of HA recommended focusing on three strategic initiatives to manage the waiting time of first attendance of SOPC, namely SOPC Public-Private Partnership (PPP) Co-care programme, integrated team-based care for SOPC patients and referral mechanism. Respective review and plan for follow up actions were commenced.

Patient Discharge Information Summary

Originated from the patient experience surveys, Patient Discharge Information Summary (PDIS) was developed to provide a clear and concise summary of important medical advice to patients and their caregivers.

The PDIS consists of 1) the Salient Medication Reminders (SMR) and 2) an appointment list. The SMR lists out key information of the patient's prescribed medications in Chinese, including possible side effects. About 58 commonly prescribed drug entities were identified and the side-effect information for these items was established. The appointment list summarises the patient's follow-up and investigation appointments in HA hospitals, including appointment dates, time, and addresses.


醫院管理局
病人出院資訊摘要
1. Valproate Sodium (EPILIM) enteric coated tablet
2. Amoxycillin (Trihydrate) + Clavulanic Acid (AUGMENTIN) tablet
3. Entecavir tablet
覆診預約如下：
2021年 5月10日 上午10時 45分 基督教聯合醫院 (內科及老人科門診) 內科(肝臟) Hepatology Clinic S座地下內科及老人科 G/F BLK S
2021年 6月18日 下午 2時 15分 基督教聯合醫院 (內科及老人科門診) 內科(DFU) Med Discharge Follow Up Clinic S座地下內科及老人科 G/F BLK S
檢查預約如下：
2022年10月18日 上午 9時 00分 基督教聯合醫院 - MRI / Brain+con., Brain plain

The PDIS was piloted in four hospitals in 2018 and was further rolled out to other Medicine and Geriatrics (M&G) wards in HKEC, HKWC and NTEC since 2019. In 2020, PDIS was rolled out to all M&G wards. The initiative was welcomed by both our staff and patients and caregivers.

In the way forward, PDIS' expansion to other specialties will be explored. We also hope that PDIS can be integrated into HA Go in the future to further enhance information sharing and facilitate clinical workflow.

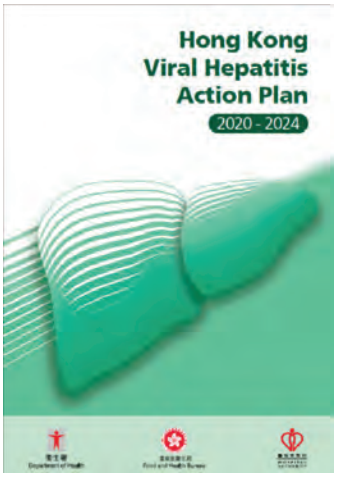
Viral Hepatitis Management

The Steering Committee on Prevention and Control of Viral Hepatitis has formulated the Hong Kong Viral Hepatitis Action Plan 2020-2024, which detailed the strategies and actions to be taken for effective control of hepatitis B virus (HBV) and hepatitis C virus (HCV) in Hong Kong.

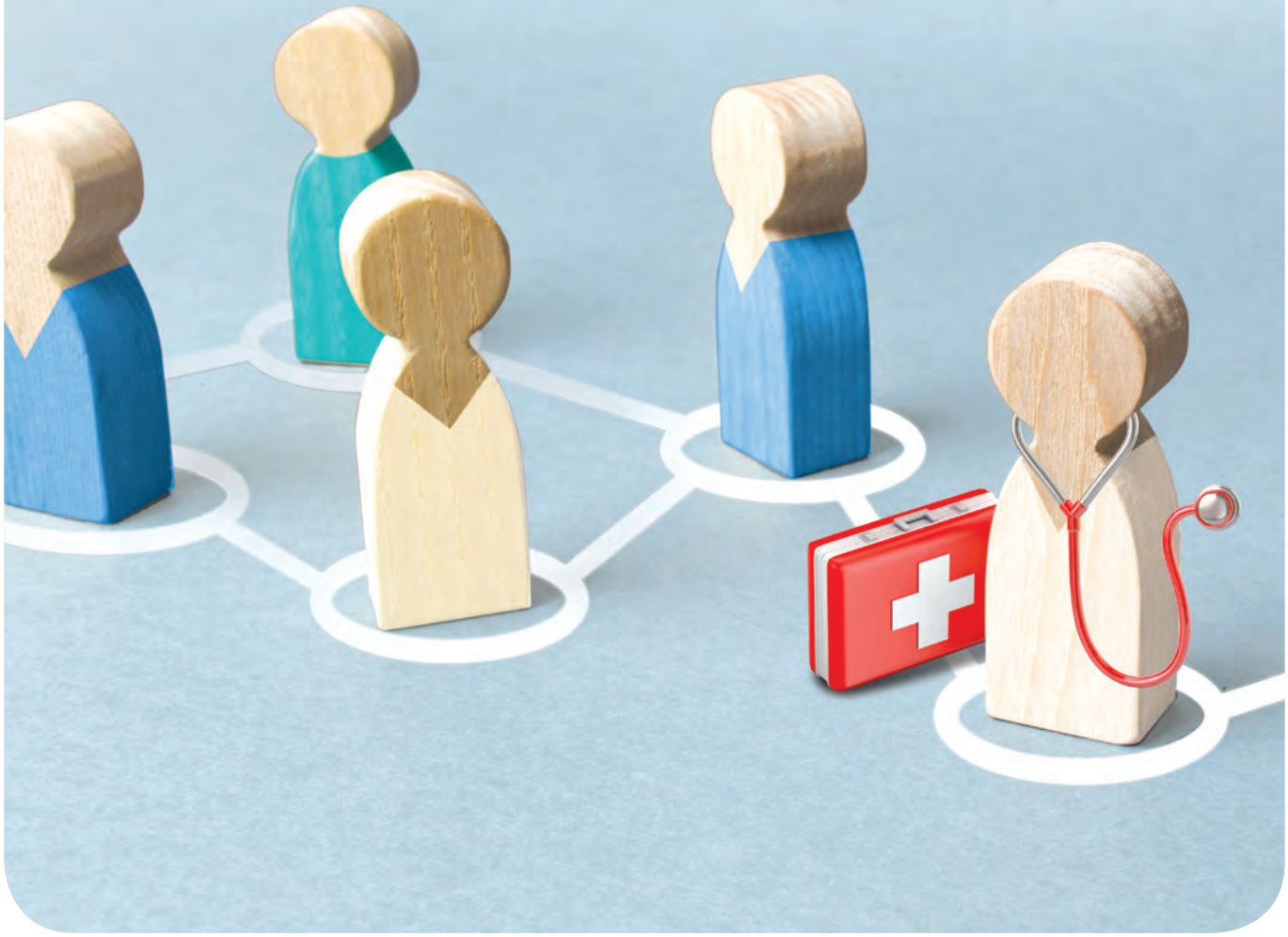
To prevent maternal to child transmission (MTCT) of HBV, in addition to the pilot sites at Queen Mary Hospital (QMH) and PWH, the initiative of providing antiviral to pregnant women with high viral load was rolled out to another six birthing hospitals. Pregnant women with HBV infection are identified and arranged for viral load testing at antenatal clinic. Those with high viral load (200,000 IU/mL) are referred to hepatitis clinic for consideration of antiviral treatment. Besides, in order to enhance the monitoring of pregnant women during the antiviral treatment, and to facilitate the counselling by well-trained staff, 10 hepatitis nurse clinics were set up.

To enhance treatment for patients with HCV infection, HA further expanded the indication of direct-acting antiviral (DAA) treatment in the HA Drug Formulary in October 2020. Patients with confirmed HCV infection are now eligible for DAA treatment regardless of the severity of their liver disease. With additional resources allocated to laboratory testing and drug budget, around 1,700 patients can benefit from the initiative every year.

Promotional activities, such as internal promulgation and media interview, were organised to raise public awareness and encourage uptake of the initiatives.



Clusters



Hong Kong East Cluster

The HKEC Volunteer Publicity Group for COVID-19

COVID-19 is wreaking havoc around the world, causing burden to public hospitals. As our healthcare workers are fighting hard in this battle against the virus, we have not forgotten the importance of showing mutual support in this time of challenge. The HKEC Q&S Office thus expanded its existing Q&S Publicity Group to form the HKEC Volunteer Publicity Group in February 2020.

The Group kick-started with members writing new lyrics for an old Cantopop hit. A music video was produced with our smartphones and subsequent computer mixing and editing, hence obviating the need for actual face-to-face meet-up among members. Within a short production time of around 12 days, the new song「堅守愛心」was published on YouTube and gained a spectacular hit rate of over 27,500 within the first two months. This at once caught media's attention for interviews with us not only on the song, but also on many other activities in the hospital and Cluster. All these have built a very positive atmosphere and spirit for our colleagues.

The HKEC Volunteer Publicity Group eventually evolved to form a total of ten sub-groups, led and joined by volunteers with multiple talents and interests. Staff volunteers cooperated smoothly and generated excellent ideas to become one of the important components in successfully fighting COVID-19. We are proud that the Group received the HKEC Outstanding Team Award 2020.

Achievements of the HKEC Volunteer Publicity Group for COVID-19

Group / Sub-Group	Achievement
志願文宣組總部	• The 'headquarter' for mutual sharing and group leadership, with guidance from Q&S Service Director
Songs, **E.g.**「堅守愛心」, 「獅子山下」	• Produced a music video「堅守愛心」on 25 February 2020 • Singers received TVB interview on 28 February, video clip broadcasted on TVB《抗疫 • 情》on 5 March 2020 • Coordinated the recording of「堅守愛心」and produced virtual video performance for Online Charity Concert by Tung Wah Group of Hospitals on 2 May 2020 • Arranged members to sing「獅子山下」with 莫華倫 by 5G for Hong Kong Radio's Health Programme on 7 May 2020
Book《抗疫回憶錄》	• Published articles in HKEC Eastlink (Issue 74) in April 2020 • Prepared《抗疫回憶錄》, a book of 200 pages and 200,000 words for the public
Blessing Board 抗疫祈福板	• Set up a Japanese-style Blessing Board outside PYNEH Poolside Café on 17 March 2020 • Launched web-based Blessing Board on 25 March 2020
Dance & Drama **"HKEC舞走COVID-19"**	• Produced a music video 'HKEC 舞走 COVID-19' to promote hand hygiene and social distancing • Uploaded to YouTube on 3 May 2020, gained a hit rate of over 5,000 views in 5 days • Shown in staff forum on 8 May 2020, with members sharing
Exercise 抗炎運動操	• Produced video「抗炎運動操」to promote workout during home quarantine • Uploaded to YouTube on 29 April 2020, gained a hit rate of 4,900 views over 3 weeks • Shown in staff forum on 15 May 2020, with member sharing

Souvenir 禮物小組	• Purchased sanitary tools to members of the COVID-19 Publicity Group • Designed future souvenirs for the hospital and Cluster
Balloon Twisting	• Together with external volunteers, handmade over 1,000 balloons from March to May 2020 to support staff • Decorated the Blessing Board on 27 March and 5 April 2020
HA 員工優惠 **(Not a secret)**	• Shared exclusive offers to HA staff since 26 March 2020 with over 32,000 Facebook members (as of 23 Aug 2020)
Less-touch-more distancing 少接觸。遠離。 多關懷	• Worked on social distancing and minimising touch by: - Advocating safe physical space between people by alternate seating arrangement and queuing by floor markers in hospital public areas - Promulgating social distancing with posters and crowd control with banners for no visiting • Installed Forearm Door Openers designed by OT in selected clinical areas • Installed protective transparent partitions in consultation areas and staff dining areas
Comics to fight against COVID-19	• Produced a series of artwork to encourage and appreciate colleagues' great work, which has been published in 東快訊 and CMS since Feb 2020 • Produced poster and animation 'Safe Journey to Home' to remind colleagues the proper way of preventing infection on the way home

Effective Communication under Social Distancing

The implementation of social distancing under COVID-19 has not prevented us from maintaining an effective communication in HKEC.

Staff Forum	Task Force Meeting	HKEC COVID-19 Management Report	東快訊	«集氣·抗疫» & «抗疫祈福板» 網站
• In collaboration with HR and Admin Departments to provide secretariat support, also on journal sharing • To update HKEC colleagues on – the latest situation of COVID-19, supply of PPE, Journal Club sharing, staff deployment and Work From Home arrangement etc. • **30** Staff Forums from January to November 2021	• Co-chaired by SD(Q&S) and ICO. In collaboration with Admin Department to provide secretariat support • A platform for the senior management to learn about updates on situation in HK & worldwide, report from CCIDER, bed balance, staff feedback and media issues etc. • **33** meetings from January to November 2021	• Consolidated by Cluster Q&S Office everyday to update senior management on – daily situation, HKEC Airborne Infection Isolation Facilities, HKEC Inpatient Service and Laboratory Tests • Also with Bi-weekly reports on HKEC Services Data	• Email to HKEC Staff on hospital updates from multidiscipline • Also available on HKEC intranet and Hospital WhatsApp	• An online platform for sharing cheer-up messages and blessing words to colleagues

Risk Mitigation Measures and Preparedness for COVID-19 in Tung Wah Eastern Hospital

Essential services were prioritised in accordance to the latest COVID-19 situation. Access control to Tung Wah Eastern Hospital (TWEH) was reinforced with enhanced equipment and facilities:

- Adequate supply and appropriate use of PPE
- Adequate hand hygiene facilities
- Partitions in staff canteens and staggered meal time to enhance social distancing

Fever screening machine at TWEH main entrance

Air purifier with HEPA filter at Outpatient Department (OPD) consultation/waiting area

UV light device for disinfecting personal belongings

Innovative Devices by Ruttonjee & Tang Shiu Kin Hospitals Occupational Therapy Department for Fighting Against COVID-19

Hospital staff are making their best efforts to fight against COVID-19 in order to safeguard the health of the public and colleagues. The Occupational Therapy Department of Ruttonjee & Tang Shiu Kin Hospital (RTSKH) may not work at the forefront but their professionalism has greatly supported the frontline.

In the early stage of the epidemic where there was a shortage of PPE, Occupational Therapists and Supporting Staff started brainstorming, and took only three days to produce the first batch of protective face shields made from scratch. After collecting feedback from users, the design of the protective face shields was further modified with simplified manufacturing process.

Protective face shield produced by Occupational Therapists, RTSKH

To ease clinical staff's pressure with increasing number of virus sampling and testing, Occupational Therapists incorporated the elements of Occupational Safety and Health and designed a new testing tool gadget 'Stand Up'(立穩妥)for wards. The 3D printed gadget is slim in size and easy to clean. It facilitates sample collection and avoids spillage to reduce the risk of infection.

In order to reduce the risk of virus infection during meals, rubber sheets and 3D printing technology were used to produce the 'Table Partition Holder'(3D間隔座). The table partition is also effective in blocking the airborne transmission. This high quality innovation has reduced the cost by nearly 50% compared with similar designs in the market. It is flexible for installation, portable and has demonstrated significant infection control enhancement.

"Table Partition Holder"(3D間隔座)

Infection Control Enhancement Measures Implemented in Wong Chuk Hang Hospital during COVID-19 Pandemic

Wong Chuk Hang Hospital (WCHH) implemented a series of measures to enhance infection control during COVID-19. Apart from training staff for the collection of nasopharyngeal and throat swabs, and conducting resuscitation drills for high pathogenic infectious disease, the Hospital also implemented Enhanced Laboratory Surveillance and Admission Screening for indicated in-patients and day-patients of Dementia Day Care Centre to identify early any suspected and asymptomatic cases.

A wide scope of equipment was adopted to facilitate staff in combating COVID-19, including the installation of air purifiers, infra-red body screening system and non-contact alcohol-based hand rub dispensers in all common areas. To further protect staff from infection risk during meal time, rearrangement of seating, provision of additional dining areas and installation of partitions have also been implemented in staff pantries. Multi-disciplinary infection control rounds in both clinical and non-clinical areas were conducted to ensure staff's compliance to latest infection control policies and safe working environment.

To strike a balance between preventing virus transmission and patients' need to connect with their relatives, video-visiting was arranged in early April. Participants showed much appreciation and were highly satisfied with this prompt arrangement by the Hospital.

Training Session on the Use of Wheelchair

The majority of patients are bed-bounded or wheel-chair bounded in WCHH. To enhance patient safety during transfer, WCHH Occupational Therapy Department conducted an educational talk in November for non-clinical supporting staff who had to maneuver wheelchair and help in patient transport. Preventive maintenance programme on hospital wheelchairs was also in place.

Educational talk on "互相協坐" delivered by WCHH Occupational Therapy Department

Training on Critically Ill Patient Transfer in RTSKH

Critically ill patients are in a dynamic and often precarious physiological state. Transfer of these patients potentially exposes them to additional harm and increases instability. The goal of critical care transfer should be the maintenance of high quality care while moving the patient to an appropriate location, in an expedient and safe manner. In view of the unstable condition of patient and unexpected circumstances, the whole process is extremely challenging and difficult to be controlled. Essential and practical training for clinical colleagues is crucial to ensure patient safety during the transfer.

Training on transfer of critically ill patients in RTSKH

Simulation training was adopted by the M&G Department in RTSKH to deliver the training on critically ill patient transfer to nursing colleagues, especially the fresh graduates and newly joined staff. The simulation training was well-structured and systematic with pre-training reading materials, briefing session, case scenarios for practices, in-depth case discussion and debriefing session on recommendations and lessons learnt.

