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.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
of the two educational sessions during the assigned two weeks. Within one day of completing lesson two, the learner will be required to take the same quiz again. Once the student finishes the EM rotation, they will be enrolled in spaced repetition schedule where they will be receiving emails with links to take the same quiz at progressively longer time intervals. In this way, we can use spaced information retrieval to solidify the knowledge. The two knowledge review sessions were created using Articulate 360 platform and the spaced quizzes were created using “Google forms,” a free online resource.

Results: The spaced quizzes would serve both as teaching tools as well as assessment tools. The learner will also be asked to complete a 4-question survey of the course in order to fine tune the material as well as identify other potential topics suited for this format.

Conclusion: Teaching antibiotics is just one of the thousands of topics that can be adapted to this teaching format. I can easily see this format being used to teach rare EKG finding such as Brugada, DeWInter’s, etc. This format could also be used to teach management of common ED presentations such as CHF exacerbation, PNA, sepsis etc. I can see creating an online database of such short, teaching modules that the learner can access at any time, modules focused on knowledge needed during “transition to the wards.”

### A Scoping Review of Current Social Emergency Medicine Research

Shaïh Re, Leung S, Salmiuelle-Kalow M, Schoenfeld E, Richardson L, Lin M (cahn School of Medicine at Mount Sinai, New York, NY; Massachusetts General Hospital/ Harvard Medical School, Boston, MA; University of Massachusetts Medical School - Baystate, Springfield, MA)

Study Objectives: Social emergency medicine (social EM) is an emerging field at the intersection of emergency medicine and social risks and adverse determinants that influence health outcomes; however, the breadth and scope of existing research is not well defined. We conducted a scoping review of existing research pertaining to social emergency medicine.

Methods: We conducted a comprehensive PubMed search using a combination of MeSH terms and phrases pertaining to topic areas identified using a previously published journal supplement informed by expert consensus (Ex. “homelessness,” “housing instability”). For topics yielding fewer than 100 total publications, the PubMed “similar articles” tool was utilized to expand the search and ensure no relevant articles were missed. We restricted studies to those conducted in the US or Canada. Relevant studies were defined as those relating specifically to both emergency medicine and the topic area, and were independently abstracted by two investigators. Relevant publications were classified by design (original observational or interventional research, literature synthesis, or commentary) type, study site, and year. Discrepancies in relevant articles or classification were reviewed by a third investigator and resolved through discussion.

Results: The PubMed search identified 1,587 total publications, of which 37% (N=534) were classified as relevant to social EM. Among relevant articles, 77.5% (N=414) were original research, and the remainder were commentary (17.4%, N=93) or literature synthesis (5.1%, N=27). Among original research publications, 7.2% were interventional; the remaining 92.8% were observational. Topics with largest number of relevant publications were intimate partner violence (N=115), child abuse (N=104), and homelessness and housing instability (N=87). The majority of studies were published between 2010 and 2020. Research output related to firearm injury (N=55) and LGBTQ health (N=22) in particular grew rapidly over the last five years. The human trafficking topic area had the highest proportion (16.7%) of interventional studies. Over one-third (35.2%) of publications focused on pediatric patients. Research in the transportation, financial insecurity, education, employment, racism, and legal needs areas was sparse, with fewer than ten relevant publications related to EM in each topic. Overall, existing research largely focused on the increased ED utilization associated with adverse social determinants, with a small but growing body of work describing the influence of adverse social determinants to poor health outcomes. Inter-rater agreement with respect to relevant article classification was 91.8% (kappa = 0.71). The top topics identified are listed in Table 1.

Conclusion: There is substantial variation in the breadth and scope of social EM research by topic area, with increases in research output among specific topics within the past five years. The growth in research suggests increased interest, though the relative paucity of interventional studies may reflect insufficient resources or funding. A consensus-driven research agenda and dedicated funding to areas to priority areas would be useful to catalyze higher-quality research, including evidence-based interventions to improve patient outcomes for ED patients most impacted by adverse social determinants of health.

