Less social emergency departments: implementation of workplace contact reduction during COVID-19

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ABSTRACT

The COVID-19 pandemic has led to rapid changes in community and healthcare delivery policies creating new and unique challenges to managing ED pandemic response efforts. One example is the practice of social distancing in the workplace as an internationally recommended non-pharmaceutical intervention to reduce transmission. While attention has been focused on public health measures, healthcare workers cannot overlook the transmission risk they present to their colleagues and patients. Our network of three EDs are all high traffic areas for both patients and staff, which makes the limitation of close person-to-person contact particularly difficult to achieve. To design, implement and communicate contact reduction changes in the ED workplace, our COVID-19 task force formalised a set of multidisciplinary recommendations that enumerated concrete ways to reduce healthcare worker transmission to coworkers and to patients from ED patient arrival to discharge. We also addressed staff-to-staff contact reduction strategies when not performing direct patient care. We describe our conceptual approach and successful implementation of workplace distancing.

EDs have extensive experience with implementing a variety of protocols such as ST-elevation myocardial infarction door-to-balloon initiatives and sepsis bundles. However, COVID-19 presents a unique challenge given an absence of strong evidence regarding disease management, lack of existing quality improvement frameworks and rapidly changing guidelines.

Social distancing has been identified as a critical public health strategy and is specifically listed among the US Centers for Disease Control non-pharmaceutical interventions for combating this pandemic.[1] In fact, social distancing is an internationally recommended public health measure. For example, both the WHO and the UK National Institute for Health and Care Excellence have released guidelines to this effect.[2–4] While governments at all levels, employers and the public have complied by cancelling gatherings to minimise community transmission, workplace contact reduction is inherently difficult in the ED. To implement workplace distancing in our institution, we developed explicit recommendations that addressed known ED workflows and social behaviour of staff. We ultimately fostered new social norms that will protect staff and patients now and in the future as public life starts to resume.

CONCEPTUAL APPROACH TO WORKPLACE DISTANCING
Reduce healthcare worker-to-healthcare worker transmission

It should be self-evident that one way to create social distancing is to reduce the number of people in the ED. As our patient volumes decreased, we have been able to decrease provider shifts by 42% and consequently deepen our backup pool in case of healthcare worker illness which would not have been feasible if prepandemic patient volumes persisted. Some shifts have been repurposed as critical care shifts to focus the highest risk patients to a select few volunteer physicians. Other shifts have been staggered through the day to minimise the number of healthcare workers in the ED at any given time as well as congregation during handoffs or breaks. We worked with consult services to maximise the use of in-hospital telemedicine[5 6] consults for management decisions thereby reducing excess personnel in the ED. Non-essential personnel such as volunteers and research assistants were recalled and attempts made to repurpose their roles into department needs that could be managed virtually.

Social interaction on shift, often the lifeblood of ED healthcare worker team dynamics, also necessitated radical changes in norms. Some evidence suggests that COVID-19 is detectable in aerosols obtained from healthcare work areas subject to crowding such as offices, changing rooms or meeting rooms.[7] Our EDs are structured into distinct pods which lends itself to high numbers of staff working in close proximity. We highlighted high risk areas such as the break room or centralised computers with high user turnover and suggested alternative strategies such as staggering breaks or using portable computers. Some staff place paper signs taped to computer monitors to mark them as 'reserved' on shift. Additionally, signage has been placed outside break rooms as a staff reminder of workplace distancing. Similar signage strategies are used to limit the use of small workspace rooms (medication rooms, supply closets etc) to a single healthcare worker at a time. Taping off or removing chairs is a more active approach
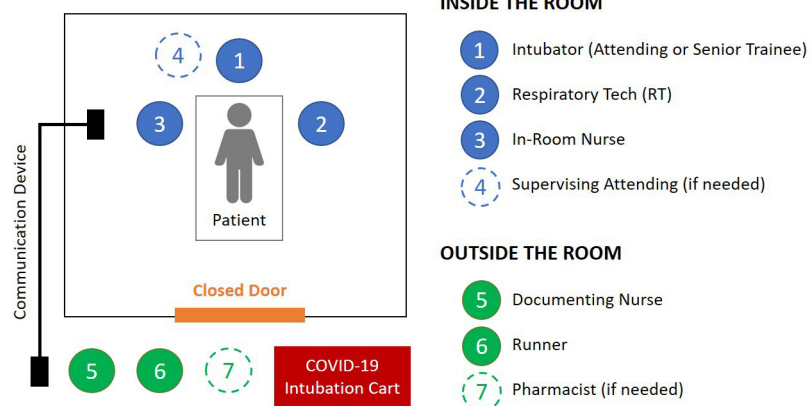
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Figure 1 Visual schematic of critical care team members to limit in-room exposure to patients under investigation. A similar model can be applied for critical care patients that *do not* require intubation.