Through realistic scenes in clinical environment and the use of scientific technology, participants experienced real-life scenarios, triggered appropriate response and independent thinking, exercised effective communication and cooperation between the transfer team during the training. Participants expressed that the training was a valuable experience and a good way to prepare them for transferring critically ill patients in the future. Repeated practice can strengthen their ability to deal with crisis and effectively reduce the risk of transferring critically ill patient.

Enhancing Response to Clinical Emergencies in Cheshire Home, Chung Hom Kok

Resuscitation skill is an important element in risk management, especially for remote hospital such as Cheshire Home, Chung Hom Kok (CCH). CCH upgraded and enhanced the resuscitation equipment. The workflow in resuscitation was also reviewed and standardised. Through a series of talks, drills and audits, our staff are better prepared for clinical emergency.

Equipment Enhancement

Three new emergency trolleys with defibrillators were equipped in Original Home to provide full range coverage in the resident activity areas. Advanced equipment was purchased to facilitate airway management (e.g. video laryngoscope, laryngeal mask airway) as well as management and transportation of critically ill patients (LUCAS chest compression system and new portable ventilator).

Review and Standardise Resuscitation Procedure

Resuscitation Organising and Training Team adopted a new model of intubation for staff protection and prepared teaching video on standardised resuscitation workflow and practice in CCH.

Review on Internal Communication for Emergency Resuscitation

Internal instant communication via handheld transceiver (walkie-talkie) during emergency resuscitation at night among nurse in-charge, security staff and on call doctor was adopted.

Skills Improvement

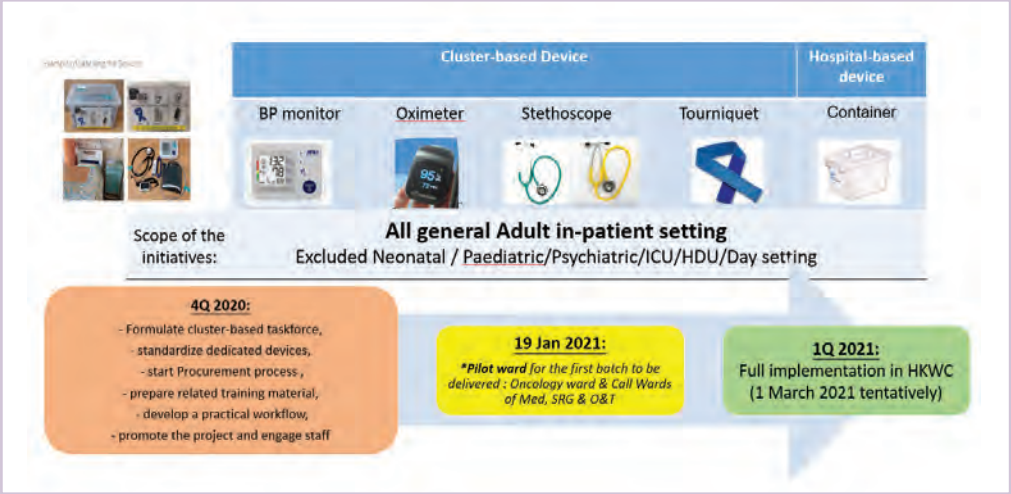
Each nurse received mandatory demo/re-demo training and video training.

Hong Kong West Cluster

COVID-19-related Initiatives

Dedicated Patient Device Project (1 Patient 1 Device)

To prevent cross-infection, certain medical devices were designated for a single patient's use until the patient was discharged.

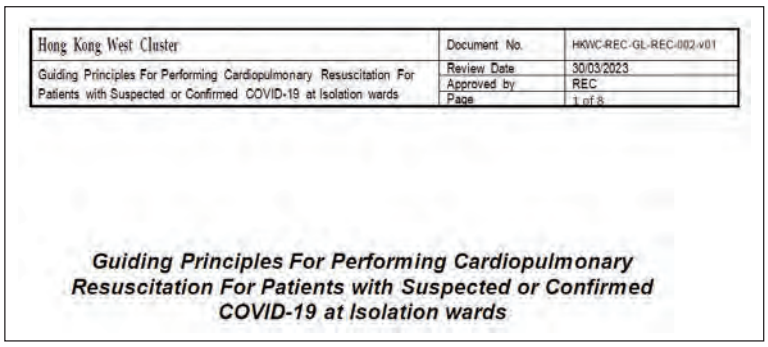


Other improvement measures for COVID-19:

- Enhancement measures for social distancing and to avoid overcrowding at public areas
- Established QMH Contingency Plan in case of service interruption of airborne infection isolation room (AIIR)
- Meals Arrangement

Resuscitation for Suspected and Confirmed Patients with COVID-19

Guidance Notes and Video on Cardiopulmonary Resuscitation for Suspected and Confirmed Patients with COVID-19



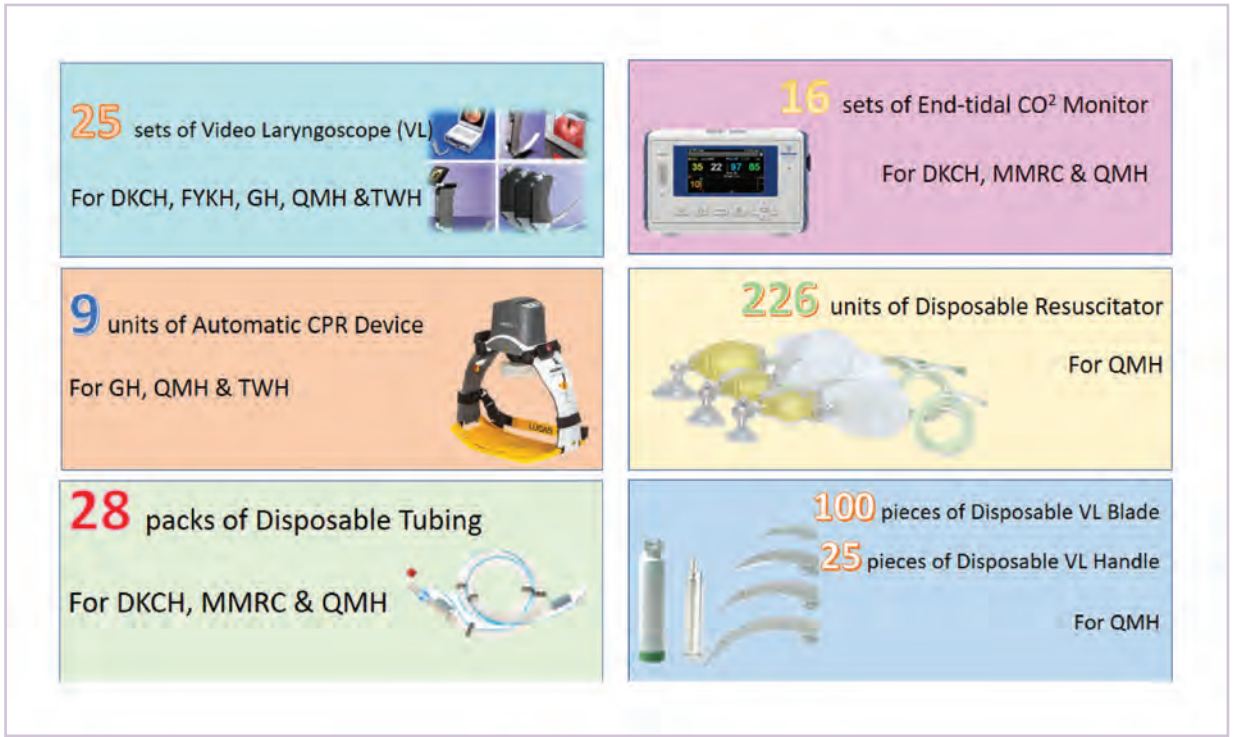
Hong Kong West Cluster	Document No.	HKWC-REC-GL-REC-002-v01
Guiding Principles For Performing Cardiopulmonary Resuscitation For Patients with Suspected or Confirmed COVID-19 at Isolation wards	Review Date	30/03/2023
	Approved by	REC
	Page	1 of 8

Guiding Principles For Performing Cardiopulmonary Resuscitation For Patients with Suspected or Confirmed COVID-19 at Isolation wards

Expert Support

A central resuscitation team with expertise in intubation was set up to offer support to clinical departments if required.

Equipment & Disposable Items to Support COVID-19



Non-COVID-19-related Initiatives

Fall Prevention—Early Sense Device

Early Sense Device was installed for early recognition of patient with fall risk attempting to leave the bed.

	Targeted patients
Acute hospital	Single room Hematology & oncology
Convalescent hospitals	lower nurse-to-patient ratio of convalescent hospitals : close observation difficult
Rehabilitation hospitals	rehabilitation patients encouraged to ambulate : associated with fall incidents lower frequency of vital signs monitoring : early detection of clinical deterioration difficult

Piloted in HKWC since Jun 2019

Hospitals	Number of Early Sense Device
FYKH	1
GH	1
MMRC	1
QMH	1

Medication Safety

Strengthen Dangerous Drug Management

Smart Drug Cabinets in HKWC

Existing in HKWC

Hospitals	Function	Number of Cabinet
DKCH	Night Cabinet	1
FYKH	Night Cabinet	1
GH	Night Cabinet	1
QMH	**Dangerous Drug Cabinet**	**2 (pilot in 2 acute medical call wards)**
TWH	Night Cabinet	1

Benefits

1. Keep and trace transaction record
2. Manage Dangerous Drugs more securely and efficiently with electronic DD ledger & restocking mechanism
3. Minimize dispensing and administering wrong drugs to patients
4. Check patient profile via server, such as drug allergy

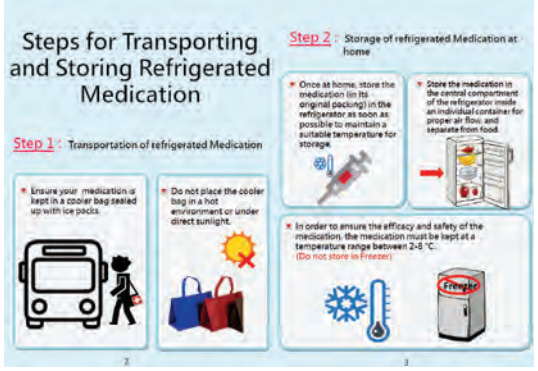
Enhance Medication Safety Related to Intravenous Infusion

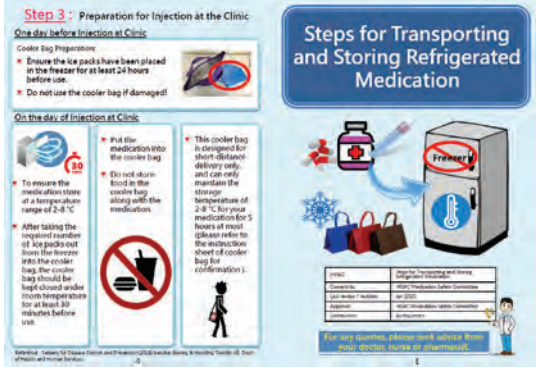
i. Standardised drug labels for IV high alert medications

Size	Sample
40mm x 10mm	Midazolam
50mm x 25mm	Midazolam Midazolam
55mm x 20mm	Midazolam
62mm x 12mm	Midazolam Midazolam
74mm x 12mm	Potassium Chloride Potassium Chloride
100mm x 60mm	IV Infusion IV Infusion

ii. 20 ml oral syringe was added as stock item in HKWC and set up as auto-refill item in QMH. This helped to ensure that syringes for IV or oral medication administration were not used for purposes other than specified.

Cold Chain Management – Patient Education





Increase Awareness on Medication Risk — Update on Drug Choices on Penicillin Allergy

Suicide Prevention

HKWC Patient Suicide Prevention Task Force was set up in June 2020 with improvement measures implemented according to the following action plan.

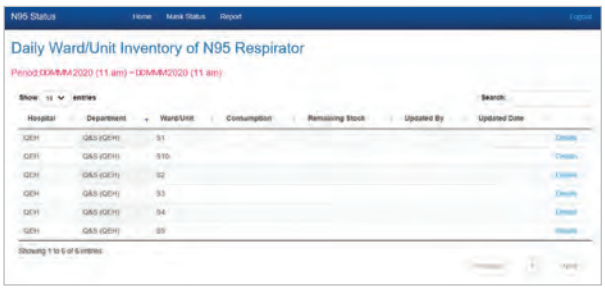
Prevention of Retained Tourniquet

'One Intern One Tourniquet' Exercise was introduced to prevent the retention of tourniquet after blood taking or setting up of intravenous access.

Kowloon Central Cluster

Queen Elizabeth Hospital – N95 Respirator Daily Inventory Reporting

PPE is paramount to combat the COVID-19 pandemic as it helps to protect our staff against infection. In order to assist hospital management to review the daily inventory of N95 respirators and to devise hospital strategies for conserving and replenishing PPE, the Queen Elizabeth Hospital (QEH) Q&S Department initiated the daily reporting of N95 respirators consumption in all KCC hospitals since February 2020.



QEH – Bulletin and Training under COVID-19 Pandemic

Provision of accessible, concise and precise information on appropriate and up-to-date practices against COVID-19 is crucial to reinforce staff's knowledge and skills to protect themselves. A total of 20 issues of QEH Q&S Bulletin pertinent to the pandemic were published from January to March 2020 and disseminated to QEH staff through various means.

Collaborating with various parties, scenario-based simulation trainings on intubation for suspected or confirmed COVID-19 cases were conducted for clinical departments of QEH in the first quarter of 2020 to educate and familiarise staff with performing such procedure in a safe manner to minimise the risk of infection. An educational video highlighting the salient points of performing such procedure was made and uploaded to KCC and QEH's intranet in March 2020.

Kwong Wah Hospital (KWH) – Prompt Preparatory Work for COVID-19 Outbreak

The outbreak of COVID-19 infection worsened in January 2020 and the HA escalated its infection control measures to Emergency Response Level. A multitude of preparatory work was immediately done to respond to the heightened Response Level. Hospital staff of all ranks demonstrated great teamwork during the COVID-19 pandemic.

- Preparation for Emergency Response Level - appropriate equipment and disposable items were dispatched to clinical teams promptly, especially in high risk areas
- Set up of Temperature Monitoring Points by multiple teams within two days

- Set up of Surveillance Ward and designated site for cardiopulmonary resuscitation (CPR)/ nasopharyngeal aspiration (NPA) in general wards under the collaboration among multiple teams

- On-site training and education for all wards and units on infection prevention when handling confirmed/suspected cases and performing aerosol generating procedures

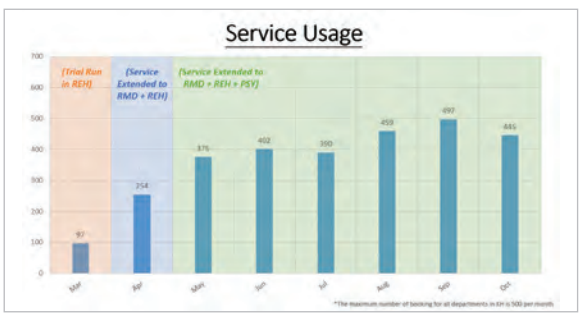
Kowloon Hospital - IPMOE Roll-Out

In-patient Medication Order Entry (IPMOE) was rolled out successfully in phases in all wards in Kowloon Hospital (KH) starting from July 2020.

Rolling out IPMOE under COVID-19 pandemic was challenging as many planned activities like IPMOE Kick-off Forum and Walkthrough had to be cancelled. Fortunately, the scheduled contingency drill was completed smoothly on 3 July 2020. The finalised contingency plan and relevant materials were shared in KH's intranet website for our staff's easy reference.

KH - Video Visiting Service

Due to the Emergency Response Level during COVID-19 pandemic, visiting was not allowed. Video Visiting Service was launched in all wards in KH to facilitate virtual face-to-face telecommunication between patients and their close relatives. Demand for the service was high. Encouraging feedback was received. The success of this service was the result of concerted efforts of all clinical and non-clinical staff.



Hong Kong Buddhist Hospital – Implementation of IPMOE

Medication safety has always been a major concern. Based on the experience of other hospitals, the implementation of IPMOE can greatly reduce human errors such as transcription and interpretation errors arising from the use of paper Medication Administration Records.

With the coordination of KCC Non-Acute Hospitals IPMOE Task Force and Hong Kong Buddhist Hospital (HKBH) IPMOE Working Group and the concerted efforts of various departments, IPMOE was successfully implemented in all wards in HKBH from 5 May to 9 June 2020. There was a significant drop in the number of medication incidents reported in AIRS since the implementation of IPMOE. Based on the statistics, it was believed that IPMOE was an important contributing factor to the remarkable decline in the number of medication incidents. In fact, a survey conducted by HKBH Pharmacy in August 2020 showed that over 90% of the respondents agreed that the implementation of IPMOE could improve safety and efficiency in drug administration.

Our Lady of Maryknoll Hospital – Quality and Safety Week 2020

The Our Lady of Maryknoll Hospital (OLMH) Quality and Safety Week 2020 was held from 13 to 15 January 2020. It consisted of three activities aiming to promote the culture of continuous quality improvement (CQI) and to heighten staff awareness on major risks identified in OLMH in an interactive way.

Quality and Safety Game Booths

Patient Identification, Medication Safety, Infection Control and Workplace Violence were the top risks identified in the 2020 OLMH Risk Register. Through participating in four interactive games, participants became more familiar with the top risks of OLMH and gained understanding of risk management strategies.

