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## Leveraging existing quality improvement communication strategies during the COVID-19 crisis



### 1. Background

Responding to the 2019 Coronavirus pandemic has been an unexpected and unprecedented challenge for Emergency Medicine leaders and frontline clinical staff. At our university-affiliated, tertiary care emergency department (ED) in Boston, departmental, hospital, and health system leadership has provided extensive communication and training surrounding operational changes, including personal protective equipment (PPE) management, COVID-19 testing policies, potential role reassignments, occupational health policies, and others. However, as case numbers began to grow it became clear that frontline clinicians and staff also required guidance regarding the management of COVID-19.

Given the rapidly-changing data surrounding typical symptom presentations, affected demographics, therapeutics, and ED management strategies for COVID-19, our ED Quality and Safety leadership identified the need for a rapid and reliable method to disseminate the latest insights and recommendations. We therefore launched a twice-weekly, video-based ED COVID Case Conference (ED CCC) on March 18, 2020, with the following goals: (1) to facilitate discussion regarding ED management and disposition decisions; (2) to provide updates on current clinical recommendations; (3) to disseminate information related to current departmental and hospital case trends.

### 2. Methods

Given the need to identify and operationalize a clinical management communication tool as rapidly as possible, Q&S leadership looked to existing methods of case review and dissemination of clinical learning for guidance. Like many others, our department has a monthly Morbidity and Mortality conference which focuses on cases that represent opportunities for system or individual clinician practice learning. These have traditionally been prepared and presented by a senior resident. We adapted this format for the ED CCC with the following key differences: to streamline the review and presentation process, cases were identified and moderated by an attending physician member of the Q&S leadership; case slides were initially prepared by a nurse member of the Q&S leadership; cases were selected to facilitate discussion surrounding diagnosis and management, regardless of improvement opportunities; to allow for rapid dissemination of information, the ED CCC is planned to be held up to twice weekly until the end of the acute phase of the COVID-19 crisis.

The first ED CCC, hosted securely on a password-protected enterprise Zoom® platform, was held for only the ED faculty (including attending physicians and a pharmacist), in order to obtain feedback and make iterative improvements to the format. Subsequently, all ED clinical staff – including staff nurses, resident physicians, advanced practice providers (APP), pharmacists, and respiratory therapists – were invited to attend. Given the large number of attendees, expert discussions were identified from key role groups (critical care attending physician, senior resident, chief APP, pharmacist, clinical nurse specialist) to reduce chatter throughout the video conference. Other attendees were encouraged to utilize Zoom®'s chat function to relay questions and comments, which were compiled by a member of the ED Q&S administrative leadership staff, researched, and reported back with answers during the following conference.

Each one-hour conference includes the following elements, allowing for discussion during each case:

- (1) Review of current real-time departmental and hospital COVID-19 statistics and trends
- (2) Formal case presentations and expert discussion
- (3) Key teaching points from latest clinical recommendations
- (4) Updates from prior conference's cases

### 3. Results

Five ED CCC have been completed. Attendance grew from approximately 50 attendees for the first conference to greater than 100 participants. Clinical management topics covered within case presentations have included the following: characteristics of respiratory compromise in COVID-19 patients and how this differs from typical respiratory failure identification and management; decision making surrounding admission versus discharge of COVID-19 patients; decision making related to BiPAP and CPAP; pharmacologic management considerations and toxicities related to COVID-19 medications; staff safety and utilization of physical ED space; patient and family experience concerns; and clinician and staff wellness.

Thematic analysis of the questions posed and topics discussed in the Zoom® chat function revealed several frequently-referenced areas of interest, including medication initiation recommendations; disposition and decision-to-admit considerations; clinician and staff wellness and burnout prevention, particularly related to the safety of their families; and departmental and hospital workflows (inclusive of triage concerns).

#### 3.1. Feedback

Feedback from participants has been overwhelmingly positive, including direct feedback to the conference organizer by email and in person. Participants report being particularly appreciative of guidance surrounding appropriate laboratory testing, medication management, and disposition planning. Initial feedback suggested that a major area of improvement would be to include community affiliate ED staff. A more formal feedback process via secure online survey software has been initiated to allow for anonymous recommendations of topics to be covered or areas for iterative improvement.

#### 3.2. Challenges

There have been several obstacles to overcome in launching the CCC under such dynamic circumstances. First, given that the conference needed to be held virtually, typical privacy considerations were made more challenging. To overcome this and gain legal approval to continue, all conferences are password protected and standard peer review protected disclaimers are provided both in conference invitations and at the start of each individual conference. Second, with growing numbers of participants across all ED role groups, management of discussants has become increasingly challenging. To mitigate this, all lines are muted by the host at the onset of each conference, and a pre-determined smaller group of discussants provides commentary at various points throughout the hour. Other participants are asked to provide comments and questions in the chat function as previously discussed.

#### 3.3. Growth considerations

After pilot testing the CCC format with the faculty group only, the conference was broadened to include all ED clinical role groups in its second week. In an effort to incorporate feedback that staff working in community affiliates would benefit from the conference's content, these groups were included as of April 3, 2020 after obtaining hospital leadership and legal approval. Next steps include increased involvement of expert discussants from outside emergency medicine, including

infectious disease and critical care specialists. Initial discussions are also underway regarding the feasibility of inviting participants from other specialties to view livestreams of the conferences, and possibly to create a repository of content for future learners.

### 4. Conclusion

The 2020 COVID-19 pandemic may be the largest acute challenge ever faced by EDs in the United States. Leveraging existing Q&S infrastructure and communication tools has been critical in keeping frontline staff informed regarding up-to-date clinical management recommendations. Importantly, there has been a secondary interpersonal benefit of the ED CCC, as staff have appreciated the ability to come together – albeit virtually – for support and discussion during a time where many report feeling isolated and fearful. As this public health crisis unfortunately grows, we plan to continue the ED CCC indefinitely, incorporating iterative changes based on ongoing feedback and circumstances.

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### Areas of academic research with the impact of COVID-19



The SARS-CoV-2 virus has significantly affected the health, economy, and socio-economic fabric of the global society. The costs involved in the containment and treatment of this infectious disease are exorbitantly high, which even the wealthiest developed countries are finding it difficult to sustain. COVID-19 pandemic has severely impacted the crude, stock market, gold and metals and almost all areas of the global market [1]. Large research laboratories and corporate houses are working with a high speed to develop medicines and vaccines for the prevention and treatment of this dreaded disease. To deal with these current health management challenges, we need a comprehensive understanding of the effect on the health system, global business, and culture. COVID-19 was declared a pandemic by the WHO on 11th March 2020 [2]. COVID-19 has become an international emergency in a short period and will have long-lasting effects. There is an urgent need to identify and study the areas of academic research which will be impacted by COVID-19 [3].