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.

201 Analysis of Social Determinants of Health Affecting Patient Outcomes during the SARS-CoV-2 (COVID-19) Pandemic in Elmhurst, New York

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Study Objective: New York City Health + Hospitals/Elmhurst (EHC) in Queens, New York is one the most diverse populations in the United States of America and in the world. During the SARS-CoV-2 (Covid-19) pandemic, EHC was deemed the "epicenter of the epicenter" due to high rates of Covid-19 infection in the patient population and the disproportionate number of minorities affected by the virus. This study seeks to examine the effects of various social determinants of health on patient outcomes during the Covid-19 pandemic and to assess contributing factors which put these patients at increased risk.

Methods: This retrospective chart review included review of 2216 patients with 2254 unique emergency department (ED) visits to EHC with positive SARS-CoV-2 (Covid-19) tests. Data were extracted from Epic into REDCap. Groups were stratified based on their occupation, race and ethnicity, insurance status, sex, language and zip code with primary endpoints being rates of mortality, delayed ED presentation (defined as ED visit after 1 week of symptoms), severity of symptoms on arrival, and number of COVID-19-related hospital visits (ie, bounce backs). Final data were extracted and analyzed using statistical analysis software.

Results: Preliminary data is currently being extracted from the chart review and being analyzed.

Conclusions: Given that the data is currently under active extraction and analysis, initial conclusions cannot be discussed. It is hypothesized that the data will highlight disparities and gaps in health care and outcomes that may be utilized to better inform future care and allow for increased preparedness for the next pandemic, specifically focusing on reducing care barriers for those most at risk.

202 Linking Emergency Department Patients at Risk for Human Immunodeficiency Virus to Pre-Exposure Prophylaxis

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Study Objectives: Emergency departments (ED) provide a critical opportunity for individuals at high-risk of contracting human immunodeficiency virus (HIV) to interact with health care professionals. Historically, EDs have been engaged in the HIV Care Continuum, a spectrum of care ranging from diagnosis to viral load suppression, at screening and diagnosis and delivery of post-exposure prophylaxis (PEP). With pre-exposure prophylaxis (PrEP), an option for HIV prevention, EDs can be increasingly engaged in linkage to HIV care. Our objective is to evaluate the success of a program that identifies, screens and links HIV negative patients who are at high-risk for seroconversion to a clinic in order to initiate PrEP.

Methods: This is a retrospective cohort study of patients who presented to an urban, academic, adult (age≥21) ED with an annual census of 65,000 between January 1, 2019 to November 30, 2019 and were referred to the clinic to start PrEP. All patients were identified through an ED-based patient navigation program and were recruited based on presenting complaints to the ED, physician request or if the patient requested HIV testing. If the patient met criteria for PrEP and was interested in starting PrEP, an appointment was made in an affiliated clinic to speak to a physician about PrEP. Outcomes were whether or not the patient complied with the appointment and received a PrEP prescription.

Results: The program identified 1,285 HIV negative patients to receive HIV education and counseling during their ED visit. 36 patients met criteria for PrEP; of these, 14 patients declined clinic referral (see Figure 1). Of the remaining 22 PrEP-eligible patients, 14 (63%) patients attended a visit with an affiliated clinic and 13 (59%) patients were prescribed PrEP (Table 1).

Conclusion: The results of this study demonstrate the feasibility of a PrEP linkage program in the setting of a high volume, urban ED. The rates of appointment attendance and PrEP initiation in our study indicate initial success of a navigation program and demand for PrEP among patients in the ED.

Further research will consider providing a bridge prescription of PrEP in the ED.

Table 1. PrEP linkage results

Linkage status	N	%
Follow-up visit scheduled in ER	22	100%
Attended 1 or more follow-up visit	14	63%
PrEP prescription at initial follow-up visit	13	59%
Discontinued PrEP after initial prescription	3	14%
Discontinued PrEP after 1+ refill	2	9%
Continued PrEP through end of study period	8	36%
Did not attend scheduled appointment	8	36%

