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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Conclusion: The higher the prevalence of COVID-19 in the community, the more hesitant patients behaved in seeking ED care for non-COVID-19 reasons. Lower disease prevalence and increasing vaccination rates correlate with a return of NC volumes back to pre-pandemic levels.

Conclusions: The ED often serves vulnerable patient populations. As such, its role in public health in these communities cannot be underestimated. This pilot quality improvement project is a novel method that hospital systems can use to develop and implement public health education programs to address specific community needs through the ED. These results show that ED health care providers have the ability to provide measurable change in attitudes about vaccine safety.

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27 Social Determinants of Health and COVID-19 Infection in North Carolina: A Geospatial Analysis

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Study Objectives: The COVID-19 pandemic has demonstrated that social determinants of health (SDOH) are profoundly linked to the spread and outcomes of COVID-19. However, the relationships between these SDOH and COVID-19 spatial outbreaks have yet to be determined. We conducted spatial analyses with geographic information systems (GIS) mapping of county-level SDOH and regional COVID-19 infection outbreaks to demonstrate the most impactful SDOH and to provide a pragmatic visual guide to prevent future outbreaks.

Methods: We analyzed the geospatial associations of COVID-19 infections and SDOH to identify areas of overlap. Our sample comprised all patients in a North Carolina health care system’s registry who tested positive for COVID-19 from March 2020-February 2021. Patients’ addresses were geo-referenced and analyzed by Kernel Density Estimation (KDE) to identify population-dense outbreaks of COVID-19 (hotspots). A set of 12 SDOH variables for each county were collected from the American Community Survey (ACS-5) and the Economic Research Service. Principal Component Analysis was applied to SDOH variables in order to reduce dimensions down to 3 geographical SDOH categories: Protective SDOH, High-Risk SDOH and Increased Vulnerability for Infection (Table 1). Using Multivariate Clustering Analysis (MCA), three clusters of census tracts were categorized according to SDOH indicators: decreased social disparities (DSD), equivocal social disparities (ESD) and increased social disparities (ISD) (Image A). Kruskal-Wallis and Dunn’s Post-Hoc adjusted with Bonferroni were utilized to verify any difference in the proportion of patients residing in the different clusters (significance p<0.05).

Results: A total of 13,733 patients were included in the study. The patients predominantly reside in Durham County (55.4%), are women (56.9%), and between 40 and 69 years old (41.9%). Further, patients are predominantly white (38.7%), non-Hispanic (79.63%), and single (49.6%). The concomitant analysis of KDE and MCA showed an overlap of COVID-19 hotspots with areas of ISD (Image B). The MCA revealed that there are 308 census tracts constituted by six counties, in which 40 form ISD clusters (vs. 109 ESD; vs. 159 DSD). In addition, ISD clusters have the highest rates of infection, with 179.8 patients per 10,000 (vs. 81.7 ESD; vs. 60.1 DSD). The ISD cluster was the most densely populated and was significantly more densely populated from the ESD and DSD clusters (p=0.01).

Conclusion: In this sampling of COVID-19 patients, a disproportionate amount of patients come from areas with increased social disparities, suggesting further research and health policy will need to be directed towards addressing negative and vulnerability SDOH to curtail pandemic-related outbreaks.

Image A: Multivariate Clustering Analysis of Social Disparities. Image B: Geospatial Map Overlay of Kernel Density Estimation of Hotspots with Multivariate Clustering Analyses of Social Disparities
Study Objective: The COVID-19 pandemic led to profound challenges for health systems and disruptions in care for society’s most vulnerable patients, in particular people with opioid use disorders (OUD). The closure of outpatient addiction clinics, cessation of harm-reduction services, and lack of access to support groups have all been attributed to worsening outcomes for patients with OUD during the COVID-19 pandemic. Most concerning, emerging evidence points to accelerated rates of overdose deaths. In Los Angeles, a city disproportionately affected by high rates of COVID-19, chronic housing insecurity, and substance use disorder, the Department of Public Health reported a 48% increase in accidental drug overdose deaths during the first five months of the pandemic. In March of 2020, a state of emergency was declared for COVID-19 and stay-at-home orders were issued. These events were associated with a sharp reduction in total ED visits. However, with the profound disruption in usual sources of care and support for people with substance use disorders, emergency departments (EDs) remained a critical access point for these patients.

Methods: We examined all visits to public safety-net hospital EDs in Los Angeles County. We considered OUD-related ED visits as those which included any of the following: visits with a discharge diagnosis related to OUD, patients who received buprenorphine or naloxone while in the ED, and visits where a prescription for buprenorphine or naloxone was given on discharge. We performed a logistic regression to examine patient characteristics of opiate use disorder related visits from April 2019-Feb 2020 compared with April 2020-Feb 2021.

Results: A total of 50 clips lasting 6 seconds each were chosen for scoring, with the lowest averaged 0.22% increased odds of an ED visit being related to OUD when we compared pre- and post- COVID shutdown periods in Los Angeles. Visit acuity levels increased across all ESI scores. There was a statistically significant increase in the predicted probability of OUD visits for black and Hispanic patients of 17% and 25% respectively compared to pre-COVID levels. Patients more likely to present for OUD-related encounters if they were publicly insured, uninsured, or brought in by ambulance. Admitted patients were four times more likely to have an OUD-related ED visit on presentation.

Conclusions: Rates of OUD-related ED visits increased during COVID-related shutdowns. These increases were most pronounced among black and Hispanic patients and those with no insurance or publicly funded insurance plans. Patients admitted to the hospital had higher odds of OUD-related complaints. This reinforces the importance of the emergency department as a safety net resource for the most vulnerable patients suffering from OUD during the pandemic and highlights the opportunity to address these disparities with ED-based interventions.