CQI Forum

15 CQI projects from various disciplines of OLMH were selected for sharing. Projects were scored based on the relevance of the objectives, applicability of the programme, robustness of the methodology & conclusion, clinical & service enhancement, originality and creativity. The project titled 'Pharmacist Medication Optimisation Service Enhances Medication Appropriateness in Hospitalised Elderly Patients with Polypharmacy: A Prospective, Randomised Controlled Study' won the Best Project Award.

Quiz Competition on Medication Safety

A quiz competition on medication safety was held to heighten nurses' awareness and knowledge on medication safety. A total of six clinical units sent representatives to the competition and Male Medical Ward N2 won as the Medication Safety Champion.

Wong Tai Sin Hospital – Prevention of Pressure Injury

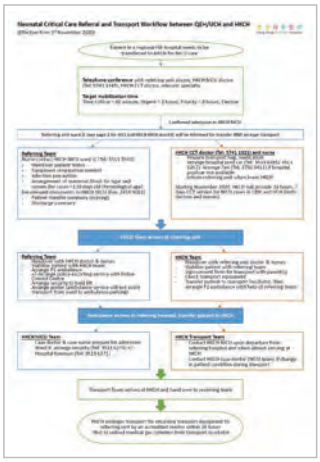
From 1 April 2019, a quality improvement on prevention of pressure injury (PI) was conducted in the Department of Tuberculosis & Chest (DTBC). The programme was designed for all nurses and supporting staff in the department. The objectives were to (1) enhance staff's knowledge on management and prevention of PI, (2) engage patient's family/care giver on PI prevention and (3) reduce hospital acquired PI.

In this programme, multi-dimensional strategies for early detection and prevention of hospital acquired PI were adopted. For nurses, a bundle of care was designed to enhance their awareness and knowledge, including reinforcement of existing intervention for PI prevention, case sharing, monitoring and feedback, introduction of prophylactic dressing, low air loss mattress and special wound care products. Group tutorials and workshops were given to supporting staff to improve their knowledge on PI prevention and management. Pre-, post- and 2 months post-training- tests were conducted to all ward staff for evaluation. For family and care-givers, group tutorials and leaflets were provided for information update.

After programme implementation, the PI incidence rate in DTBC dropped from 2.75 in 2018/19 to 0.53 in 2019/20. Both nurses and supporting staff showed great improvement in their knowledge on management and prevention of PI as indicated in the pre-, post- and 2 months post-training tests (average 65.16%, 94.33% and 97.58%). 100% of the family/care-givers were satisfied with the education provided and agreed that the content was helpful to them.

Hong Kong Children's Hospital (HKCH) – Impact of a Standardised Neonatal Referral Workflow and Specialised Neonatal Transport Team at HKCH in Reducing Complications in Inter-Hospital Transport of Critically Ill Infants

HKCH Neonatal Intensive Care Unit & Critical Care Transport Team



The clinical service of neonatal intensive care unit (NICU) at HKCH commenced in July 2019. The NICU mainly takes care of neonates with surgical problems transferred from other hospitals. A standardised protocol comprising workflow on case referral, systematic clinical handover via telephone conferencing, pre-transportation preparation (with specific neonatal transport equipment bag, medications for use during transport together with body-weight specific resuscitation chart to minimise medication error) was developed. Transportation is performed by a designated and specialised critical care transport team, comprising of medical and nursing staff equipped with training on neonatal transport.

We reviewed our inter-hospital neonatal intensive care transport data from July 2019 to July 2020. A total of 48 infants with a mean gestational age of 32.2 +/- 5.0 weeks and birth weight of 1800 +/- 951 g were included in the study. Patient characteristics and medical complexity (including ventilator and/or inotropic support) during transport were comparable to a previous cohort study published in Hong Kong[1]. Documentation of physiological parameters during transport was available for all cases [compared to only 8.6% in the previous cohort ($p < 0.05$)]. Both serious and critical complications were significantly lower in our current cohort [25%) than the previous cohort [44.1%, $p < 0.05$). Significantly fewer interventions were needed during and within 1 hour after transport in our cohort [6.3% VS 23.0%, $p < 0.05$).

Interhospital transport drill with the Fire Services Department

	Leung 2013-2016	Our study 2019-2020	P value
Serious or critical (or both) complications	113/256 (44.1%)	12/48 (25%)	<0.05
Intervention during/within one hour post transport	59/256 (23.0%)	3/48 (6.3%)	<0.05

Table 1. Comparison of complication rates and intervention during transport or within one hour of admission of our study with previous study[1]

With the development of the standardised neonatal referral workflow and specialised critical care transport team at the HKCH, complications of transport of critically ill infants could be significantly reduced, with fewer unplanned events during interhospital transport between HA hospitals in Hong Kong.

Reference

1. Karen Ka Yan Leung, So Lun Lee, Ming-Sum Rosanna Wong, Wilfred Hing-Sang Wong, Tak Cheung Yung. Clinical outcomes of critically ill infants requiring interhospital transport to a paediatric tertiary centre in Hong Kong. Pediatric Respirology and Critical Care Medicine 2019; Volume 3 Issue 2:28-35.

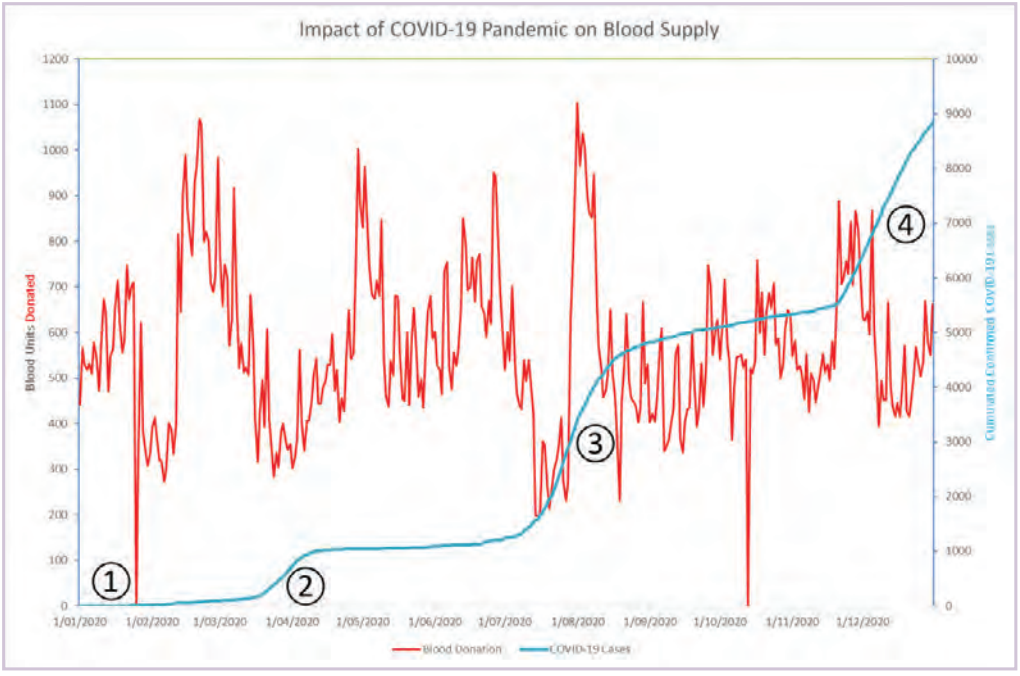
Hong Kong Eye Hospital – To Enhance Patients' Appointment Booking Experience in SOPC

At Hong Kong Eye Hospital (HKEH), congestion at queuing area and long queuing time at appointment office had been persistent problems. Taking the opportunity from renovation of SOPC appointment counters, a multidisciplinary WISER (We Innovate, Service Excel Regularly) team was formed to improve patients' journey by shortening queuing time at appointment counters. After reviewing the situation, the following measures and strategies were implemented with the outcomes summarised as follows.

Implemented measures and strategies	Outcomes
Streamlined patient flow and re-designed staff job duties by: 1. Setting up mobile appointment booking unit 2. Use of colour-coded queue tags to differentiate patients with single/ multiple appointment bookings 3. Introduction of express lanes for single appointment booking	1. Queuing time for appointment booking was reduced by 89.7%. The waiting time for single and multiple appointment booking were 1.6 minutes and 1.75 minutes respectively 2. Congestion at the waiting area was resolved 3. Social distancing of appointment booking counters was maintained 4. Improved patient satisfaction with decreased waiting time of appointment booking 5. Improved staff satisfaction with more spacious working environment and enhanced occupational safety and health

Hong Kong Red Cross Blood Transfusion Service (BTS) - Sustainability of Blood Supply to Meet Demand in Hong Kong

Amidst the COVID-19 pandemic, blood collection activities have been affected significantly. The daily blood collection dropped drastically in every new wave of infection outbreak.



Hindrance to Blood Donation

- In the early phase of the pandemic, a new donor deferral policy in response to the novel infection was implemented as a precautionary measure to safeguard blood safety.
- Public stayed at home to minimise social contact. Some even worried about acquiring infection during blood donation.
- School suspension and work from home policy also resulted in cancellation and postponement of majority of mobile blood collection activities in the community.

Measures to Restore and Gain Public Confidence in Blood Donation

Enhanced infection control measures were exercised in all donation venues including requiring donors to put on masks, have temperature check and sanitise their hands before entering the donation centres. Donors were also encouraged to make appointment to minimise their waiting time and ensure social distancing.

Continuation of Various and Extensive Publicity

- The public was timely reminded and informed by donation appeals that blood donation is needed throughout the pandemic.
- BTS showed appreciation for the continuous support of blood donors. Wall of Fame with awardees' names was exhibited at three MTR stations and five blood donor centres, and published in newspapers and the BTS website.
- BTS collaborated with Facebook to launch the blood donation feature which provides updates about blood inventories and information of donation centres to Facebook users.

Kowloon East Cluster

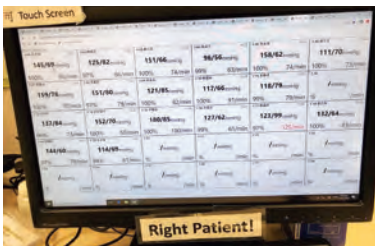
Kowloon East Cluster Quality and Safety Webinar 2020

The Kowloon East Cluster (KEC) Q&S Office organised a Webinar themed 'A Nightmare for Healthcare Workers – Retained Foreign Bodies: How to Prevent?' in November 2020. The aim of the Webinar was to arouse staff awareness of retained foreign bodies (guidewire, gauzes, etc), in their pursuit of high quality and safe service.

We were honoured to have Dr H K Cheng [Cluster IT Coordinator] and Ms H L Ngan [Cluster Nurse Consultant (Wound & Stoma Care)] to deliver the keynote lectures 'Application of Technology to Help Reduce Retained Foreign Bodies' and 'Good Practices in Wound Packing' respectively.

A total of 192 staff joined the Webinar and positive feedback was received. With such encouraging response, KEC Q&S Office plans to arrange webinars on other topics in the future.

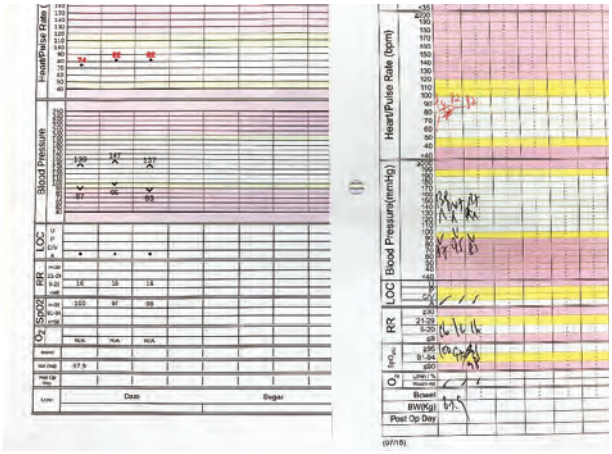
Auto-Charting Systems and AED Admission Block Dashboard in KEC



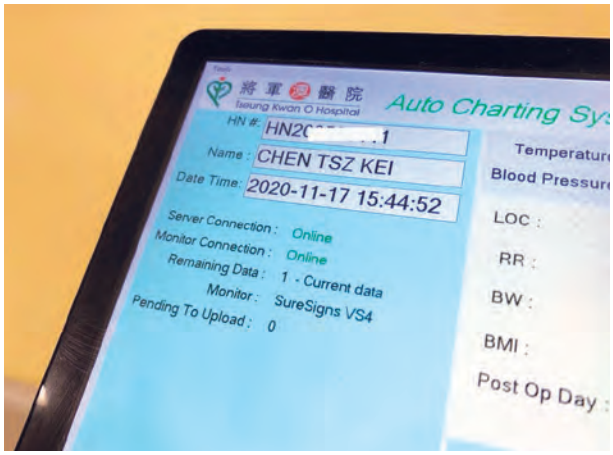
An auto-charting system was implemented in UCH AED to replace manual charting of patient's vital signs to facilitate patient monitoring and timely identification of deteriorating patients.

On the other hand, the Observation Ward and the Emergency Medicine Ward (EMW) in the AED, and the majority of M&G wards are currently using the 'AED Admission Block Dashboard' to allow inter-department information transfer between the Health Information & Records Department (HIRD) and in-patient wards, so as to facilitate easy monitoring of patient status, including patient location, diagnosis, treatment given and time patient waited in AED, etc.

For Tseung Kwan O Hospital (TKOH), the Auto-Charting System (ACS) is a sophisticated electronic health record project developed by the Smart Team, Department of Anaesthesia and Operating Theatre Services. Being an integral part of the Smart Operating Theatre (OT) solution, staff can upload patients' health record (e.g. blood pressure, body temperature, pulse rate, etc) to the server via hospital Wi-Fi. Case clinicians can access the patients' vital signs instantly via their mobile devices as well as electronic patient record (ePR). In addition, the data stored in the server can be used seamlessly in other clinical applications of the department.



Reader-friendly observation chart created by ACS prevents error from hand-written chart



Vital signs obtained will be matched with demographic data from CMS to ensure correct patient identity

The First 5G-enabled Hospital in Hong Kong - TKOH

With the vision of building a 'Smart Hospital', the KEC strives to actively pursue and develop different smart initiatives. In 2020, the COVID-19 pandemic brought us an unprecedented opportunity to break new grounds as we became the first Cluster in HA to provide teleconsultation services with TKOH being the first 5G-enabled hospital in Hong Kong.

Professional Care an iPad Away

Many of our patients were hesitant to travel to the hospital for follow-up consultations amid the COVID-19 pandemic. With pioneering teleconsultation services, patients can now connect with on-site doctors and nurses via an iPad or other electronic devices. This opens the door for doctors and nurses to give professional advice and care seamlessly.

Such telecare advancements not only maintain social distancing, but also greatly reduce the risk of viral infection for both patients and medical staff. In addition, the Internet of Health Things (IoHT) has been launched for patients to share their vital signs, such as blood pressure, heartbeat and oxygen level, which can immensely assist medical staff in making instant and precise diagnosis.

5G - Bringing OT into the New Age

With the key features of 5G – high bandwidth and low latency, the Operation Theatre in TKOH entered a new era.

Using this cutting-edge technology, we can now facilitate real-time communication between frontline doctors in the operation room and experienced consultants via video call. On top of that, 5G network makes it possible for live-streaming of high-quality videos and even 3D images of what is happening in the theatre to the consultants, for precise and rigorous guidance to doctors during surgery. This revolutionary technological development makes the physical presence of consultants in operation room no longer a must and further alleviates the pressure of medical staff during surgical operations in a smart, timely and efficient manner.

Continuous Quality Improvement Forum in Haven of Hope Hospital

CQI forum was conducted in Haven of Hope Hospital (HHH) on 5 December 2019 with 136 clinical staff participants. Eight departments/service teams presented their CQI programmes in the Forum. Some programmes focused on improving quality of patient care, which included community podiatry service, enhanced tracheostomy care and streamling of lung shadow work-up referred from AED. Some were related to patient safety, including fall prevention in the Physiotherapy Department, risk reduction by environmental reconstruction and using warning tags and suicide prevention management in palliative ward.

We also had programmes using technology to improve the delivery of service, which included using advanced technology to teach caregivers techniques of nasogastric tube feeding and mobile parking permit registration. Our HCE, Dr I T Lau delivered a closing remark in the Forum. He was glad that the CQI programmes had covered various service spectrums and he was excited that there was increasing use of innovative technology for service enhancement.

Resuscitation Workshop during COVID-19 Pandemic in HHH

With the emergence of COVID-19 infection, practices that reduce the risk of transmission of infectious respiratory diseases during cardiopulmonary resuscitation must be reinforced. Three resuscitation workshops for nurses during the COVID-19 pandemic were conducted in February and March 2020.

43 senior nurses participated in the workshops. Several basic principles were emphasised during the workshop, including proper donning of PPE, minimising turbulence and maintaining enclosed air circulation. There was high participants' satisfaction.