HIV = human immunodeficiency virus; PrEP = Pre-exposure prophylaxis
* Study cohort
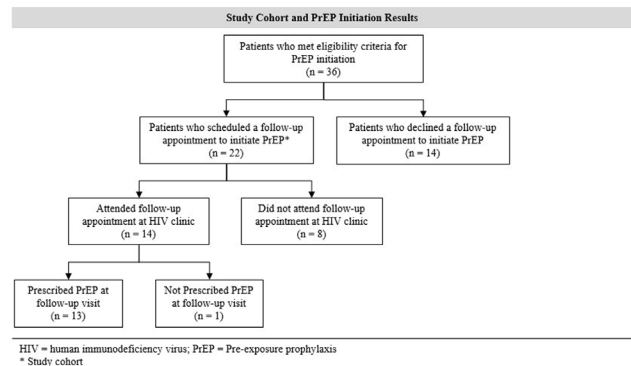
203 Telemedicine Response to COVID-19 Surge in New York City: How Emergency Department Telemedicine Changed With the Curve

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Study Objectives: To describe how a major medical system in New York City (NYC) leveraged emergency department telemedicine services to meet the demands of COVID-19. New York-Presbyterian Hospital System (NYP) is comprised of 10 hospitals in the greater NY metro area, including Weill Cornell Medicine (WCM) and Columbia University Irving Medical Center (CUIMC). The EDs at WCM and CUIMC began adopting telemedicine in 2016 and were well positioned to leverage these tools in response to the COVID-19 surge in March and April of 2020.

Methods: Each of these areas saw telemedicine programs expanded or augmented: 1) Virtual Urgent Care (VUC); 2) In-ED-based telemedicine; and 3) Post-ED follow-up care.

Results: 1) Virtual Urgent Care (VUC): Our VUC program saw a 20-fold increase in patient volume, with over 300 patients per day at the peak. Through partnership with NYC 911, calls were also redirected from dispatch to the VUC program to help decompress that system. To meet demand, staffing was increased 20-fold. Redeployed physicians from idled areas of the hospital and advance practice providers were rapidly onboarded through a combination of WebEx training sessions, remote shadowing, cognitive aids, and real-time clinical support from seasoned ED virtual care providers in a group chat that allowed for both real time and asynchronous decision support from experienced emergency physicians. Most callers to virtual urgent care reported viral

symptoms and COVID-related concerns. Information was disseminated according to guidelines and local resources and was updated daily and synchronized across the enterprise. VUC provided remote treatment, defraying countless in-person visits, and also allowing for escalation to in-person care where needed.

2) In-ED-based telemedicine: Within the ED, our existing tele-medical screening exam was redesigned to help identify patients who could undergo a rapid treat and release without requiring a nurse resource. This triage-based system helped to rapidly discharge the worried well, minimizing their exposure to illness, and helped to reduce person-to-person transmission within the ED. In addition, pan-tilt-zoom video carts in isolation rooms facilitated staff communication with patients and avoided unnecessary exposures or PPE use.

3) Post-ED follow-up care: To decompress the ED and hospital, an enterprise-wide pathway was created that risk stratified patients with COVID-like illness in the ED and allowed for discharge home of patients with moderate exertional hypoxia. Appropriate patients were sent home with pulse oximeters and oxygen concentrators. A telemedicine remote patient monitoring pathway was created that provided daily focused virtual respiratory exams for seven days and returned patients to the hospital when needed. This pathway provided a safety net for over 1,000 patients discharged from the ED under crisis conditions who were at risk for deterioration at home.

Conclusion: The health care crisis associated with the COVID-19 peak of illness led to collaborative innovation within the NYP hospital system EDs. Out-of-hospital telehealth care served many, eliminating the immediate need for ED care and burden on the EDs. Virtual communication minimized infection spread within the ED. Remote patient monitoring protected the safety of patients discharged from the ED. Further study of the implications of these innovations on patient safety and public health are needed.

204 Website Usability Analysis of United States Emergency Medicine Residencies

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Background: The Counsel of Residency Directors in Emergency Medicine (CORD) has recommended all emergency medicine (EM) residency programs conduct virtual interviews for the 2020-2021 application cycle due to COVID-19. While residency factors such as geographical region, city, program size or hospital affiliation are not modifiable, EM residencies can still bridge the information gap created by a lack of face-to-face interaction by representing themselves digitally via their Web sites. Whether or not this representation is effective can be measured by evaluating usability, a term meaning ease of user experience on a Web site. Many variables determine a Web site's usability, and this measure provides an objective method for EM residencies to improve their Web presence and effectively represent themselves to potential applicants.

Study Objectives: Aim 1: Categorize EM residency programs and their Web sites. Aim 2: Utilize a usability scoring system to objectively and quantitatively analyze their Web sites. Aim 3: Introduce aspects for improvement amongst EM residency Web sites.