to encourage staff to socially distance. Finally, local restaurants donating food have been strongly encouraged to individually package meals to decrease communal food sharing and in turn allow staff to eat separately. Interestingly, despite these changes being less immediately convenient, we did not observe a decrease in staff morale but rather an appreciation for trying to protect the workforce using tools available at the department level.

Reduce healthcare worker-to-patient transmission

In response to COVID-19, many EDs such as ours have implemented rapid assessment areas outside of the facility such as a tent to reduce entry, and in turn exposure, of patients and staff to COVID-19 by discharging low acuity patients without the patient entering the main building. This helps reduce hallway bed utilisation and limit crowding between staff and patients.

A second component to reduce transmission is to reduce the time any individual patient is exposed to staff. This involves changes to physician workflows including having teams perform a single *focused* exam by a competent provider. Typically patients are seen by a junior trainee, senior trainee and finally an attending physician. Changing to a single exam reduces contact by as much as 66% as one trainee can examine the patient while supervising providers can be present outside the room on telephone or at a computer workstation on video. This form of telemedicine, coupled with trainee consultants using telemedicine, helps prevent unnecessary repeat trainee exams on patients without jeopardising clinical care. We also created guidelines for the appropriate ordering of radiographical studies which help reduce the number of patient transporters interacting with patients. All of these help reduce patient length of stay which in turn reduced opportunities for physical contact during an ED visit.

Nursing has been encouraged to batch tasks to minimise the number of times the patient room is accessed. While LEAN methodology considers batching work wasteful and extending length of stay, in the context of lower patient volumes and COVID-19 this risk was considered worthwhile to protect staff.[8][9] Some

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Yale Emergency Department COVID-19 Taskforce
Workplace Contact Reduction Recommendations

SITUATION

The emergency department (ED) is uniquely prone to serve as vector for horizontal transmission of COVID-19 due to high visitation rates of suspected but undiagnosed disease, rapid patient turnaround, and high healthcare worker (HCW) and patient density.

BACKGROUND

- COVID-19 may be transmitted by asymptomatic carriers, including asymptomatic HCWs.
- Workplace Distancing is a CDC recommended non-pharmaceutical intervention
- ED Contact Reduction can be mediated through three main aims:
  1. Reducing vector volume: minimize people in the ED
  2. Reducing exposure time: minimize ED Length of Stay
  3. Reducing exposure frequency: minimize person-to-person contacts

ASSESSMENT

The ED COVID-19 Task Force and Health System COVID-19 preparedness efforts have already reduced person volume in the ED, but *we must work smarter and better to increase workplace distancing and reduce exposure frequency*

RECOMMENDATIONS

There are specific steps you can take in your practice at each part of the ED visit:

During triage and rapid evaluation:

- Nursing, ED staff should limit close contact (<6 ft) with patients to single collection of vital signs and conduct remainder of triage and waiting room activities at distance
- For patients with a lower respiratory tract infection who are suitable for the tent, providers should evaluate and discharge the patient in a one-contact encounter by pre-printing discharge/quarantine/return instructions
- Attending physicians can use Facetime to support advanced practice providers in triage for concurrent evaluation or to provide face-to face evaluation when needed
- Minimise use of ancillary services (e.g., Chest X-Ray) that necessitate patient transport

During routine clinical care:

- Call via phone or speak to patients from the doorway to allow them to see you but ensure distance
- Providers should limit teams to a single physical exam per patient – trust your team and only conduct relevant part (e.g., full neurological exam is not necessary for a patient with a cough)
- Nurses should coordinate with ordering providers, ED Techs and radiology to batch patient care including vital sign checks, phlebotomy, medication administration, imaging, etc