Simulation training during the resuscitation workshop for nurses

Education to doctors on resuscitation before the simulation training

Kowloon West Cluster

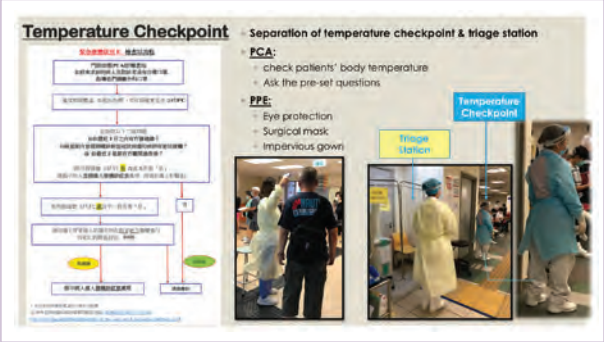
Kowloon West Cluster Infection Control Measures for COVID-19

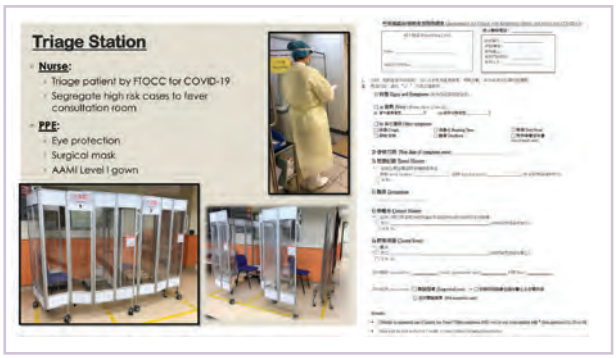
In response to the COVID-19 pandemic, Kowloon West Cluster (KWC) enhanced its infection control measures and training programmes as follows.

Temperature Checkpoints and Triage Stations in General Out-Patient Clinics

Temperature checkpoints and triage stations had been set up in 13 KWC GOPCs since January 2020 to safeguard both patient and staff's safety. Such stations facilitated early detection of fever and respiratory symptoms, and retrieval of contact and travel history from patients. High risk patients were directed to fever consultation room.

To streamline the workflow of the GOPCs, Infection Control Teams from parent hospitals had also conducted several rounds of inspection in clinics to examine the arrangement of patient triage, environmental control and proper usage of PPE.





New Admission Arrangement in Kwai Chung Hospital

The new admission arrangement for newly admitted patients at Emergency Response Level had been undertaken since February 2020 in Kwai Chung Hospital (KCH). The 'cohort patients' were cared under the call-day admission ward for 14 days followed by 14-day surveillance for the first phase and then modified to 10-day surveillance for the second phase since mid-July 2020, with the aim to reinforce infection control measures for hospital outbreak of the Novel Coronavirus. There were also ongoing educational talks and hand hygiene promotion for in-patients and staff to strengthen their awareness on infection control.

Implementation of Colour Code System in KCH

The Colour Code System was implemented to enhance infection control measures on environmental decontamination in KCH clinical units. Mop-up training and audits were conducted by Infection Control Team.

Colour Code System implemented in Sluice Room

Central Mop Cleaning Room

Telecare Services and Televisiting by Video Call for Patients and Relatives during Visit Suspension at Emergency Response Level

Patient visit had been suspended since February 2020 in view of COVID-19 outbreak. KWC hospitals provided various ways of televisiting and telecare services for patient and their families.

As the demand for telecare services has increased during the pandemic, additional mobile phones were provided to the Patient Services Department (PSD) and Allied Health departments namely Physiotherapy, Occupational Therapy, Clinical Psychology Department and Medical Social Services Unit to provide telecare services for patients and virtual visiting services for patients' families. Designated tripods for bed-ridden patients were also arranged during virtual visiting in Princess Margaret Hospital (PMH). Televisiting with video call commenced in 1Q 2020 in KCH, through Skype/WhatsApp calls.

New Elements Included in KWC Q&S Training

KWC Orientation and Induction Programme for New Residents

The KWC Orientation & Induction Programme for new residents was held on 12 and 20 October 2020. The scope of the programme was to raise awareness of residents to the common pitfalls and risks in clinical practices and strengthen their skills in managing incidents at the beginning of their career.

In view of the COVID-19 pandemic, the training this year included an infection control session to reinforce the knowledge and skills of infection prevention and control in hospital. All new residents in KWC attended the training. Positive feedback was received from the majority of participants.

KWC Crew Resource Management Training

Crew Resource Management (CRM) Training is an evidence-based training programme for patient safety by strengthening collaboration and standardising communication between healthcare providers. The objective of CRM Training is to prevent incidents related to human errors and improve operational efficiency by recognising human limitations and promoting team performance. In 2020, eight sessions of classroom teaching and two sessions of simulation training were conducted.

Two in-situ immersive simulation training sessions with infection control elements were organised in April and May 2020 for Caritas Medical Centre's (CMC) Operating Theatre (OT) staff. Surgeons, anaesthetists, OT nurses and assistants participated in managing clinical crises in OT together. Feedback from participants was overwhelmingly positive and some participants expressed interest in being a trainer in the future CRM courses.




Prevention of In-Patient Suicide

To minimise environmental risk for in-patient suicide, a thorough environmental assessment is performed in PMH annually. The 'Environmental Scanning for Preventing In-Patient Suicide' was conducted at the M&G wards of PMH on 29 October 2020. In addition to the Q&S Department, representatives from Facility Management, Supporting Services and Occupational Safety and Health (OSH) joined the inspection and provided improvement recommendations.

Yan Chai Hospital (YCH) also conducted the 'Environment Surveillance for Risk of Suicide' on 16 June 2020 with participation of the hospital management and the hospital Engineering Services Department. Facilities with safety concerns at two clinical areas, Medicine Ward and Emergency Medicine Ward were identified. The recommended remedial actions for suicide prevention had been disseminated to all relevant parties.

New Territories East Cluster

NTEC Quality and Safety Forum

The NTEC Q&S Forum 2020 themed 'Investigation Risk 精準穩妥 – ACTION!' was successfully held on 6 October 2020 via Zoom Webinar. Ms Lim Bee Koong, Director of Healthcare Strategy, Asia-Pacific Region of United Parcel Service (UPS) and Dr Chow Kai Ming, Chairman of the NTEC Investigation Risk Workgroup, were invited to share their valuable experiences and insight in smart logistics network as well as diagnostic investigations respectively.

A micro-cinema 'Investigation Affairs – ACTION' was also premiered to promote awareness of identifying risks and exploring risk mitigation actions. Five brilliant CQI projects related to mitigation of investigation risks were selected to compete for the 'Most Popular NTEC CQI Project'. Over 550 colleagues had voted online.

COVID-19 Pandemic – Staff and Patient Safety

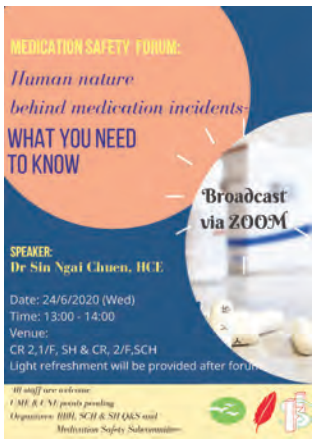
In view of the COVID-19 pandemic, staff training sessions had been conducted in collaboration with the Central Nursing Division and the Infection Control Team to reinforce the appropriate use of PPE. Q&S teams, together with the Hospital Management Team, visited each clinical unit to provide guidance to frontline staff working at different settings to gown up with recommended PPE. PPE stock level of each unit was also reviewed.

With the support of the Intensive Care Unit (ICU), educational videos and flyers were produced to enhance staff and patient safety when handling aerosol generating procedures (AGP), especially during airway management and intubation.

Medication Safety in NTEC

Medication Safety Forums – Alice Ho Miu Ling Nethersole Hospital / Tai Po Hospital & Bradbury Hospice / Cheshire Home, Shatin / Shatin Hospital

To enhance staff awareness of medication safety, two Medication Safety Forums 'Learn From the Past, Prepare for the Future 師前 • 想後' and 'Human Nature Behind Medication Incidents – What You Need To Know' were successfully held in Alice Ho Miu Ling Nethersole Hospital (AHNH) / Tai Po Hospital (TPH) and Bradbury Hospice (BBH)/Cheshire Home, Shatin (SCH)/Shatin Hospital (SH) respectively.



Installation of Smart Cabinet in TPH, SCH & SH

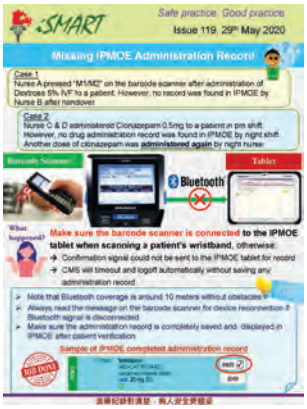
To facilitate safe checking during drug retrieval for patients in non-acute hospitals without 24-hours pharmacy support, Smart Cabinet was installed in TPH/SCH and SH. Various training sessions had been carried out in local hospitals. Relevant operating procedures were made accessible to staff.

Risk Reduction Strategies

Independent double-checking for high alert medications and tracing back of infusion line were reinforced. Warfarin workflow was reviewed and warfarin dosage pictogram in drug booklet was revamped. Regular exercise on converting free text allergy records to structural entries was continued. The first phase of HA-wide Self-Assessment Guide for Medication Safety was completed in NTEC hospitals with full compliance on proper handling of high risk medications achieved.

Medication Safety Flyers

iSmart and newsletters were published for staff education and sharing of medication incidents.

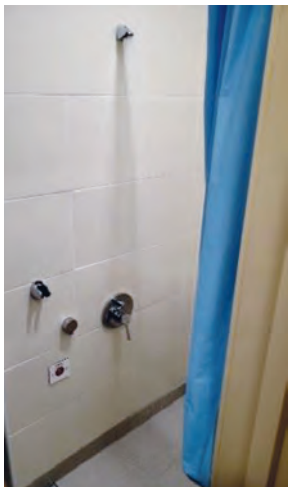


Investigation Risk

An initiative of not printing normal laboratory reports – 'Less is More' was started in NDH. It was later promulgated and piloted in the SOPCs of AHNH and PWH. With the application of technology, over 50% of normal laboratory reports were screened out automatically, hence not printed out each day. Not only is it eco-friendly, it also conserves our time to focus on urgent cases that require high-priority interventions.

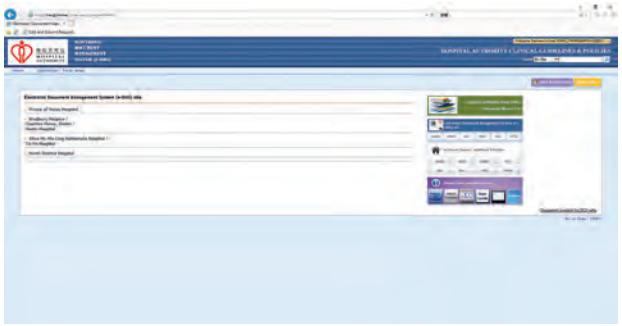
Suicide Prevention

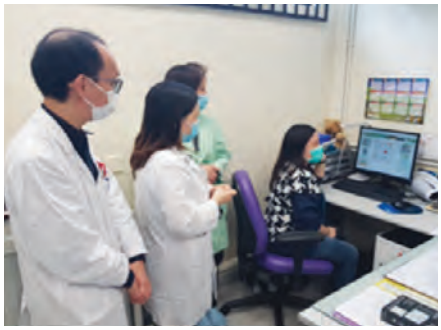
To mitigate the risk of in-patient suicide in bathroom, a hospital-wide site visit of shower hose was conducted. A facility enhancement i.e. installation of anti-ligature shower heads, had been completed in all high-risk clinical areas including psychiatry, oncology and palliative wards.



Document Control – Migration to e-DMS

The migration of NTEC PPG to HAHO Electronic Document Management System (e-DMS) had been successfully completed in SH/SCH/BBH. 25% of documents were reduced after the migration. To facilitate the migration, training sessions and on-site support were provided for departments.





To introduce the e-DMS system to colleagues, a Quality Workshop 'From iPPG to e-DMS' was conducted on 6 November 2020. The migration would commence in other NTEC hospitals in 2021.

‘Near Miss’ Sharing and Promotion

‘Nice Catch’ Programme was launched in 2019 to promulgate near miss reporting culture and to recognise staff’s efforts in stopping incidents before they reach patients. To boost the momentum and show our appreciation to staff and departments that had outstanding achievements in reporting and preventing ‘near miss incidents, an ‘Annual Award Programme - PWH Nice Catch Super Cup’ was kicked-off in September 2020.

A bi-monthly electronic comic ‘阿姐提提你’ was published to share the learning points and safety tips in daily clinical practices. This easy-to-read initiative facilitates continuous and effective learning among colleagues, especially for front-line staff of the younger generation.

Training and Education

NTEC WISER (We Innovate, Service Excel Regularly) Sharing Day 2020

To maintain the momentum in innovation and strive for service excellence, NTEC WISER Sharing Day was successfully held on 9 December 2020 with over 100 participants joining the webinar. Three distinguished facilitators in the Lean Leader Course were invited to share the application of Lean Management and tools for improving service quality.

NTEC Incident Management Workshop

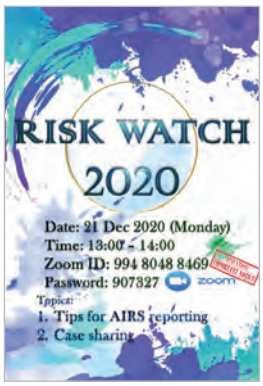
The NTEC Incident Management Workshop was successfully conducted on 28 October 2020. Open disclosure, root cause analysis, professional liability and staff support issues were covered. The revamped workshop prepared participants for dealing with 'real life' situations in a practical manner through simulation training. Participants treasured the learning experience and enjoyed the cross-disciplinary discussion and collaboration.

NTEC Quality Workshop 2020

Two Quality Workshops – 'Patient Blood Management & Transfusion' and 'From iPPG to e-DMS' were held on 9 June 2020 and 6 November 2020 respectively. Smart tips on patient blood management and experience in migrating from iPPG to e-DMS were shared with positive feedback from the audience.

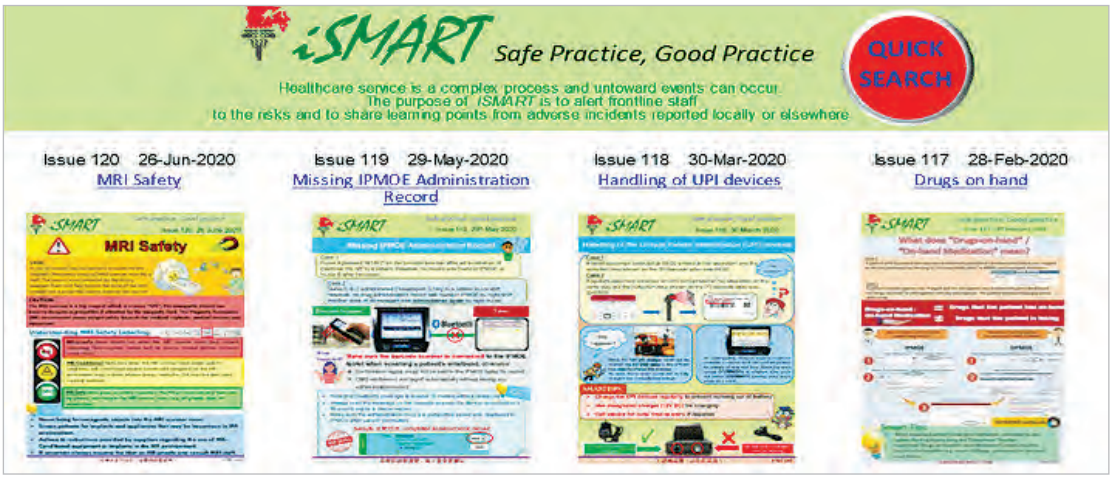
Incident Sharing

To promote safety culture, staff sharing forum such as Risk Watch and Intern Sharing were conducted in local hospitals regularly. Medication safety, correct identification, procedural safety and AIRS reporting, in addition to incidents and near misses were highlighted. Furthermore, nasogastric tube insertion and interpretation of chest x-ray were strengthened. Through sharing and learning, staff gained understanding on common pitfalls and approaches to minimise errors and incidents. Very positive and encouraging feedback was received from participants.



Educational Flyers

To enhance staff alertness on patient safety and quality services, educational flyers were issued regularly to share the common pitfalls and tips on different topics such as medication safety, blood transfusion and patient misidentification.

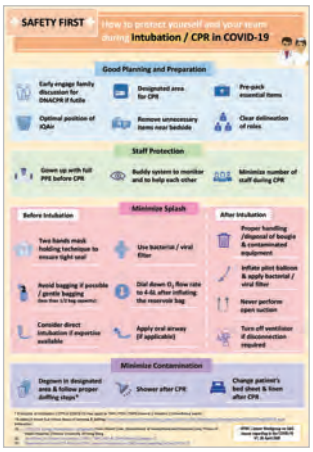


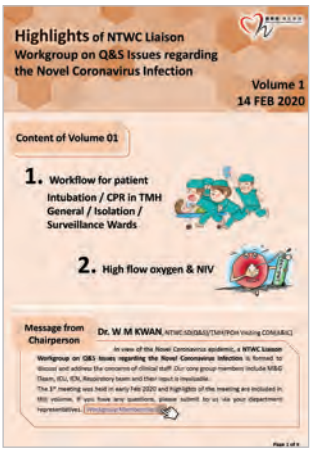
New Territories West Cluster

Supporting Quality and Safety Work in the COVID-19 Pandemic

With rising concerns in handling COVID-19 patients in early 2020, an 'NTWC Liaison Workgroup on Q&S Issues regarding the COVID-19' was formed in February 2020. Concerns from clinical staff regarding intubation and resuscitation arrangement as well as the use of oxygen therapy and bi-level positive airway pressure machine in various clinical settings were addressed.