### Access to Covid-19 Testing by Homeless/ Housing-Insecure Individuals in Northeast Ohio

Seballos SS, Wleiff J, Phelan M (Cleveland Clinic Lerner College of Medicine of Case Western Reserve University, Cleveland, OH; Department of Psychiatry, Cleveland Clinic, Cleveland, OH; Emergency Services Institute, Cleveland Clinic, Cleveland, OH)

Study Objectives: Homelessness and housing insecurity is a global public health issue that leads to increased mortality from a multitude of health conditions and low life expectancy. The complex interplay between medical, psychiatric and social factors raises questions about how this population accesses available health care resources. This is magnified in times of global health crises, such as the current coronavirus disease 2019 (COVID-19) pandemic. Patients experiencing housing insecurity may have limited access to health care resources, and live in settings, such as homeless shelters, that place them at high risk for COVID-19 transmission. Moreover, the high prevalence of underlying medical conditions in this population puts them at high risk for developing severe illness associated with COVID-19. Therefore, how this population accesses COVID-19 testing is of public health interest. This study’s objective was to compare the testing patterns of homeless/housing insecure patients for COVID-19, as well as results, compared to the general population across a large health system.

Methods: A retrospective cohort study was conducted at the Cleveland Clinic Health System in Ohio and Florida. All patients tested for COVID-19 between March 8 and April 15, 2020 were included, including drive-through, emergency department (ED)-based and inpatient testing. Homeless/housing insecure patients were identified based on a previously utilized address-based registry: patients listing their address as “homeless” or using the address of transitional housing/homeless shelter during at least one ED visit across the health system between 2014 and 2019. Descriptive statistics were calculated and compared with Chi-squared testing.

Results: During the study period, 21,561 patients were tested for COVID-19, 94% of whom were identified as homeless/housing insecure (N=94). The majority of patients tested positive for COVID-19, compared to 2,027/21,467 patients (9.4%) in the general population. Out of all patients tested, 12,776 patients had a testing site for developing severe illness associated with COVID-19, compared to the general population across a large health system.
Conclusion: In a regional health system during the COVID-19 pandemic, homeless and housing-insecure patients were reliant on the ED to access COVID-19 testing. Despite risk factors in this population for disease transmission, patients had a low likelihood of testing positive, suggesting that the disease is likely underdiagnosed in this population. Expanding testing availability outside of the ED may improve COVID-19 detection and interventions in homeless and housing insecure individuals, and thus inform public health interventions to reduce disease transmission in this high risk population.

Table 1: COVID-19 testing location

| Drive-Through | Homeless/Housing Insecure | Non-Homeless/Housing Insecure |
|---------------|---------------------------|-----------------------------|
| Inpatient     | 69                        | 7856                        |
| Total         | 78                        | 12,698                      |

237 Do Sex and Racial Disparities Exist in Door-to-Drug Time on the Administration of TPA? (V)
Apterbach W, Barnes N, David J, Apterbach G/Southside Hospital, Bay Shore, NY; LIJ Valley Stream, Valley Stream, NY; Hofstra University, Hempstead, NY

Study Objectives: The purpose of this study is to examine the association of sex and race in door-to-drug times for the administration of tPA in the treatment of acute stroke.

Methods: This is a retrospective chart review of all patients ages 18-89 years old, that received tPA after presenting to the emergency department (ED) with an acute stroke from October 2015 to December 2018. The study site is located in a diverse suburban setting with a volume of 43,000 patients per year and is a designated stroke center. Charts were reviewed to determine door-to-drug time, sex, and race.

Results: A two-way analysis of variance (ANOVA) was conducted on a sample of 156 patients to explore the effects of sex and race on the time it would take for patients presenting with a stroke to receive tPA. The overall door-to-drug-time (in minutes) for the sample was 68.7 (SD = 27.2) with the following mean door-to-drug times for groups: male not black/African American: 57.2 (n = 30), female not black/African American: 65.4 (n = 22), male black/African American: 66.0 (n = 56), female black/African American: 80.5 (n = 48). There was no statistically significant interaction effect between sex and race (p = .487, partial h² = .011). However, there was a significant main effect of sex, F(1, 152) = 6.46, p = .012, partial h² = .041 with higher time to receive tPA for females (n = 70, M = 72.93) in comparison to males (n = 86, M = 61.58). There was also a significant main effect of race, F(1, 152) = 7.15, p = .008, partial h² = .045. Patients who are black/African American (n = 104, M = 73.23) had a significantly higher time to receive tPA than non-black/African American effect on the time to receive tPA (n = 52, M = 61.29).

