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Proportion of Emergency Department Visits for Alcohol Abuse Increased After the Arrival of COVID-19

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use of immunosuppressive drug therapy, chronic kidney disease/dialysis, or chronic respiratory disease), along with complications were done. Multivariate regression models were produced from the most significant variables and factors for ICU admission. The final, reduced regression model, a p-value <0.05 was considered statistically significant and confidence intervals were reported at a level 95%.

Results: Of the 156 hospitalized patients, 63.5% (99) were male, 132 (84.6%) admitted for respiratory failure, average age was 67.2 (+/-12.2). There were 71 (45.5%) patients who required intensive care. Those > 65 years old had a higher frequency of ICU admission. Seventy-nine percent (49) of the ICU patients had a BMI over 25. Most common comorbidities were diabetes, hypertension, and coronary artery disease/hyperlipidemia. The regression model showed that males had a 4.4 (95% CI 1.576, 12.308) odds of ICU admission (p=0.0047). Those who developed acute kidney injury (AKI) and BMI 25-29.9 were strong predictors of ICU admission (p<0.001 and p=0.0020, respectively). No single comorbidity was associated with ICU admission. However, those with at least one comorbidity, there was 1.984 increased odds (95% CI 1.313, 2.998) of an ICU admission. Of those admitted in the ICU, 72% (16) died.

Conclusion: The Latinx/Hispanic border populations have a high prevalence of comorbidities and potential complications that increase their risk for COVID-19 complications that lead to ICU admissions and death.

14 Effectiveness of face mask mandates in 4 suburban US communities during the SARS-CoV2 Omicron surge

Julie McCarthy; *Robert Partridge*; Stephen K. Epstein; Tiffany Zike; Timothy McDonald

Objectives: To evaluate the effectiveness of face mask mandates in four suburban communities in the metropolitan Boston area during the SARS-CoV2 Omicron surge.

Background: Face mask mandates have been implemented by local, state and national governments to limit the transmission of illness during the SARS-CoV2 pandemic.

Methods: A retrospective review of state reported, PCR positive cases of SARS-CoV2 and vaccination rates in four communities during the Omicron surge from 01/11/21-01/31/22. Data was analyzed using descriptive statistics.

Results: Two communities had a face mask mandate in place for all indoor public spaces throughout the study period, and two communities did not. Brookline (population 59,180, fully vaccinated rate per capita 62%) and Newton (population 88,593, vaccination rate 87%) implemented face mask mandates prior to the surge on 08/27/21 and 09/02/21, respectively, that remained in place through 02/18/22. Needham (population 31,248, vaccination rate 93%) and

Framingham (population 72,308, vaccination rate 76%) issued mask recommendations but not a mask mandate. SARS-CoV2 percent positive rate per 100,000 population, reported weekly for each community is shown in Figure 1. Prior to Omicron, on 10/14/21 percent positive rates were 1% or less in all four communities. Percent positivity at the peak of Omicron was lower in Newton (13.18%) and Brookline (12.28%) than in Needham (14.92%) and Framingham (22.38%). Brookline had the lowest peak positivity rate and the lowest vaccination rate. Percent positivity also peaked and declined earlier in both communities with mask mandates.

Conclusion: In this study, suburban communities with mask mandates had a lower SARS-CoV2 peak percent positivity rate and an earlier peak than communities without mask mandates. Face mask requirements in indoor public spaces may reduce transmission of SARS-CoV2 during variant surges, and may be particularly effective in communities with lower vaccination rates.
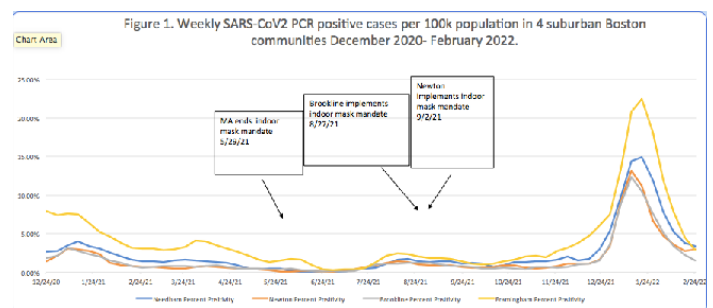

Figure 1. Weekly SARS-CoV2 PCR positive cases per 100k population in 4 suburban Boston communities December 2020-February 2022.

15 Proportion of Emergency Department Visits for Alcohol Abuse Increased After the Arrival of COVID-19

Barnet Eskin; Claire DeLong; *John R. Allegra*

Objectives: The goal of our study was to determine whether there was a change in the proportion of ED visits for alcohol abuse following the arrival of COVID-19.