The Workgroup developed workflows for CPR and intubation in in-patient wards of Tuen Mun Hospital (TMH), Pok Oi Hospital (POH) and Tin Shui Wai Hospital (TSWH) during COVID-19. An infographic poster, incorporating staff protection and infection control procedures to reduce the transmission of COVID-19 during CPR, was prepared for frontline clinical staff as a quick reference. Newsletters and publications were also published to clarify staff's concerns. All documents and publications are available on the NTWC COVID-19 Information Website.





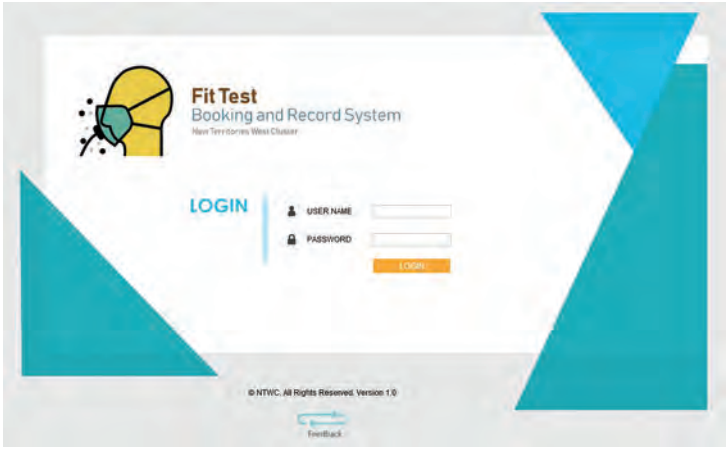
Over 20 visits to clinical areas of TMH, POH, TSWH and Tin Ka Ping (TKP) Infirmary were conducted by the Q&S Division and Infection Control Team from February to April 2020. Recommendations were suggested to improve the workflow and environmental settings for resuscitation, intubation, donning and doffing of PPE. During the visits, the two-hand bag-mask ventilation technique, which could ensure tight seal during resuscitation, was demonstrated and promulgated to frontline staff.

To enhance staff's understanding of the resuscitation workflow during the pandemic, seven mini-CPR drills were organised in isolation, surveillance and general wards. Observations gathered from the drills were shared with Workgroup members. A video was produced, featuring critical steps and common mistakes of donning and doffing of PPE.

To evaluate the effectiveness of the Workgroup activities, an electronic survey was distributed to Workgroup members and staff who had participated in the activities in June 2020. A total of 76 returns with positive feedback were received. Over 95% and 84% of them appreciated the Workgroup's publications and the drills/demonstrations respectively. Most colleagues agreed that the Workgroup activities enhanced their understanding of the workflow of CPR and in staff protection. The Workgroup would continue to address the concerns on quality and safety issues regarding COVID-19 in 2021.

The Q&S Division also supported the NTWC Taskforce on Management of PPE to monitor the consumption of PPE, especially the critical items including surgical respirators, isolation gowns, face shields and surgical masks during the pandemic. Working closely with the NTWC Procurement Materials and Management Unit (CPMMU), weekly stock take of PPE from all wards and units in the NTWC was conducted and the estimated consumption was calculated with reference to the supply of PPE by CPMMU to wards and units. The Q&S Division also conducted visits to clinical departments to share updated information on COVID-19, disseminating the message of rational and proper use of PPE and answering queries from staff. A significant decrease in daily PPE consumption rate was observed in June 2020 when compared with February 2020, indicating staff was using PPE more rationally and properly.

In order to facilitate surgical respirators fit test booking by staff, the Q&S Division worked with the Occupational Safety and Health (OSH) Unit to develop an electronic Fit Test Staff Booking and Record System in October 2020. This new system could save OSH staff's time on handling phone calls for fit test bookings, so they could concentrate on conducting the fit tests. Before the launch of NTWC Fit Test Record Management System in September 2020, Q&S Division also supported the OSH Unit by analysing staff fit test database to prioritise the needs of staff requiring fit tests. For example, staff who had no or only one fit model, those working in high risk areas, and those who might not have surgical respirators to use if stock of their fit models were depleted, were given higher priority to have the fit test.

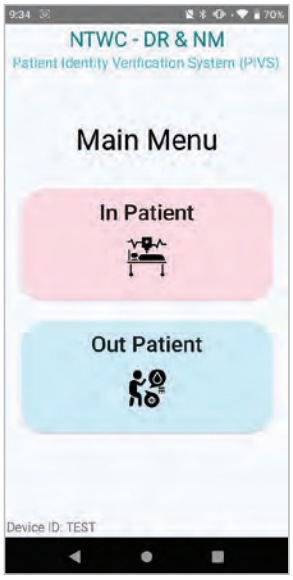


Promoting and Supporting Smart Hospital Initiatives

With the advancement in healthcare technology and the adoption of the 'smart hospital' concept especially in TSWH, a number of quality improvement programmes were carried out in NTWC and supported by NTWC Q&S Division.

In TSWH, an urgent critical care teleconsultation service by the ICU was introduced in 4Q 2020. The ICU teleconsultation service adopted a mobile teleconsultation station with monitors, computer-on-wheels, electronic stethoscope, high definition camera, speaker, handheld document scanner and ultrasound machine. It allowed ICU doctors in TMH and POH to have immediate access to patient's conditions and provide clinical advice to the doctors of TSWH's A&E Department. The project was piloted in 3Q 2020 and the workflow was smooth. The possibility of extending the programme to other specialties such as Department of M&G would be considered.

The telecare outpatient services in Department of M&G and Allied Health departments were introduced in TSWH during the COVID-19 pandemic. To collect feedback from participants about their views and acceptance towards the new service, the Q&S Division coordinated Patient Focus Groups for caregivers of paediatric and elderly patients who had used the telecare service in 4Q 2020. A pilot project on using the eConsent system to facilitate an electronic consent process was also discussed in September 2020.



To prevent patients from undergoing unnecessary imaging due to wrong identification, a pilot programme using a new patient identity verification system was introduced in the Department of Diagnostic Radiology. The new system applied a 2D barcode scanning function to verify patient identity through Generic Clinical Request System form and the wristbands of in-patients and A&E patients. For out-patients, the system makes use of an Optical Character Recognition technique to scan the identity card number. The data will be sent to the Computed Tomography (CT) console via Bluetooth connection for identity verification. Staff training was conducted in October 2020 and the programme was piloted in the CT suites of TMH and TSWH in 4Q 2020.

Managing High Risk Missing Patients

In view of increasing number of at-risk patients found missing in NTWC, an NTWC Workgroup on Managing High Risk Missing Patients was set up in August 2020. The Workgroup aimed to support the implementation of measures in reducing missing patients, especially those who were identified to be at risk, and to monitor the progress and follow-up actions of those incidents. The Workgroup composed of representatives of Nursing Services Division, Clinical Departments, Administrative Services Division and Q&S Division.

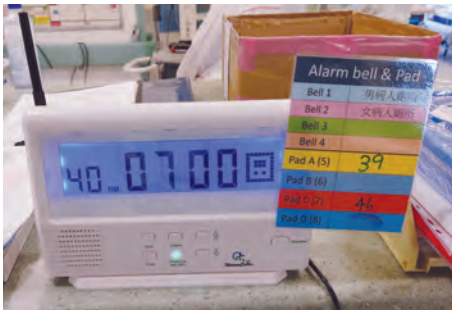
The NTWC Guidelines on Handling Missing Patients, which included a flowchart and quick reference, was developed to provide easy guidance for frontline staff. Castle Peak Hospital (CPH) and Siu Lam Hospital (SLH) also updated their Guidelines on Management of Missing Patients in April 2020.

In TMH, to prevent missing of high risk patients, an electronic tagging system was piloted in an oncology palliative ward in December 2020. In POH, the egress control was further enhanced. An access card system was installed in all POH in-patient wards, replacing the conventional automated hand sensor/kick plate system. Patients have to seek staff's support before leaving the wards. Besides, the surveillance by out-sourced hospital security guards at the main hospital entrance had also been enhanced. Patients would be required to provide reasons of leaving the hospital and verification would be made with the corresponding wards.

Preventing Falls and Promoting Restraint Safety

The NTWC Falls and Restraint Management Committee continued its work on preventing falls and ensuring restraint safety in a concerted manner. Working together with the Cluster Nursing Services Department, about 70 sets of fall alarm mats were trialed in over 30 locations in TMH, POH and TSWH to promote timely fall prevention and to reduce unnecessary physical restraint. An evaluation on the use of fall alarm mats would be conducted. Yellow Vests were also provided to ambulatory patients at high fall risk, to enhance staff alertness. The Committee had distributed 400 pieces of Yellow Vests to general wards in 2020, with a plan to further evaluate the vest design and enhance its usability.

In view of an increased number of falls in 2Q 2020 in POH, a POH Falls Review Team, comprising members from Departments of M&G, Mixed Specialty Wards, Physiotherapy and Occupational Therapy, Nursing Services Division and Q&S Division was formed in June 2020. A comprehensive review of falls in POH in 2019 and 2020 was conducted using a systems approach. Areas of improvement were identified and actions were taken, including introducing daily fall review visits, distributing fall prevention educational pamphlets to all patients admitted to medical wards, enhancing fall assessment and training by occupational therapists and physiotherapists, and identifying possible enhancement in ward environment and equipment design, e.g. installing wireless call bells and fall alarm mats with central monitoring function.



For physical restraint, appropriate safety vest supply is an important factor for restraint safety. The Committee closely communicated with the Linen Service Department to ensure adequate supply of safety vests of different sizes. The linen request form in TMH was amended as suggested in a previous ward questionnaire while in POH, a safety vest anthropometry review was conducted and a reference card indicating the number of safety vests required in each ward was introduced. Furthermore, the Committee started the review of the NTWC Physical Restraint Assessment and Observation Chart with the aim of facilitating accurate documentation on restraint monitoring. Together with the review of its policy and guidelines, the updated chart would be ready for use in early 2021.

Enhancing Security of Patient's Belongings in Wards

In response to incidents arising from loss of patient belongings in POH wards, a POH Workgroup on Patient Belongings Handling was formed in June 2020. The existing mechanism in handling patient belongings was reviewed and a new 'Patient Belongings Bag' was introduced. The bag would be used for carrying patient belongings during ward transfers. The first trial lasted for two weeks in August 2020, covering Departments of A&E, Mixed Specialty Wards, ICU and M&G. A review meeting was conducted in September 2020 and positive feedback was received. Modifications on the bag's printed contents and size were made and the second trial was conducted in 1Q 2021.

To allow easy and correct identification of patient lockers adjacent to patient beds, standardised bedside locker magnets with visible bed number and ward name were produced. The magnets were distributed to all wards in POH, TSWH, TKP Infirmary and all surgical wards in TMH in 4Q 2020.

Specialties

COC (Intensive Care)

Introduction

Extracorporeal membrane oxygenation (ECMO) provides temporary extracorporeal support of the respiratory and/or cardiac system for patients who fail to respond to conventional therapies, buying time for recovery from the underlying condition, and for specific treatment to take effect. The concept and technology of ECMO originated from cardiopulmonary bypass that was first used in 1953. The first case of successful ECMO support in adult was in 1972 for a patient with post-traumatic respiratory failure. Currently, ECMO use is not confined to the operating theatre, but has been extended to the intensive care unit and during inter-hospital transfer.

There are two main types of ECMO configuration: veno-venous (VV) in Fig 1, and veno-arterial (VA) in Fig 2. VV-ECMO provides solely lung support, while VA-ECMO provides both heart and lung support. Depending on the clinical indications and disease progression, the ECMO circuit can be interchanged between VV and VA.

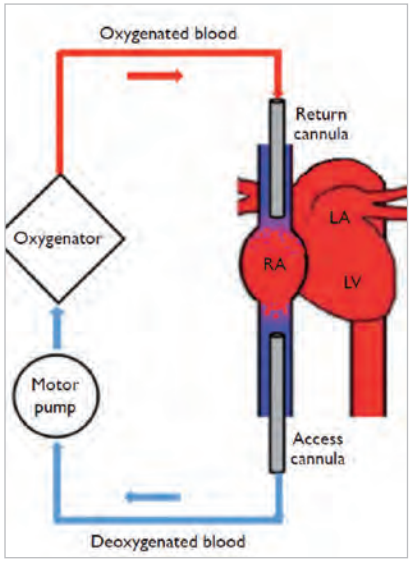


Fig 1: VV ECMO

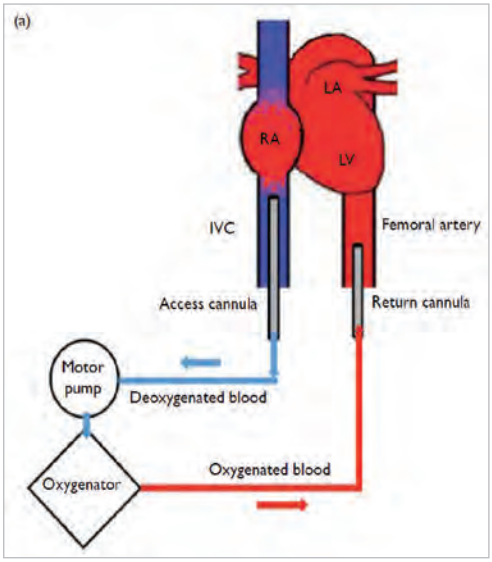


Fig 2: VA ECMO

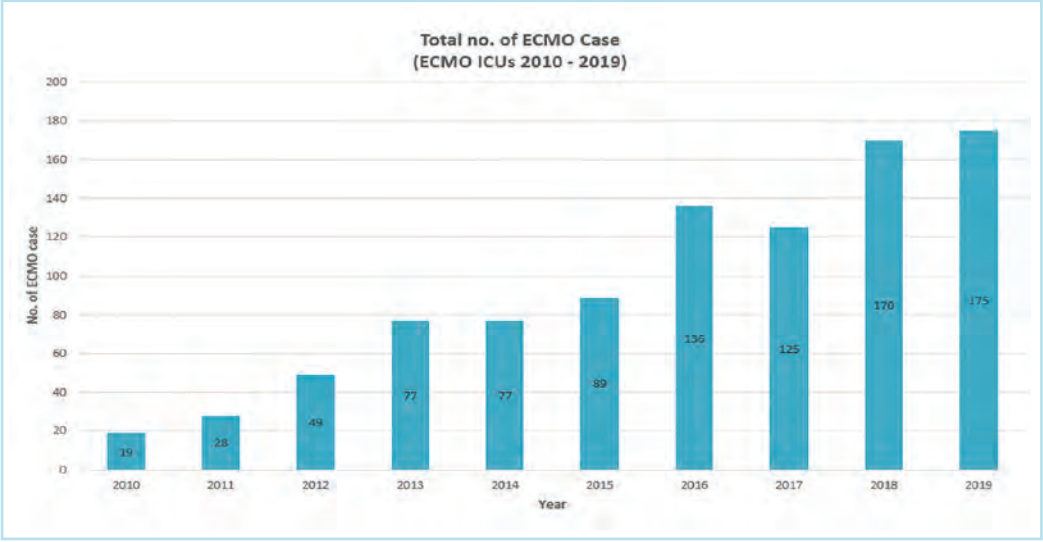
The use of ECMO flourished after the publication of the United Kingdom's conventional ventilatory support vs extracorporeal membrane oxygenation for severe adult respiratory failure (CESAR) trial in 2009, which showed a reduction in mortality for patients with severe respiratory failure who received ECMO support in a high-case-volume centre during the H1N1 pandemic. Since then there has been heightened interest in ECMO applications all over the world.

Access to ECMO Service

In Hong Kong, the ICU ECMO service has developed progressively since 2010, expanding from four ECMO ICUs in 2010 to seven ECMO ICUs in 2018. Currently there is **one ECMO ICU in every Cluster.** The annual number of ECMO episodes performed increased 10-fold from 19 episodes in 2010 to 175 episodes in 2019, cumulating in a total of 935 episodes.

The Referral Network for veno-venous (VV) ECMO is as follows:

Cluster	HKWC	HKEC	KCC	KWC	KEC	NTEC	NTWC
ECMO ICU	Queen Mary Hospital (QMH AICU)	Pamela Youde Nethersole Eastern Hospital (PYNEH ICU)	Queen Elizabeth Hospital (QEH ICU)	Princess Margaret Hospital (PMH ICU)	United Christian Hospital (UCH ICU)	Prince of Wales Hospital (PWH ICU)	Tuen Mun Hospital (TMH ICU)
Coverage for Intra-Cluster ICU		RTSKH	KWH	YCH & CMC	(*TKOH)	AHNH & NDH	POH



The number of ECMO machines available has substantially increased over the years to match the service demand. The ECMO machine is a high value asset and optimal utilisation ideally matches service demand to machine availability. Nonetheless, the need for ECMO support is time critical, and demand is subject to surges and seasonal variations. In order to maximise the machine availability across HA hospitals and to achieve distributive efficiency for the greatest overall patient benefit, an **electronic ECMO machine utilisation platform** has been set up in 2019 to facilitate the shared use of ECMO machines across ECMO ICUs and CCUs.