Conclusion: In patients presenting with an acute stroke, the American Heart Association (AHA) standards are a door-to-drug-time of less than 60 minutes with a new goal to reduce the time to 45 minutes. In order to meet these standards, it is important to examine any potential barriers to the timely delivery of tPA. This study demonstrates that being female or black/African American had statistically significant effects on door-to-drug time without any interaction effect of sex and race. Racial and sex disparities in medical treatment are known to exist in multiple other diseases. Further research will be directed in determining the potential underlying causes of the results seen in this study.

238 Point-of-Care Ultrasound in Morbidity and Mortality Cases in Emergency Medicine
Goldsmith A, Skokos H, Loisiche M, Duggan N, Patel R, Kimberly H, Litpe ko A/B Brigham and Womens, Boston, MA; Massachusetts General Hospital, Boston, MA; Massachusetts General Hospital, Boston, MA; Medical School of Georgia, Atlanta, GA; Newton-Wellisley Hospital, Newton, MA

Study Objectives: Point-of-care ultrasound (POCUS) is an essential tool in the timely evaluation of an undifferentiated patient in the emergency department (ED). The study’s primary objective was to determine the perceived impact of POCUS in high-risk cases presented at emergency medicine (EM) morbidity and mortality (M&M) conferences. Additionally, we sought to identify in which types of patients might POCUS be most useful, and which POCUS applications were felt to be highest yield.

Methods: This retrospective survey of cases submitted to M&M at an EM residency program which spans two academic EDs, over one academic year. PGY-4 residents who presented M&M cases at departmental sessions were surveyed on perceived impacts of POCUS on individual patient outcomes. We evaluated POCUS use and indications while the POCUS was utilized.

Results: Over the 12-month period, a total of 667 cases from 18 M&M sessions were reviewed by 15 PGY-4 residents and a supervising EM attending physician who chairs the M&M committee. 75% of these cases were selected by the M&M committee for review and presentation. POCUS was used in 27% (20/75, 95% CI 17-38%) and not used in 73% (55/75, 95% CI 62-83%). In cases where POCUS was not used, retrospective review determined that if POCUS had been used it would have likely prevented the M&M in 45% (25/55, 95% CI 32-59%). Of these 25 cases, the majority of POCUS applications that could have helped were cardiac (32%, 8/25) and lung (32%, 8/25) ultrasound (US). POCUS was felt to have greatest potential in identifying missed diagnoses (92%, 23/25, 95% CI 74%-99%), and decreasing the time to diagnosis (92%, 23/25, 95% CI 74%-99%). Patients with cardiopulmonary chief complaints and abnormal vital signs were most likely to benefit.

Conclusions: POCUS was felt to have potential to reduce or prevent M&M in 45% of cases in which it was not used. Cardiac and lung POCUS were among the most useful applications, especially in patients with cardiopulmonary complaints and in those with abnormal vital signs.

239 Development of a Unified National Trauma Center Database, 2018
Bedell BR, Boggs KM, Espinola JA, Sullivan AF, Hasegawa K, Samuels-Kalow ME, Zachrison KS, Camargo CA, Jr./Massachusetts General Hospital, Boston, MA

Study Objectives: Organized trauma systems reduce morbidity, mortality, and cost. To date, no unified trauma certification system exists across the U.S., as participation in the American College of Surgeons’ Verification, Review, and Consultation (ACS) national trauma certification program is not universal. Many states maintain distinct trauma certification systems with criteria that often differs from ACS. We combined these two certifications into a unified national trauma center database and compared the characteristics of ACS versus state-certified trauma centers.

Methods: We performed a cross-sectional study of U.S. emergency departments (EDs). The 2018 National ED Inventory (NEDI)-USA (a database consisting of all non-federal, non-specialty U.S. EDs) was matched to 2018 ACS and state-certified trauma centers. We combined these two certification systems with criteria that often differs from ACS, state health departments, or hospital associations. For the same trauma “level,” criteria across certification systems differed; therefore, two definitions were created for this study. For the “strict” definition, we reassigned all level I-III state-certified trauma centers to an ACS equivalent level by comparing trauma receiving protocol, allowed maximum response times, and general surgical coverage; through this process, levels across systems were standardized. The “loose” definition included all level I-III state-certified trauma centers, without