Methods: Our sample set included 53 U.S. EM residency program Web sites. These programs used their own primary domain or subdomain for the program's respective emergency department. Programs using a subpage of a larger domain (ie, hospital or university) were excluded as the analysis would include non-residency related content (ie, patient care). Using methodology adapted from previous literature on health care Web site usability (Calvano, 2020), we divided usability into four categories for quantifiable analysis: Accessibility (ability of users to access and navigate a Web site), Marketing (search engine optimization, social media), Content Quality (relevance of material, frequency of updates, readability, and grammar), and Technology (Web site infrastructure, quality of program coding, and download speed). Utilizing several content analysis tools, analysis was performed on each Web site and scored in all four categories. An overall "General Usability" score was calculated for each Web site using a composite of the key factors within the four categories. Using a weighted percentage across all of the factors, an overall score was calculated.

Results: Content Quality was the overall highest scoring category with a mean score of 5.3 (std +/- 2.50) (SE 0.34). The overall lowest performing category was Technology, with an average of 0.8 (std +/- 0.09) (SE 0.01) (Table 1).

Conclusion: On average, Content Quality had the highest score amongst EM residency program Web sites. To effectively promote their programs, residencies need quality content that communicates their key features. The lowest scoring category on average was Technology. Our recommendation is for all residency programs to periodically perform audits on their web pages using usability measures in order to improve their digital presence, especially during times when face-to-face interactions will be limited.

Table 1.

Category	Mean	Standard Error	Standard Deviation
Accessibility	1.9	0.08	0.61
Marketing	1.3	0.07	0.48
Content Quality	5.3	0.34	2.50
Technology	0.8	0.01	0.09
General Usability	1.3	0.05	0.38

205 Utility of Non-Invasive Volume Assessment Methods to Predict Acute Blood Loss in Spontaneously Breathing Volunteers

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Study Objectives: The use of non-invasive volume assessment methods to predict acute blood loss in spontaneously breathing patients remains unclear. We aimed to investigate changes in the pleth variability index (PVI), vena cava collapsibility index (VCCI), end-tidal carbon dioxide (EtCO2), pulse pressure (PP), and mean arterial pressure (MAP) in spontaneously breathing volunteers after acute loss of 450 ml blood and passive leg raise (PLR).

Methods: This prospective observational study enrolled healthy volunteers in the blood donation center of an academic hospital. We measured the PVI, EtCO2, VCCI, MAP, and PP before blood donation; at the 0th and 10th minute of blood donation; and after PLR. The primary outcome was the changes in PVI, EtCO2, VCCI, MAP, and PP.

Results: We enrolled thirty volunteers. There were significant differences among the four obtained measurements of the PVI, EtCO2, and MAP ($p<0.0001$, $p<0.0005$, $p<0.0001$, respectively). Compared to the pre-donation values, post-hoc analysis revealed an increase in the PVI at the 0th min post-donation [mean difference (md): 5.4 ± 5.9, 95% CI: -7.6, -3.1, $p<0.0005$]; a decrease in the EtCO2 and MAP at the 0th min and 10th minute post-donation, respectively, (md: $2.4 + 4.6$, 95% CI: 0.019-4.84, $p = 0.008$ and md: $6.4 + 6.4$, CI: $3-9.7$, $p<0.0001$, respectively). Compared with EtCO2 at the 10th minute, the value increased after PLR (md: $1.8+3.2$, CI: 0.074-4.44, $p=0.006$)

Conclusion: The PVI and EtCO2 could detect early hemodynamic changes after acute blood loss. However, it remains unclear whether they can determine volume status in spontaneously breathing patients.

206 Urine Testing Is Associated With an Increased Length of Stay in Discharged Emergency Department Patients

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Study Objectives: Despite United States Preventive Services Task Force guidelines that recommend against it, urine testing is often ordered in the emergency department as a screening test in the absence of urinary symptoms. This may contribute to the over-diagnosis and treatment of urinary tract infection. Obtaining a urine sample can be time-consuming, and there are data showing an association between urine testing and ED length of stay (LOS). The objective of this study is to build on these data by investigating the association between urine testing and ED LOS in specific patient populations at risk of over-testing.

Methods: This was a multi-center retrospective cohort study of patients seen at two academic emergency departments: an urban safety-net hospital and a tertiary academic medical center. We included all adult discharged ED patients between 2015-2019. Patients were excluded if they were placed in ED Observation, received psychiatric consultation, had a discharge diagnosis of alcohol intoxication, or had a LOS greater than 9 hours. We analyzed patients with the following chief complaints: chest pain, vaginal bleeding in pregnancy, abdominal pain, and weakness/confusion in females