Clinical Outcomes

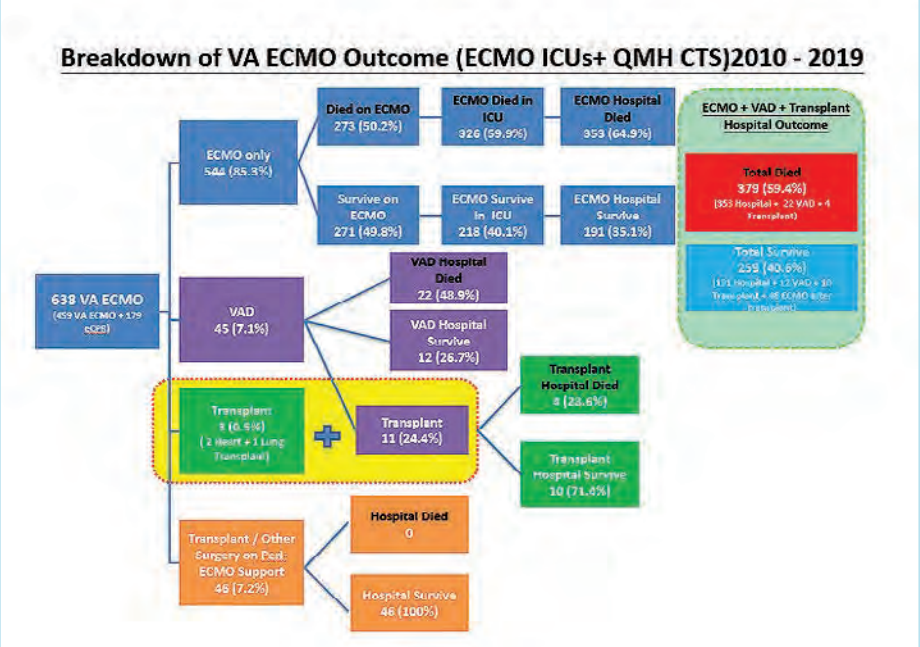
ECMO service delivery has become more reliable due to improvements in equipment and increased experience, which is reflected in improved patient outcomes. The overall Hong Kong ICU performance as shown below is comparably benchmarked to international Extracorporeal Life Support Organisation (ELSO) outcomes.

Cumulative Outcome By ECMO Type
(ECMO ICUs 2010 – 2019)

Type of ECMO	ECMO Outcome (By ECMO Case) (Alive/Total)	ICU Outcome (Alive/Total)	Hospital Outcome (Alive/Total)	ELSO Overall outcome in Adult: Survive to DC or Transfer (by Jan 2020)
eCPR	75/169 (44.4%)	56/168 (33.3%)	45/169 (26.6%)	2,387/8,075 (29%)
VA ECMO	193/308 (62.7%)	162/307 (52.8%)	144/308 (46.8%)	11,191/25,488 (43%)
VV ECMO	361/455 (79.3%)	317/455 (69.7%)	307/455 (67.5%)	14,714/24,395 (60%)
Others	2/3 (66.7%)	2/3 (66.7%)	2/3 (66.7%)	
Total	**631/935 (67.5%)**	**537/933 (57.6%)**	**498/935 (53.3%)**	

ECMO is not a treatment of the underlying disease in itself. Patients receiving ECMO support may not be able to recover from the underlying disease. In these cases, extended dependencies on ECMO support may need to seek options of transplant including cardiac and lung transplant. In Hong Kong, Grantham Hospital (GH) – Cardiac Medical Unit (CMU) and QMH – Cardiothoracic Surgery Department (CTSD) are the quaternary referral centres for advanced heart failure treatment and heart/lung transplant. Between 2010 and 2019, there were over 600 VA ECMO episodes delivered in ECMO ICUs and QMH CTSD.

The breakdown of VA ECMO outcomes are as follows:



Project Highlights

ECMO has remarkably progressed over the past 10 years. Currently, each Cluster has its own ECMO ICU to address the service needs of the Cluster hospitals. The service volume is ever increasing as it serves as an invaluable tool for patients with severe cardiac and pulmonary dysfunction refractory to conventional management. ICU ECMO performance is continually monitored and is comparable to international standards according to ELSO data.

The complexity of ECMO support and delivery is also increasing. During the journey of ECMO development, we progressed from VV ECMO to VA ECMO and then Extracorporeal cardiopulmonary resuscitation (eCPR) on selected patients suffering from cardiac arrest. In order to support the quantitative and qualitative growth of ECMO service, training is of paramount importance. Simulation-based ECMO training has also evolved from basic to advanced training. Besides, collection of ECMO data via the Intensive Care Unit Outcomes Monitoring and Improvement Programme (ICUOMP), regular inter-hospital sharing meetings, and audits of ECMO related complications, all help to ensure the quality of ECMO service.

Way Forward

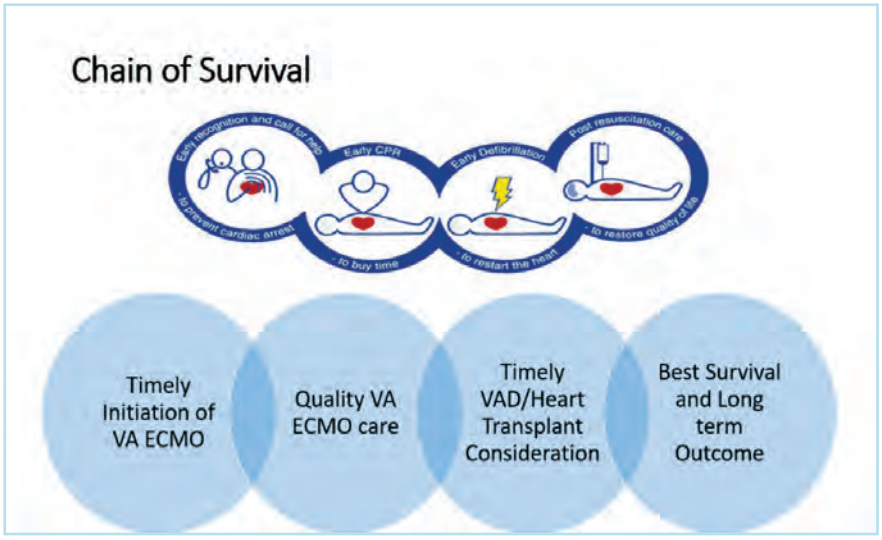
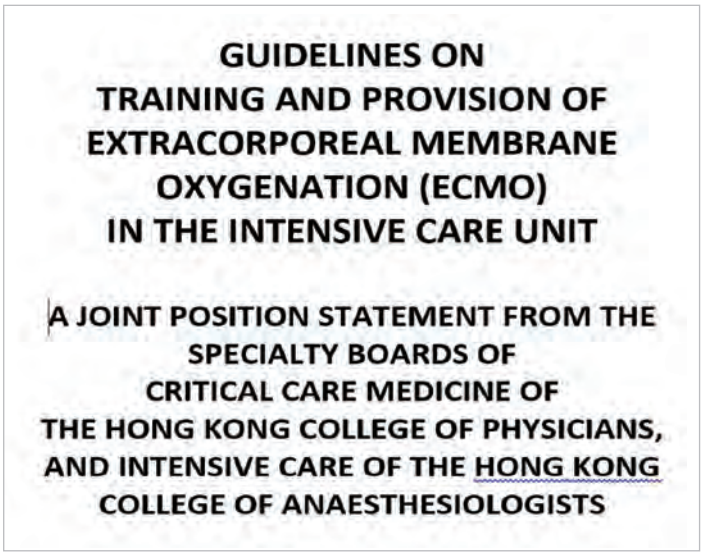


Fig. 3: Chain of Survival

For the success of ECMO service and patient outcomes, each link in the chain of survival needs to be enforced. As illustrated in Fig 3, this requires a cross-disciplinary collaboration among ICU, Cardiology and CTS, which is especially important for VA ECMO. In 2018, a Joint Task Force between Coordinating Committees (COC) in Intensive Care and Central Committees (CC) in Cardiac was set up. A consensus statement has also been drafted for further deliberation. In the long run, a seamless collaboration among ICU, Cardiology and CTS would be fundamental in developing a sustainable quality ECMO service in Hong Kong.



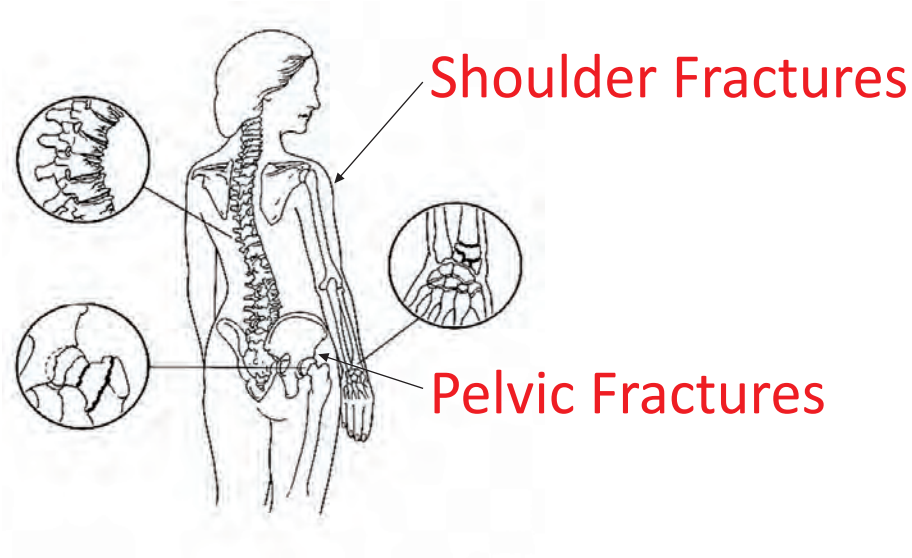
ECMO should only be performed by clinicians with training and experience in its initiation, maintenance, and discontinuation. ECMO is a supportive therapy rather than a disease modifying treatment in itself. Good results are obtained if there is a right selection of the patient, type of ECMO and its configuration. Therefore, credentialing of ECMO procedure is the next step. The two Colleges: i) Hong Kong College of Physicians (HKCP) and ii) Hong Kong College of Anesthesiologists (HKCA), are in the process of proposing a joint position statement on the “Training” & “Provision” of ECMO in ICU.

Lastly, there is a need to ensure a stable supply of ECMO consumables and ECMO machines at a reasonable cost. In this regard, the tendering process can help to introduce a healthy competition in the market supply of ECMO hardware.

COC (Orthopaedics and Traumatology)

Introduction

According to government projections, the percentage of our ageing population (elderly over age of 65) will increase from 13% in 2014 to 26% in 2031, along with an increasing life expectancy (2011: 80.5/86.7 (male/female); 2041: 84.4/90.8). As a result, there will be an increasing demand of patient care for both fragility fracture and degenerative joint diseases from orthopaedic service in HA. Fragility fracture not only puts pressure on geriatric hip fracture operations, but also impacts the management of other fragility fractures e.g. vertebral body, distal radius, proximal humerus and pelvis.

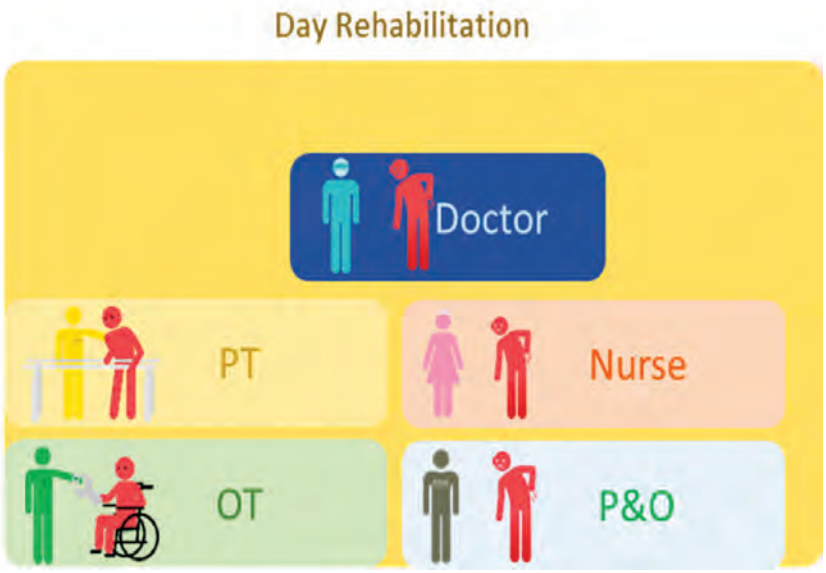


Osteoarthritis is the most common form of arthritis in degenerative joint diseases, affecting more people than any other joint disease and is the most widespread cause of walking-related disability in people over the age of 65. While joint replacement surgery is a reliable method to treat end-stage osteoarthritis, it is a major surgery that carries risk and potential serious complications. Therefore, it is desirable to make use of innovative technology to accurately predict which patients would need earlier surgery and have better outcomes, so that we can determine the best treatment strategies.

Intraoperatively, modern technology also enables more accurate decision-making at the time of surgery and improves patient outcomes by allowing surgeons to tailor-make surgical experience to a particular patient, executing more precise cuts and prolonging the longevity of implants. Embracing such challenges, a series of services have been piloted, including the ortho-geriatric collaboration service in the peri-operative period of fragility hip fractures, orthopaedic day rehabilitation service for non-hip fragility fractures, application of robotic assisted surgery and artificial intelligence in orthopaedics. All these effort reflect our commitment to continuous service improvement, in terms of safety and quality.

Accessibility to Service

To enhance access and efficiency for operative care of fragility hip fractures, a total of five operating sessions under general anaesthesia were opened to Day-time Designated Trauma List for acute geriatric fragility fracture patients per week in each of the three acute hospitals (CMC, PWH and TKOH). At CMC, the relevant KPI (% of hip fracture surgery done within two calendar days) improved from 53.8% (September 2017 – February 2018) to 71.4% (March 2018 – October 2018). At PWH, the percentage of emergency operations decreased from 44.5% (1Q – 3Q 2018) to 36.7% (4Q 2018 – 1Q 2019) despite a 10% increase in total number of operations. At TKOH, there was a 50% decrease in out-of-office-hour emergency operations for hip fractures (from 2Q – 3Q 2018 to 4Q 2018 –1Q 2019).



On the other hand, a wide care gap exists between the occurrence of non-hip fragility fractures and the diagnosis and treatment of osteoporosis. The underlying causes of these fractures i.e. osteoporosis and sarcopenia, remain under-diagnosed and under-treated, resulting in a high incidence of a second fracture within the first year. This care gap in secondary prevention must be addressed to minimise both the debilitating consequences of subsequent fractures for patients and the associated burden to hospital because of readmission.

At the proposed orthopaedic day rehabilitation service, we aim to achieve secondary prevention of fragility fractures through osteoporosis medication (doctor), Functional restoration (physiotherapy), activities of daily living training (occupational therapy), spinal or wrist orthosis fitting (prosthetics & orthotics), as well as education and drug compliance (nursing). Doctors will provide medical assessment, fall risk assessment, osteoporosis education and treatment, pain management, and monitor the effectiveness and side effects of bone health medication. Each patient will also be counseled individually by a trained nurse on abnormal findings in the multi-dimensional assessment and advised on follow-up actions.

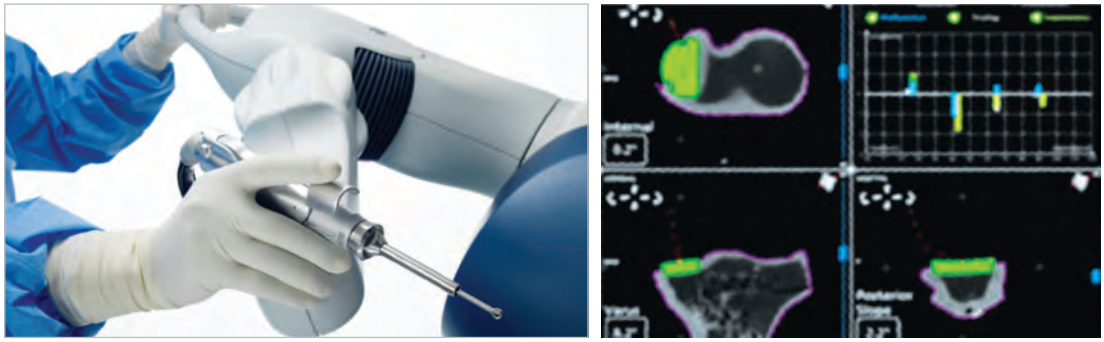
Clinical Outcomes

For patients who have end-stage degenerative joint diseases and therefore are candidates for total joint procedures, several surgical procedures are available, including total joint replacement procedures and partial joint replacement, with manual (traditional) and robotic-assisted techniques.

To enhance patient care experience in joint replacement surgery (less pain), and to enable more accurate bone resection, which in turn may result in improved joint-line restitution and better function, we plan to incorporate Robotic-Arm Assisted System into joint replacement surgery to improve accuracy and reduce variability within arthroplasty procedures. This improves cost-effectiveness of this procedure – faster recovery and higher implant survivorship.

Robotic-Arm Assisted Systems may offer a transformational shift in orthopaedic surgery by enabling surgeons to reduce variability within joint replacement procedures, potentially driving operational efficiency and thereby enhancing our orthopaedic service.