Background: In March of 2020, COVID-19 arrived in the New York Metropolitan area. Total ED visits decreased markedly, likely because of fear of exposure to the virus as well as social isolation mandates. Concerns have been raised regarding the possible adverse effects that COVID-19 may have on increased abuse of alcohol. COVID-19 triggered bouts of anxiety, isolation from peers, and increased family tensions because of job disruptions and quarantining within families. A CDC study showed that despite decreased total ED visits, compared to 2019, the proportion of ED mental health related visits in 2020 increased. The goal of our study was to determine whether

there was a change in the proportion of ED visits for alcohol abuse following the arrival of COVID-19.

Methods: Design: Retrospective cohort. Setting: EDs of 27 hospitals within 150 miles of New York City. Hospitals were teaching and non-teaching in rural, suburban, and urban areas. Total annual ED volumes ranged from 12,000 to 122,000. Population: Consecutive patients seen by ED physicians. The database contained visits between March 1 and November 30 in 2019 and 2020. Data analysis: We identified patients with alcohol abuse using International Classification of Disease codes, version 10 (ICD-10). We tallied the number of ED visits for ICD-10 codes with at least 100 visits in the database. We calculated the proportion of these visits to total ED visits in 2019 and 2020. We report the relative change in this proportion from 2019 to 2020, along with the 95% CI.

Results: The database contained 1,161,080 visits in 2019 and 814,252 in 2020. Of these, 15,057 and 12,467 patients had a diagnosis of alcohol abuse in 2019 and 2020, respectively. For patients with alcohol abuse diagnoses in 2019 and 2020 the average ages were 46 and 47 years and females comprised 25% and 23%, respectively. The relative change in the proportion of visits for alcohol abuse from 2019 to 2020 had a statistically significant increase of 18% (95% CI: 15%-21%).

Conclusion: The proportion of ED visits for alcohol abuse increased following the arrival of COVID-19 in the New York metropolitan area. Our results are consistent with the CDC study showing the proportion of ED mental health related visits increased.

16 Cluster analysis of regional use patterns among critically ill emergency patients in Korea

Sung Min Lee; Tag Heo

Presenter: *Hyoung Youn Lee*

Objectives: The aim of this study was to analyze the inflow and outflow of critically ill emergency patients in Korea using National Emergency Department Information System (NEDIS) data for the last five years (2014-2018).

Background: In Korea, an imbalance across regions in emergency medical services has been creating a continuous barrier to ensuring access to such services for all residents.

Korea's medical delivery system is not efficiently linked and a concentration of patients and medical resources in certain areas has continued due to the inefficiency of the competition between medical institutions from primary private clinics and tertiary hospitals.

Methods: Using the relevance index (RI) and the commitment index (CI) for analysis, the optimal number of clusters was determined and K-means cluster analysis was performed using the determined number of clusters in the cities, counties, and districts across the country. We classified regional types and expressed them as a geographic information system to examine changes over the five years. The difference between the RI and the CI clusters by year was analyzed by the non-parametric Mann-Whitney test.

Results: The total NEDIS data analyzed included 5,551,616 critically ill emergency patients. In the determination of the optimal number of clusters, the most appropriate number was two (Cluster 1, Cluster 2) for the years 2014-2018. Cluster 1 captured the patient outflow, low RI and high CI, and more than 100 regions by year. Cluster 2 captured patient inflow, high RI and low CI, and more than 80 regions by year. There were no significant differences in the RI and the CI each year based on the patient inflow of critically ill emergency patients. In an annual comparison of the CI, significant differences were noted between 2014 and 2017.

Conclusion: During the five-year period of 2014-2018, there were two regional types of critically ill emergency patients in Korea, and there was a significant difference between 2014 and 2017 in the CI in the patient outflow areas.
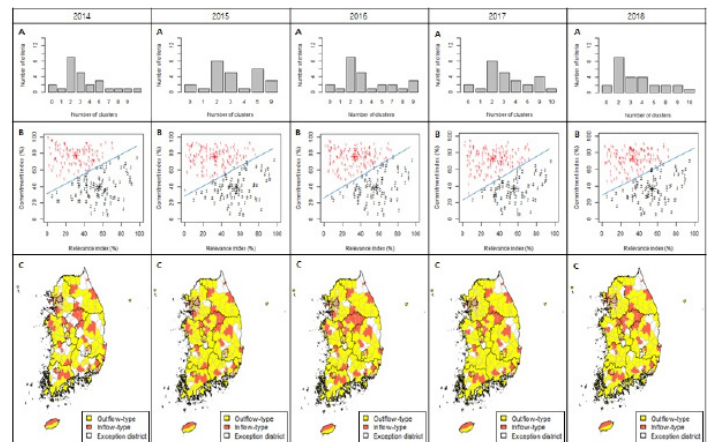

Figure 1.