



## Letter to the Editor

### Hospital infection control best practice: Five essential elements to successfully minimize healthcare-associated COVID-19



Dear Madam,

Outbreaks of the 2019-Coronavirus Disease (COVID-19) have emerged as a Public Health Emergency of International Concern since January 2020, affecting millions of people globally. With the ever-evolving pandemic and shortage of personal protective equipment (PPE), the role played by the hospital Infection Control Team (ICT) in promulgating five essential best practice infection control measures can effectively help to combat the pandemic. The following describes the experience of Queen Elizabeth Hospital, an acute tertiary hospital in Hong Kong.

As of 10<sup>th</sup> July 2020, there were 1,403 confirmed COVID-19 cases in Hong Kong. 147 confirmed and 412 suspected cases were received and managed in Queen Elizabeth Hospital, an acute tertiary hospital in Hong Kong. During the battle against COVID-19, no cases of healthcare associated COVID-19 were identified and no healthcare workers acquired the disease from the hospital despite the high risk of contacting COVID patients in the hospital setting. The specific role and multipronged approach taken by the ICT in response to the pandemic has proven successful in the contribution of mitigating COVID-19 spread in the hospital. FIVE key elements include: (1) Communication, (2) early case detection, (3) prudent patient placement, (4) staff safety and (5) education on outbreak prevention and management strategies were applied in preparing the readiness of the hospital to handle the new emerging disease [1].

Clear communication during a crisis is imperative to attaining an effective response [2]. Owing to the constantly evolving nature of the disease understanding and the constraints in the supplies of PPE, modifications of infection control strategies were frequently deliberated and shared to hospital staff in response to the situation on hand through various meetings and staff forums. Clear and transparent dissemination of the latest pandemic updates and control measures were disseminated to all frontline staff via different communication channels including emails, newsletters and bulletins. The ICT also provided a 24/7 enquiry hotline to address staff's enquiries on ad-hoc infection control issues.

Screening and triage procedures with timely laboratory support are crucial for the identification of potentially infected patients [3]. A checklist was developed and adopted at the frontline for suspected case screening with infrared temperature screening at every access control point in the hospital. Case screening was also performed upon Accident and Emergency Department admission during patient attendance. The enhanced laboratory surveillance program was also implemented for screening of individuals who were at risk of infection, which included patients requiring intensive care, psychiatric inpatients and institutional residents as well as patients attending haemodialysis and chemotherapy day services. The suspected COVID-19 cases were directly admitted to airborne isolation wards where specimens were immediately obtained for testing. Medical surveillance was enforced on staff who returned from affected countries. These measures were shown effective in identifying cases thus minimize our patients and staff to be exposed to the virus. With the aim of damage control, immediate activation of outbreak management and contact tracing initiation were conducted whenever confirmed cases were found in general ward settings [4].

The ICT performed facilities risk assessments to ensure isolation facilities were best prepared to be used. Optimized use of engineering controls and designated pathways for patient transfer were adopted. With the growing evidence pointing to the potential widespread contamination of patient room environment of COVID-19 patients, effective environmental decontamination is vital [5]. Environmental disinfection protocols were reinforced. Disposable disinfectant wipes were used with a special focus on frequently-touched areas. Ultraviolet C (UVC) disinfection was performed to supplement manual cleansing upon cases being discharged. Quality checking with fluorescent staining or environmental specimen collection for laboratory testing was performed to ensure cleanliness of the room.

Staff safety is of paramount importance. Frontline staff were well-trained and prepared to handle the infected cases independently through Isolation Induction Programs. The ICT also provided on-site coaching and reminders on safety practices, patient transfer as well as PPE donning and doffing with frontline staff. Designated rooms for intubation and PPE doffing were set up in all wards. Universal masking was mandatory for all personnel when they entered the hospital compound. Prioritization plans were developed to optimize the appropriate use of PPE under constrained supplies. Quality assessment and provision of fit testing on alternative surgical respirators are ongoing to ensure alternative options would be available to hospital staff in case of emergencies.

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To ascertain the patient flow and infection control practices, competency training for PPE donning and doffing as well as drills on handling of COVID-19 cases were conducted in different hospital settings. With the provision of different drills, frontline staff were familiarized and trained to protect themselves while performing high risk procedures.

The battle against the pandemic is still far from being over. It is also important for us to be ever-vigilant and flexible to be able to adjust proactively to the evolution of the disease.

### Conflict of interest statement

The authors have no conflicts to declare.

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### Author contributions

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