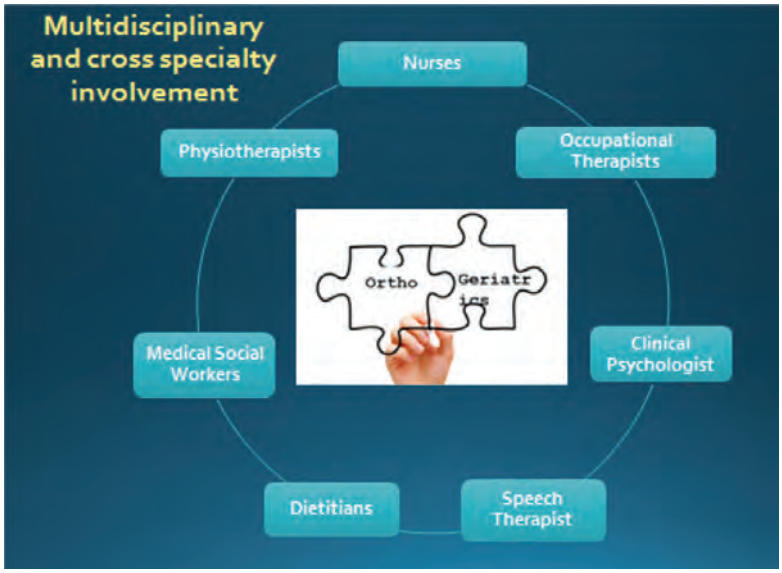
They are designed to minimise margin of error to allow for accurate component placement and to enhance accuracy and reproducibility of arthroplasty procedures. Patient-specific pre-operative plan enables accurate implant sizing and positioning. Surgeon-controlled intra-operative adjustments can also be made to optimise implant placements.



Preliminary reviews have shown that robotic arm assisted joint replacement surgery resulted in lower post-operative pain and more accurate implant placement than manual replacements. Other studies have shown two to three times less variability and error compared to manual procedures, and results are closely aligned with the pre-operative plan.

Project Highlights

In HA, around 7,000 hospital admissions are due to geriatric hip fracture per year, with over 90% of these patients with age above 65, mostly having multiple medical comorbidities. These medical problems are dealt with by reactive consultations in the past. There has been inadequate geriatric support and provision of coordinated care by multiple disciplines. Ideally, a multidisciplinary approach aiming at early mobilisation of patients, early recognition of medical co-morbidities, early recognition and management of complications, and early Implementation of discharge planning should be implemented.



We have a pilot project to build up a simple and sustainable model to enhance collaboration between Orthopedics and Rehabilitation Department in the management of geriatric fracture hip cases, aiming at enhancement of inter-professional collaboration to improve the sense of having a shared mission, and to provide proactive and coordinated rehabilitation care to meet the need of the frail older fracture patients.

Our primary goal was to reduce the overall length of stay and the rate of transfer back to acute hospital, and to monitor anti-osteoporosis medication coverage. Our secondary goals included functional improvement (documented by the Barthel Index and other scores), increased rate of discharge to original destination, reduced complication rate and mortality rate, as well as recurrent fracture rate.

Right upon admission to the rehabilitation hospital, a comprehensive initial assessment will be done by a geriatrician to identify special needs of the patient and provide suggestions, who will also decide the frequency of the subsequent case review according to patient's need and case complexity. Family conference/case conference will be held by this geriatrician for selected cases with discharge problem, with medical social workers and therapists in attendance.

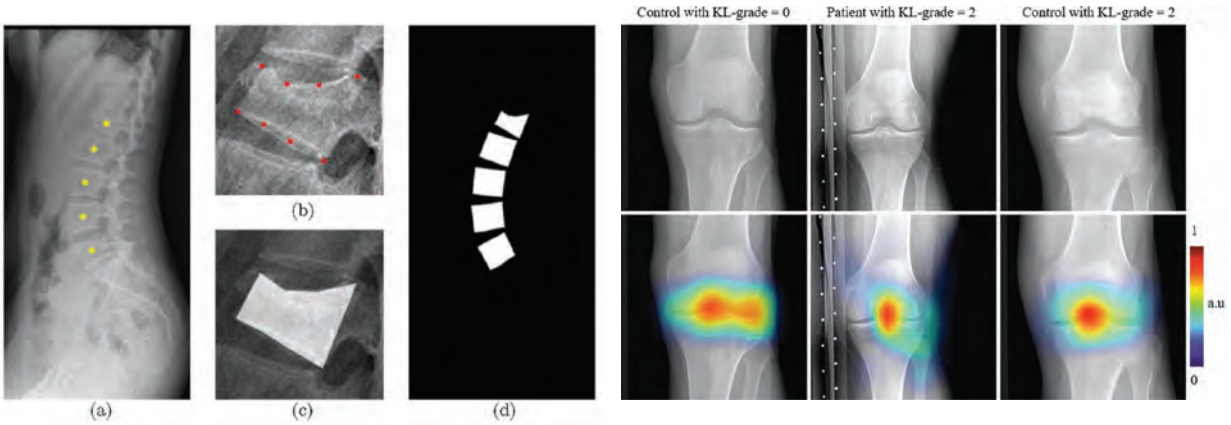
On discharge, there will be a review on the implementation of fracture prevention strategies: fall prevention, work up on secondary cause of osteoporosis, and monitoring of medication compliance. Carer education and NGO rehabilitation centre referral can also be made. In the future, ortho-geriatric co-care can be extended to the acute hospitals too, by the early involvement of geriatricians in the pre-operative optimisation of patients, as well as appropriate psychosocial assessment and intervention when necessary.

Way Forward

In Hong Kong, there are thousands of new spinal compression fractures every year. On routine lateral chest radiographs, vertebral fractures or compression deformities may be under-diagnosed, depending on the quality of the examination. Early diagnosis is important, as fractures may progress and place the patient at risk for subsequent osteoporotic fractures, which can lead to increased morbidity and mortality.

Vertebral fractures are powerful predictors of future osteoporotic fractures, so their early identification is important to ensure that patients are prescribed appropriate bone protective therapy and fall prevention programmes. Overseas experience has made use of an automated computer-aided diagnostic tool aiming at rectifying this under-reporting of vertebral fractures, without the need to take extra x-rays. Such automated computer-aided diagnostic tool can help to solve the problem of this under-reporting of vertebral fractures.

We plan to apply artificial intelligence (AI) for the detection and localisation of these fractures. As the burden of medical imaging due to aging is increasing rapidly and the rate of increase of radiologists is falling short, we need AI to help read radiographs quickly and accurately, so that early detection is possible, thereby reducing the amount of manual interpretation required in large epidemiological and therapeutic efficacy trials.



Another area of application of AI is the analysis of demographic and comorbidity information, preoperative disability scores and radiographic measurements. We can use AI prediction models, to assist in real-time decision-making for patient care and treatment by preoperatively predicting major postoperative complications, as well as risk of reoperation and of readmission based on patient and surgical factors.

Models can also be created to predict the specific type of benefit of a surgical procedure to an individual patient including precise patient-weighted priorities, such as ability to return to work or decreased pain medication usage. AI models may determine pre-operatively which patients are best suited for joint replacement surgery, using radiographic gradings and functional scores for osteoarthritis. AI also helps in intra-operative decision making and improves outcomes.

Post-operatively, augmented or virtual reality types of AI are beneficial in rehabilitation protocols. By machine learning or deep learning algorithm with real-time feedback, AI reduces the need for the patient to come to the hospital and improves patient care through telemedicine and tele-rehabilitation. This is particularly useful during times of pandemic when visit to hospitals should better be minimised.

These two pilot initiatives represent our commitment to refine technology planning and adoption, to keep up with the international standards.

COC (Psychiatry)

Recommendation on the Most Suitable Fall Risk Assessment Tool for our Psychogeriatric In-Patients - Wilson Sims Fall Risk Assessment Tool

Introduction

The incidence of falls in psychiatric units tends to be higher than in general acute hospitals, with estimated rates of 13.1 - 25 and 3 – 5 per 1,000 in-patient bed days respectively. Falls among elderly in-patients are common and can be associated with considerable morbidity, functional decline and mortality. Older people in psychiatric units may be restless and agitated and unlike those in the medical ward, they spend less time in bed. Due to age and concomitant physical problems, they may experience dizziness and are at risk of falling when getting up from chairs, beds and particularly in bathrooms.

Many hospitals use the Morse Fall Scale (MFS) in all units to assess fall risk. It is a fall assessment intended for use in acute medical-surgical units, but has not been validated in psychiatric in-patient population. It was found that toileting was an important factor contributing to fall, which the MFS does not capture. Psychiatric in-patients have unique fall risk factors due to their ambulatory nature, further compounded by other factors such as medications, anxiety and agitation. For these reasons, a fall risk assessment tool targeting at in-patient psychiatric patients is justified. The Wilson Sims Fall Risk Assessment Tool (WSFRAT) is designed for psychiatric population and is a fall risk assessment tool recommended for psychiatric in-patients.

Clinical Outcomes

A multi-centre study was conducted to compare the sensitivity, specificity, positive and negative predictive values of WSFRAT and MFS, to recommend a fall assessment tool that is more suitable for psychogeriatric in-patients. A total of 183 psychogeriatric patients were recruited into the study from April 2019 to April 2020. 30 patients were recruited from SH, 30 from TPH, 80 from CPH and 43 from UCH.

Among these 183 participants, four of them reported fall incidents during their hospital stay, giving a prevalence of 2.19% (95% CI: 0.60%-5.5%). All four fall incidents were regarded as having high risk of fall by WSFRAT but only two were regarded as high risk by MFS.

	True +ve	False +ve	True -ve	False -ve	Total
MFS	2	81	98	2	183
WSFRAT	4	97	82	0	183

Table 1 shows the categorisation of fall risks by the two scales

	MFS % (95% CI)	WSFRAT % (95% CI)
Sensitivity	50.00% (6.76% to 93.24%)	100% (39.76% to 100.00%)
Specificity	54.75% (47.15% to 62.19%)	45.81% (38.36% to 53.41%)
Positive Predictive Value	2.41% (0.91% to 6.25%)	3.96% (3.48% to 4.51%)
Negative Predictive Value	98.00% (94.80% to 99.25%)	100%

Table 2 shows measures of precision of the MFS and WSFRAT

Project Highlights

As the primary aim of this study was to compare the psychometric properties of the two fall risk assessment tools, the published cut-off scores recommended by the developers were used. The sensitivity of WSFRAT was 100%, much higher than that of MFS. Regarding the individual items, the main difference between the two scales was that WSFRAT had items about elimination issues and psychiatric medications. Clinical judgment of nurse was important when using WSFRAT and nurse could upgrade the fall risk from low to high if clinically indicated.

In a local study looking at falls in psychogeriatric in-patients, it was found that patients often fell on their way to bathroom. Patients deemed to have fall risk were advised to seek help before leaving their bed or chair, but they often went to bathroom without calling for assistance, especially those with cognitive impairment. WSFRAT included elimination issues in the scoring and those who were independent but had urinary urgency or frequency would score higher in fall risk assessment. This group of patients might take risk to avoid soiling themselves.

It is not uncommon for psychogeriatric in-patients to be on multiple psychiatric medications. Patients would score higher in WSFRAT if they are taking more psychotropics and when a new drug is started. Those having detoxification would automatically be regarded as having high fall risk as high dosage of benzodiazepine might be used.

Both tools are easy to use and relatively quick to complete. Nurses commented the items of WSFRAT were relevant to psychiatric population and it allowed a comprehensive psychiatric fall assessment which included clinical judgment of nurses. It is helpful in identifying patients at high risk of fall which was once classified as low risk by MFS and facilitates the implementation of additional fall prevention interventions by nurses for these patients.

Way Forward

WSFRAT was found to have 100% sensitivity which was much higher than that of MFS (50%). This makes it a good fall risk assessment tool. Units involved in the study would start the pilot in using this tool and there will be further liaison with hospital fall prevention task group for possibility of formal replacement of MFS with WSRAT in psychiatric settings.

COC (Radiology)

HA-wide Chest X-ray Labelling Project for Development of Artificial Intelligence Applications

Introduction

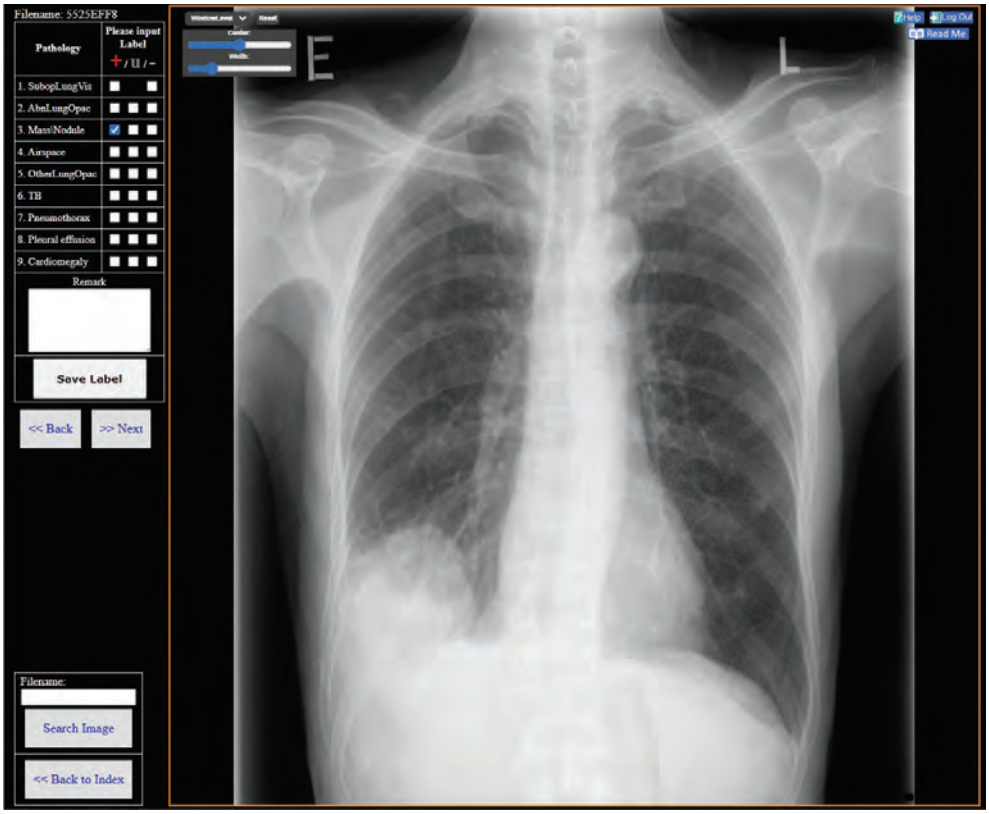
AI is the main trend in healthcare advancement. In radiology, it has great potential to improve efficiency and accuracy. Computer aided diagnosis, exam prioritisation and automated measurements are some examples of its many potential applications. In order to realise the potential benefits, HA has spearheaded the development of AI applications for radiology. Chest x-ray (CXR), being the most commonly performed radiological exam, was the first radiological exam targeted in this technological transformation initiative.

Project Highlights

One major obstacle to the development of AI applications is the lack of large-scale well-curated data, which is vital for both training and testing of AI systems. There is a need for HA to build a local CXR dataset due to the following reasons:

- There is no vendor solution that is mature and well validated worldwide.
- The performance metrics quoted by various vendors are not directly comparable.
- It is uncertain if performance metrics quoted by vendors can be applied to the local population served by HA.
- In-house development of AI systems requires data.

COC (Radiology) initiated an HA-wide CXR labelling project in collaboration with the IT&HI Division in 1Q 2020. A Natural Language Processing (NLP) tool to read and classify CXR reports was developed. A total of 8,400 frontal chest radiographs across different Clusters in HA were selected based on the classified radiology reports and aggregated into one dataset. A web-based labelling portal was built and integrated with diagnostic workstations in 13 different hospitals. More than 50 radiologists from various Clusters participated on a voluntary basis in labelling the dataset. Each CXR was read by four radiologists who decided if the image was positive, negative or uncertain for several different findings including lung mass or nodule, airspace opacity, pneumothorax, cardiomegaly and pleural effusion. The collective decision of the radiologists served as the ground truth.



The dataset served as an indispensable foundation in furthering the development of AI for CXR in HA. It provided a local benchmark to measure CXR AI model performance such that various models could be directly compared against each other. The dataset had already been used to evaluate the performance of different models including a few from outside vendors as well as in-house developed models.

Way Forward

COC (Radiology) supported the direction of developing AI in radiology. The HA-wide CXR labelling project helped to guide the development and implementation of AI for CXR examination. The dataset would enable further improvement of the in-house developed models which could then be deployed in clinical settings.

COC-Grade (Occupational Therapy)

Inter-Cluster Clinical Documentation Audit on Occupational Therapy Out-Patient Records

Introduction

Clinical documentation is a legal and important record in medical services. Clinical documentation audit is a commonly used tool in Occupational Therapy (OT) to monitor and maintain quality care in service delivery. As there were variances among departments in audit items and standards, and some centres did not have experience in conducting audit exercise on this area before, Q&S subcommittee of COC-Grade(OT) initiated to roll out an "Inter-Cluster clinical documentation audit on Occupational Therapy out-patient records" to align good practice, audit structure and audit framework, so as to enhance quality of service in our professional practice. This audit exercise was fully supported by COC-Grade(OT) and all OT departments in-charge.

Inter-Cluster Clinical Documentation Audit

The project was the first clinical documentation audit on OT out-patient records rolling out to cross-Clusters. With reference to "Manual of Good Practices in Medical Records Management (2009)", Occupational Therapist experts in this area from different Clusters were invited to form a focus group to review existing practice, and to propose an updated audit tool for HA OT Departments' use. The focus group was formed and coordinated by the Q&S subcommittee of COC-Grade(OT).

