Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Methods: This was a retrospective observational cohort study of COVID-19 patients admitted from the emergency department between Feb 29, 2020 to Feb 1, 2021. The health care system is composed of a mix of 2 community and 4 academics EDs in a major metropolitan area. Patient demographics, vital signs, laboratory results were extracted from our institutional COVID-19 Data Warehouse. Following the convention of qCSI variables, respiratory rate (breaths/min), pulse oximetry (%), and oxygen flow rate (L/min) were used to calculate points between 0 to 12, with higher points associated with highly likely of respiratory decompensation within 24 hours.

Results: 35,696 COVID-19 patients were admitted via the emergency department during the study period. The mean qCSI was 1.73 (SD 1.82) for non-ICU admissions (n=34,647). The mean qCSI was 2.83 (SD 2.55) for ICU admission (n=1,049). As of the time of submission, ED treat and release patients, as well as decompensation results are pending.

Conclusions: In this validation study of qCSI using a large system cohort of COVID-19 patients, qCSI appears to correlate strongly with clinical triage for admission decision to regular floor vs. ICU level care. Further analysis is needed to identify 24-hour respiratory decompensation after regular floor admission.

15 Long-Term Follow-Up of Emergency Department Patients Discharged With Moderate Hypoxia and COVID-Like Illness in New York City During Height of the COVID-19 Pandemic

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Study Objective: During the height of the COVID-19 pandemic in New York City (NYC), emergency departments (EDs) faced unprecedented numbers of patients seeking care for COVID-19-like illness (CLI). Testing for COVID-19 was not widespread, the most appropriate management and disposition of patients with respiratory disease was unknown and ED, ward and ICU beds were becoming scarce. We have reported previously on short-term (7-day) outcomes using a clinical pathway for discharging CLI patients with mild to moderate hypoxia based on exertional oxygen saturation (eSpO2) after one minute of walking in place. Eligible CLI patients with an eSpO2 of at least 90% were discharged with a pulse oximeter, oxygen concentrator if needed, and remote follow-up. We report long-term outcomes for CLI patients discharged using this pathway.

Methods: Between 07/2020 and 09/2020, follow-up phone calls were attempted for CLI patients with mild to moderate hypoxia discharged between 03/2020 and 05/2020 during the height of the COVID-19 pandemic at two NYC EDs. Patients were contacted by phone using a standardized script. Information on subsequent COVID testing, health care and outcomes was collected. Demographic and clinical data was obtained from the electronic health record (EHR). If patients could not be contacted after three attempts, review of the EHR for evidence of life (EOL) such as a follow-up clinic visit was performed. Patients were considered lost to follow-up (LTF) if not contacted and no EOL identified.

Results: 492 patients discharged with moderate CLI were included. The mean age was 51 [range: 17-92], 62% were male and 61% were discharged from the community ED site. The average duration of CLI symptoms was 7.1 days with non-specific influenza-like symptoms being the most common (80%) and few patients having a primary respiratory complaint (13%). The mean triage SpO2 was 95% [IQR, 93-97] and discharge eSpO2 was 94% [92-96]. A chest x-ray was performed in 350 patients; 70% had findings consistent with viral pneumonia. A pulse oximeter and/or oxygen concentrator was documented as given to 73% and 18%, respectively. We contacted 337/492 (69%) by phone and EOL was available for an additional 141 (28%) patients; 3% were considered LTF. The mean follow-up time was 85 days [95% CI: 81-89]. 228 patients reported COVID testing; 179 (80%) tested positive. At the time of follow-up, nine patients (1.8%, 95% CI: 0.9 -3.4) were deceased, 17% [14-21] had a subsequent ED visit, 11% [9-14] were admitted with 16 and 8 patients requiring ICU level care and intubation respectively.

Conclusions: Long-term follow-up of CLI patients discharged with mild to moderate hypoxia demonstrates low subsequent admission and mortality rates. This clinical pathway relying on exertional oxygen saturation after a one-minute walk test offers a simple method for identifying patients suitable for discharge with remote monitoring during pandemic conditions in resource-limited settings.

16 Temporal Associations Between Decreasing Emergency Department and Increasing Emergency Telehealth Volumes During the COVID-19 Pandemic: A Time-Series Analysis From Two Academic Medical Centers

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Study Objectives: During the initial periods of rising COVID-19 cases and critically ill patients in 2020, overall ED volumes fell substantially. Our goal was to compare the contrasting increase in emergency telehealth volume with the decreasing ED volumes to identify staffing strategies that can be used in future epidemics.

Methods: We performed interrupted time series analyses to compare the associations of COVID-19 surges on daily ED and telehealth volumes at Denver Health Medical Center (DHMC) in Denver, Colorado, and the University of Colorado Hospital (UCH) in Aurora, Colorado. Consecutive adults from January 1, 2019, through December 31, 2020 were included, with time periods corresponding to baseline volumes (January 1, 2019 to March 24, 2020), and first (March 25, 2020 to June 15, 2020), second (June 16, 2020 to September 12, 2020), and third (September 13, 2020 to December 31, 2020) COVID-19 surges according to Colorado epidemiological data. We performed pairwise comparisons between baseline versus each COVID-19 surge for ED and telehealth daily volumes, using linear regression to account for secularity and non-parametric statistics to compare median values.

Results: DHMC ED daily volumes differed between baseline (median, 346 interquartile range [IQR], 325-367), and first (219 [196-237]; p<0.0001), second (281 [264-298]; p<0.0001), and third (284 [260-301]; p<0.0001) COVID-19 surges. DHMC telehealth median daily volumes also differed between baseline (181 [156-199]), and first (257 [231-285]; p<0.0001), second (227 [202-256]; p<0.0001), and third (241 [208-274]; p<0.0001) COVID-19 surges. Similarly, UCH ED median daily volumes differed between baseline (276 [257-292]), and first (207 [188-223]; p<0.0001), second (243 [227-255]; p<0.0001), and third (245 [225-264]; p<0.0001) COVID-19 surges. Lastly, UCH telehealth median daily volumes also differed between baseline (9 [6-15]), and first (97 [65-141]; p<0.0001), second (60 [51-69]; p<0.0001), and third (74 [62-89]; p<0.0001) COVID-19 surges (Figure).

Conclusions: ED volumes decreased and remained depressed through all 3 COVID-19 surges in Colorado, and in response, COVID-19 was associated with an unprecedented increase for emergency telehealth and virtual services. Patients adopted telehealth as an alternative to seek care while trying to stay protected from infection. Shifting providers in this manner, from physical ED to acute-care telehealth shifts, may allow EDs to meet dynamically changing patient volumes during future pandemics.