During the workday

- When possible, limit close contact (<6 ft) with other healthcare workers
- Avoid congregating with large groups in the lounge, trainee office, attending office or "bubble" work areas
- Arrange with similarly scheduled staff to informally use a single workstation each shift
- Avoid using the workstation in patient rooms unless providing longer duration care in personal protective equipment

Figure 2 Workplace distancing guideline developed for both patient care and staff workflows. CDC, Centers for Disease Control.

clinicians are accustomed to using the bedside computers to improve patient experience, however this has been discouraged for similar reasons. Finally, to further reduce exposure time, we standardised collection of patient phone numbers, promoted the practice of calling or facetiming patients in rooms, and just recently implemented Amazon Echo Show to allow for rapid video conversations between providers outside rooms and the patients and providers inside rooms. We also restructured certain high risk exposure situations, such as intubation or care of critically ill, by limiting room entrants (eg, physician, respiratory therapist and a single nurse for intubation in comparison to the seven to eight people in a regular acute medical response). We developed a schematic for intubation that is readily visible near resuscitation rooms and equipment (figure 1). Not only are these good for infection control and prevention, but they also serve to limit healthcare worker-to-patient transmission.

Limiting transmission within the workforce is essential during the pandemic, both for staff wellness, as well as the avoidance of the required quarantine with COVID-19 transmission that further strains limited staffing resources. Using these principles as a framework, we built and disseminated a workplace distancing guideline (figure 2).

APPROACHES TO IMPLEMENTATION
Unified leadership with clear communication

While incident command systems work well in hierarchical organisations and for short well-defined events (ie, mass trauma), it is less suited for pandemics with no clear endpoint.[10 11] In an academic ED, hierarchies are more diverse and complex, making coordination and communication essential to successfully implementing any universal staff guideline. Therefore, we created a multidisciplinary ED-COVID-19 task force comprised of physician, nursing and advanced practice provider leadership of our three EDs with a combined volume of 190 000 annual visits. For implementation, it is difficult for any single person to understand the workflows of all staff, so having a representative group allows for diversity of perspectives. A multidisciplinary leadership group can improve coordination, pool resources and obtain staff buy-in. Perhaps most importantly, it also acts as a unified information authority that can 'cut through the noise' of multiple communications from disparate sources.[12] As a result, the task force

was able to communicate a one-page document that outlined all workplace distancing guidelines for reference by all staff members across our three EDs, with minimal confusion between ED disciplines or sites (figure 2).

COVID-19 Champions on the front lines

A best practice for changing behaviour related to our workplace distancing guidelines is hands-on dissemination and real time coaching.[13] We created COVID-19 champions who are observing workflow in the ED and providing real time reminders and handouts. They also use small monetary incentives, in the form of hospital cafeteria coupons, to attract listeners for coaching sessions. This role facilitates adoption of workplace distancing and has allowed us to enable change by identifying high risk areas/behaviours.

LOOKING AHEAD

Social distancing is an evidence-based solution to prevent infection transmission, but unique implementation challenges arise in the ED environment given issues such as hallway beds, entrenched work habits and team-based workflows that require frequent patient and provider interactions. Developing a concrete workplace distancing policy within a multidisciplinary leadership structure is paramount to ensure engagement of all ED staff necessary to change individual behaviour and in turn group infection dynamics. While only anecdotal to date, despite close proximity to a major COVID-19 burden in New York City and serving a community in the state of Connecticut that currently has one of the highest infection rates in the USA, our three EDs have experienced a low number of infected healthcare workers.[14] This has helped preserve our workforce and morale as this crisis continues.

Efforts to sustain adherence to workplace distancing will become a focus as our volumes increase when non-COVID-19 patients begin to present for care. Some elements such as in-hospital telemedicine consults and efficiency of provider exams will be straightforward to continue. We foresee that more mobile workstations will be needed as we increase staff and that communal food sharing will no longer be available in break rooms. Additionally, we will need to begin training medical students and research assistants in safe infection control behaviours (eg, hand hygiene, donning and doffing personal protective equipment) as they are integrated back into the care teams for their training and academic commitments. While didactic

learning and some clinical activities will likely continue virtually, physical presence is a necessary component of clinical education and numerous clinical research activities. Ultimately, as policymakers begin to relax restrictions on community life in the absence of a COVID-19 vaccine or treatment, integrating contact reduction through physical distancing is likely to remain the primary intervention to reducing morbidity and mortality from the pandemic in the coming months.

Check for updates

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