The audit exercise covered all HA OT centres with out-patient services. Altogether 40 centres were involved in this audit exercise, which covered 28 Physical centres and 12 Psychiatric centres. All new OPD case files from 1 June to 30 June 2019 were included. Case selection was by random sampling, with sample size about 10% of all new case files of each centre in that month. The audit structure was an on-site retrospective documentation audit by dual auditors from two different Clusters using the agreed audit form with set criteria. On-site audit period was from 6 September to 30 October 2019.

The objectives were:

1. To raise awareness of good practice among clinical staff through education and promulgation
2. To provide an audit structure in clinical documentation for clinical use
3. To provide an audit framework for both paper and electronic documentation

Clinical Outcomes

There were 6,652 cases which met the criteria for audit in June 2019, of which 740 case files (sample size 11.10%) were audited in this exercise. 20.3% were written records, 47.7% electronic records and 32.0% of mixed formats. An audit form was designed to cover 15 audit items, of which all items were for written records and 12 items were for mixed and electronic records.

Audit Form for OT OPD Clinical Documentation (Written & Electronic documentation) *(Version 20190723)*

Center Code: _____ Contact staff name / Rank: _____ Date of Audit: _____

Documentation format: Written(W), Electronic(E), Mixed(M)	W/E/M	W/E/M	W/E/M	W/E/M	W/E/M	W/E/M	W/E/M	W/E/M	W/E/M	W/E/M
Audit items / Case number:										
1. Each entry is dated correctly (For written record - Day/ Month/ Year; For electronic record - correct date of CMS entry with respect to the corresponding OT attendance)	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No
2. Referral source documented (Date of referral and referred clinic /specialty or clear copy of referral form with the information, if relevant)	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA
3. Reason for referral documented (Patient's diagnosis/ problem documented or stated in the referral, or referred scope of service, if relevant)	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA
4. Clinical information documented (Patient's relevant clinical information e.g. operation history, other diagnosis or disease, if any.)	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No
5. Assessments documented (Clinical observation, assessment findings and scoring)	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No
6. Problem / Goal / Objective identified (Patient's core problem, complaint, goal, etc.)	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA
7. OT intervention documented (Treatment / service provided in the session / entry)	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No
8. Progress documented (Patient's progress or changes noted after OT intervention, if any)	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA
9. OT management plan documented (Initial / continuous management plan for further treatment, management, discharge plan or summary)	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No
10. Legibility (≤ 3 unreadable/unpredictable words)	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No
11. Correct / appropriate abbreviation or symbols (Reference to hospital or department approved list)	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA
12. Each entry is signed (For written record - signed with clear name and professional designation; For E. record - each attendance record created & sign off)	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No	Yes/ No
13. *Patient's full name identified (on each page-Y2, on each sheet-Y1) (Chinese/English name & Hosp./OT/HKID no.) *(For written record)	Yes 2/ Yes 1/ No	Yes 2/ Yes 1/ No	Yes 2/ Yes 1/ No	Yes 2/ Yes 1/ No	Yes 2/ Yes 1/ No	Yes 2/ Yes 1/ No	Yes 2/ Yes 1/ No	Yes 2/ Yes 1/ Na	Yes 2/ Yes 1/ No	Yes 2/ Yes 1/ No
14. * Wrong entry was crossed out and signed *(For written record)	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA
15. * Each page is numbered *(For written record)	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA	Yes/ No /NA

Name & Rank of Auditors: 1st _____ 2nd _____ Signature of Auditors: 1st _____ 2nd _____

The audit result was encouraging: 97.3% of the 740 audited cases achieved acceptable compliance (i.e. over 80% of the audit items meeting the criteria) and 49.9% achieved full compliance. On detailed analysis of compliance rate of the 15 items, only 0.4%-5.9% did not meet the criteria to 14 item and 25.50% to 1 item. Areas that failed to meet criteria were mainly on abbreviation-related issues and legibility.

Specific feedback and recommendation from auditors were provided to the centres on-site and recorded for project committee to review and follow up.

Project Highlights

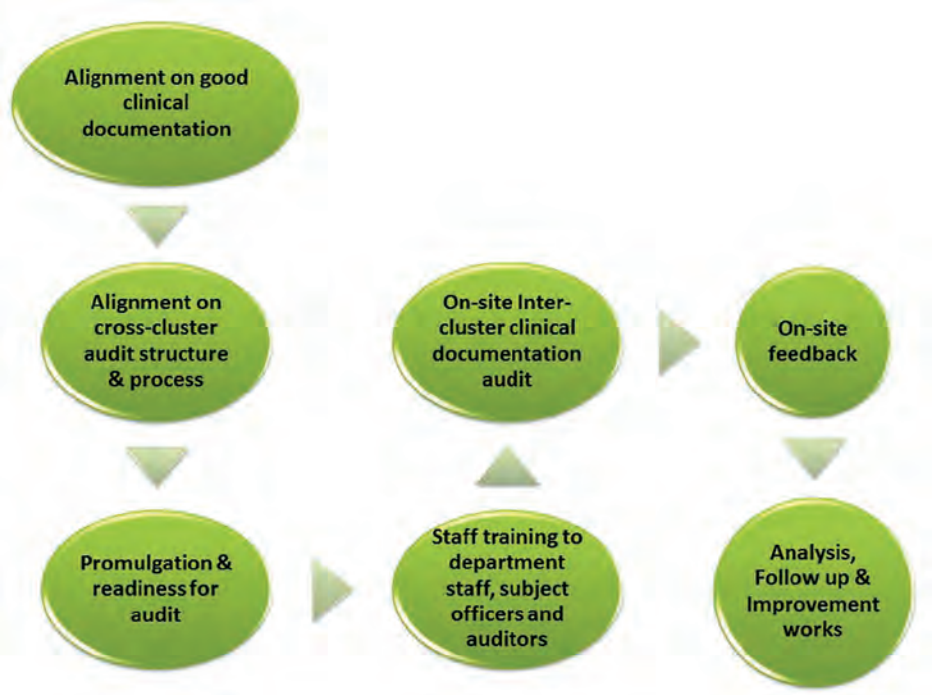
This was an inter-Cluster based project covering all HA OT centres with OPD services. The purpose of the exercise was to improve the work process of OT, including communication, agreement, alignment, centre preparation and staff education. It also enhanced mutual learning between Clusters and centres. The focus therefore should not be on the audit results alone.

There was a lot of preparation work behind the project. Through the focus group, good practice in clinical documentation within HA OT Departments was aligned. A clinical documentation audit form with criteria was developed and the audit process was agreed by all HA OT Departments.

In promulgation phase, several forums and briefing sessions were held for centres in-charge, centre subject officers and auditors to facilitate communication, to explain the audit process, ensure clear understanding of the roles of different parties and to gain support from centres in-charge.

This was a staff training activity as much as an audit exercise. Education was an important component in this project. Each centre involved at least one centre subject officer and one auditor. Subject officers were encouraged to provide in-service training on the aligned good practice on clinical documentation to the Occupational Therapists within their department. The aim was to increase and align the concepts and raise the awareness of good clinical documentation to all Occupational Therapists, especially for smaller centres and newly recruited colleagues. Besides, through the system and the roles of centre subject officers and dual auditors, a structured audit process with minimal inter-rater variance was developed and successfully practised in all HA OT centres.

Through this project, the OT profession not only had an overview on existing practice on clinical documentation, but also built a solid foundation for future CQI processes.



Way Forward

Recommendations were provided to all the centres to develop or adopt appropriate abbreviation list for staff reference, to promulgate compliance to good clinical documentation, and to adopt clinical documentation in electronic format in future plans. Based on the developed audit framework and structure, an interval of yearly or bi-yearly centre-based audit was recommended. The same audit exercise can also be repeated regularly within Cluster OT departments. Q&S subcommittee of COC-Grade(OT) may consider reviewing the audit form after five years and repeat the inter-Cluster audit according to needs.

COC-Grade (Physiotherapy)

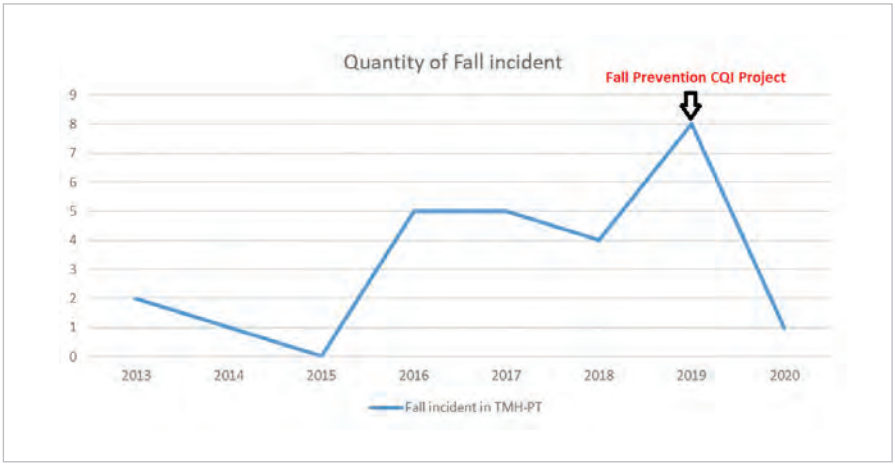
Prevention of Fall During Physiotherapy Sessions

Introduction

Falls among various clinical areas is a common problem and can be associated with considerable morbidity, functional decline and mortality. Since 2019, COC-Grade (Physiotherapy) (COC-Grade (PT)) has introduced a series of CQI initiatives for fall prevention in response to the rising trend of fall incidents. A pilot project which used behaviour modification approach was conducted in TMH and the outcome was satisfactory as presented in the following report.

Outcomes of the CQI Initiatives

After implementation of the CQI initiatives, the fall incident in 2020 was significantly reduced in TMH PT department.



Year/Quantity of Fall incident	2013	2014	2015	2016	2017	2018	2019	2020
Fall incident in TMH-PT	2	1	0	5	5	4	8	1

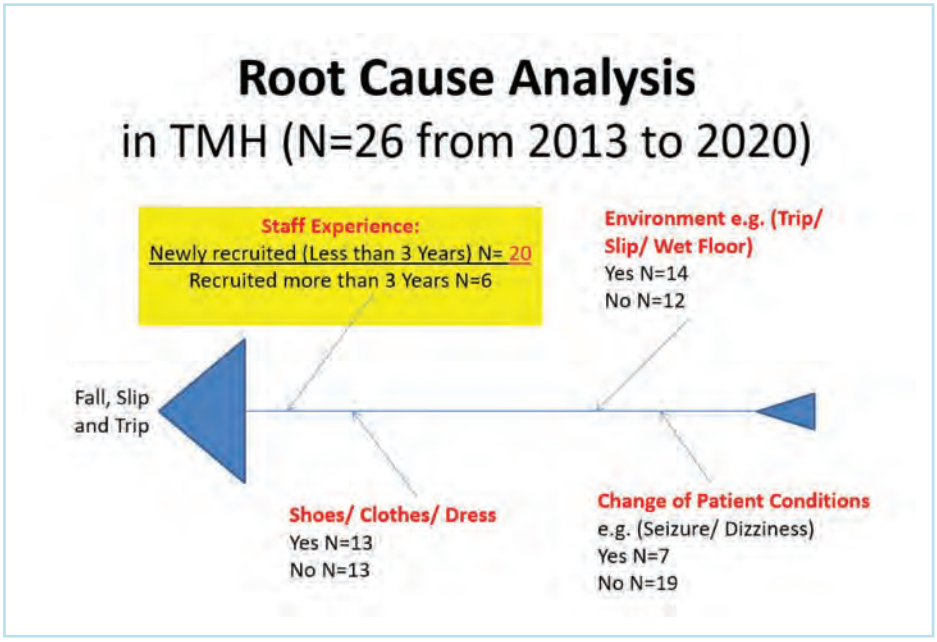
Project Highlights

The Taskforce on Fall Prevention devised the root cause analysis and summarised the good practice in order to facilitate training of staff especially for the newly recruited colleagues who has less than three years of working experience.

Root Cause Analysis in TMH-PT

After the review of fall cases since 2013 to 2020 (N=26) and investigation of the root causes in TMH-PT, we found that most incidents involved newly recruited staff with less than three years of working experience. In addition, extrinsic (e.g. environmental) factors such as overcrowded workplace, wet floor, inappropriate size of shoes and lower garments, as well as intrinsic factors such as change of patient conditions were most frequently documented in the AIRS reports.

	Staff Experience: Newly recruited (Less than 3 Years)	Environment e.g. (Trip/Slip/ Wet Floor)	Shoes/Clothes/ Dress	Change of Patient Conditions
Yes	20	14	13	7
No	6	12	13	19



As such, the project focused on the behaviour modification of newly recruited colleagues.

Learning Fall Prevention Skill

According to learning theory, people can acquire knowledge and new behaviour through conditioning and a system of rewards. The desirable behaviour can then be positively reinforced through repeating the cycle.

Flooding of Information from Sharing of Past Fall-related Incidents

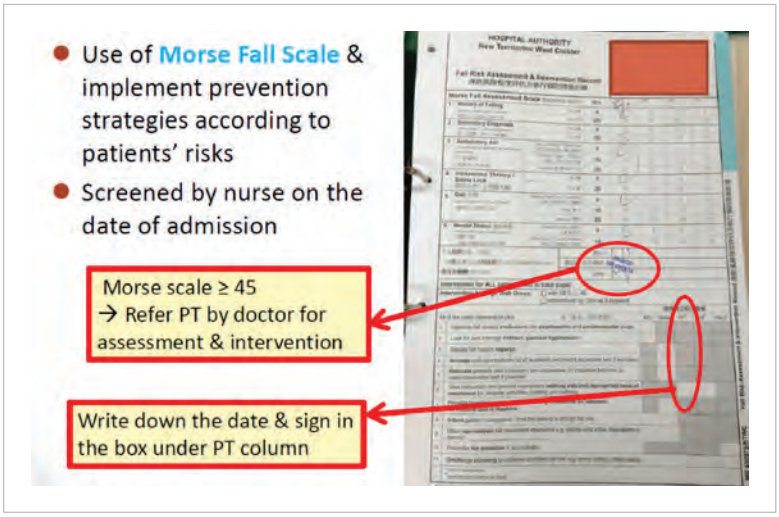
The junior staff was already equipped with fall prevention knowledge and concept during their undergraduate training. We wanted to influence young staff to establish desirable behaviour in fall prevention. In this CQI project, all newly recruited PTII were grouped together to form a Taskforce. They would explore the risk factors in our environment and study fall incident summary of previous cases.

The CQI week for 'Fall Prevention Awareness' was rolled out to promote safety awareness among members of the TMH physiotherapy department. The junior staff had to use their talent and creativity to produce a series of programme with this theme. At the end of the project, game show, WhatsApp graphics and ringtone were produced as promotional tools for fall prevention. Through flooding of information from sharing of past fall related incidents, junior staff successfully formed a deep memory of fall prevention strategy. Moreover, the awareness of other staff was also reinforced during and beyond the CQI week, with PTII continuing to enrich their coaching of newly recruited PCA in fall prevention practice.

Positive Reinforcement by Sharing of Good Practice

The Taskforce collected a series of fall preventive strategies across a number of institutions and hospitals and shared the good practice and learning points which included fall risk identification tools, administrative and engineering control measures (as shown below). To reinforce good practice, small gifts were presented to the corresponding staff by the management team during department meeting as a gesture of recognition and encouragement.

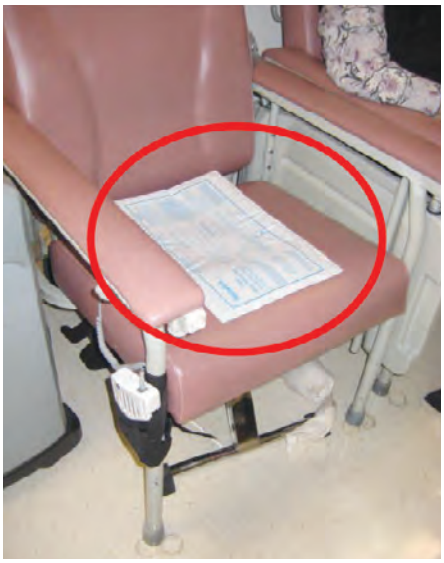
Fall Risk Identification Tools



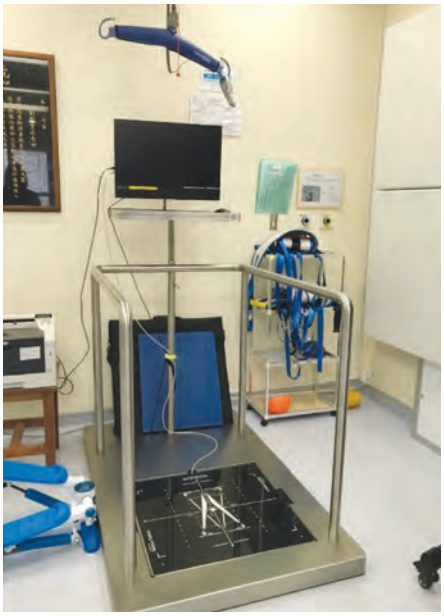
Administrative and Engineering Control Measure

Shoes Wear

Fall Alarm



Ceiling Hoist & Frame



Way Forward

The pilot project of CQI week for Fall Prevention in PT Department of TMH was effective to reduce fall incidents and may be worthwhile to be promoted to other hospitals as a strategy of fall risk management.

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