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Study Objectives: Asylum applications in the United States have been steadily growing over the past decade, with roughly 90,000 applications submitted in 2020 alone. Asylum seekers are required to have proof of a well-founded fear of persecution due to a person’s race, religion, nationality, membership in a particular social group, or political opinion, and physicians can play an important role in providing critical forensic medical evaluations documenting physical and psychological trauma for these victims’ cases. Due to lockdowns and isolation, the COVID pandemic has made it increasingly difficult for asylum seekers to obtain this critical evaluation to bolster their case, and thereby ensure their safety. Our objective was to establish the first virtual student-run asylum clinic in Western Massachusetts to meet the growing need for forensic evaluations during the COVID pandemic where travel and in-person evaluations are limited.

Methods: The Worcester Asylum Clinic was founded in Spring 2020 to meet the growing need for forensic evaluations in Western and Central Massachusetts. Through emails, listservs, and other recruitment initiatives, we established a network of physician evaluators, medical students, interpreters, and lawyers with a shared goal of pro-bono assistance for local asylum cases, each integral to the clinic’s success. Lawyers submitted cases through a HIPAA-compliant REDCap form from our website, triggering medical student case coordinators to start organizing and processing their request. National virtual trainings offered by Physicians for Human Rights and other similar organizations were utilized to train volunteer physician evaluators and medical students on the principles of forensic evaluation and case sensitivity. Additionally, we developed a virtual mentorship program to allow clinic volunteers to work alongside trained evaluators/students to provide technical and emotional support. Monthly meetings were also conducted separately with faculty and medical students to discuss clinic operations and to provide a space for peer support.

Results: From July 2020 to April 2021, 29 evaluations were conducted using Zoom. 36 case requests were submitted by 12 law firms, 2 cases were cancelled by the lawyers and 8 cases referred to nearby clinics due to limitations on language, sex, or provider availability. Through the virtual training and peer mentorship program, 10 providers conducted evaluations independently, and another 9 are being onboarded. Additionally, 33 medical students have completed training of which many are actively supporting cases. While asylee and volunteer feedback was overwhelmingly positive, limitations included wireless internet connectivity issues and access to video-enabled devices, though highly infrequent.

Conclusion: The development of a fully virtual alternative to in-person asylum case evaluations has greatly increased the capacity of Worcester Asylum Clinic to meet the growing needs of asylum seekers in Central Massachusetts. As in-person encounters resume, virtual clinics can complement in-person evaluations to continue to provide asylees and their case teams a more flexible option to acquiring needed evaluations.

Study Objective: With COVID-19 cases and fatalities increasing nationally, health officials implemented policies and restrictions to keep the positivity rate in check. In California, a statewide stay at home order was issued on March 19, 2020 and again on December 7, 2020. The objective of this study was to assess the impact each stay at home order had on ED utilization.

Methods: We conducted a multi-center, retrospective study among adult patients (≥18 years) presenting to two emergency departments (urban level 1 trauma center and suburban academic hospital with combined annual census of ~80,000). We compared ED utilization over a two-week period both prior to and following each statewide stay at home order (March and December, 2020), as well as similar periods in 2019. We calculated the percent change in ED volume and admissions for each.

Results: Prior to the first stay at home order, there were only 70 confirmed COVID-19 cases in the county, compared to 94,169 cases prior to the subsequent stay at home order. Compared to 2019, ED volume and admissions during the two-week period following the initial stay at home order decreased by 30.7% and 28.4%, respectively. Following the second stay at home order, ED volume was only down 12.4% from 2019, while admissions were up 4.4%. Similarly, compared to the two week period prior to the initial stay at home order, ED volume and admissions decreased by 22.8% and 16.0% in the following two-week period, respectively. However, ED volume and admissions remained similar following the second stay at home order, with an increase by 0.8% in ED visits and 1.6% increase in admissions between the two weeks before and after the order began.

Conclusion: This study of ED utilization trends during the COVID-19 pandemic demonstrated that ED volume and admissions decreased dramatically during the initial stay at home order. However, despite the large differences in the number county-wide positive cases, ED utilization and admissions were largely unaffected by the second stay at home order.
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 healthcare 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 2019 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 (56.96%), 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.

**Table 1:** Social Determinants of Health Census-tract Groupings

| Protective SDOH | High-Risk SDOH | Increased Vulnerability for Infection |
|-----------------|---------------|--------------------------------------|
| Percentage Insured | Below Poverty Line | Limited Access to Healthy Food |
| Number of People with High School Degree | Unemployment | Percentage of Limited English per Household |
| Median Income | No Vehicle | Percentage of Health Professionals |
| Percentage ≥ 1 Vehicle per Household | Household Size | Food Desert Areas |
| Percentage of Employment | Uninsured |

**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