

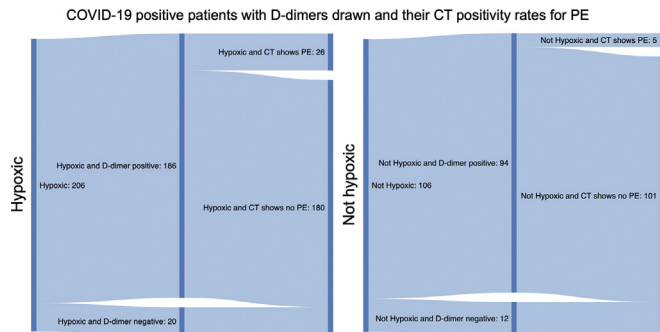


Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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supplemental oxygen in the ED, 12.7% of COVID positive patients were positive for PE compared to 8.3% for COVID negative. The d-dimer institutional cut-off of 0.5 mcg/mL was sensitive for PE on CT without false negative results. There was a significant age difference between hypoxic patients (median age of 63) and not-hypoxic patients (median age of 50). A Sankey diagram of COVID positive patients who had both contrast-enhanced CTs performed and D-dimers drawn is presented as a figure.

Conclusion: Non-hypoxic COVID positive patients had a largely comparable positivity rate of PE on contrast enhanced CT imaging compared to non-hypoxic non-COVID patients, but in the subset of patients who received supplemental oxygen, COVID patients were at considerably increased risk of PE. Using the conventional cut-off value of D-dimers yielded no false negative results, however D-dimer values frequently were obtained as part of a routine COVID workup for risk stratification. Our study was limited by its single center design. Further research is needed to determine if COVID positive patients have an increased risk of pulmonary embolism.



56 Factors Predicting Admission in Pediatric and Young Adults With COVID-19

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Study Objectives: Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) and COVID-19- its associated disease in humans- appears to cause more severe morbidity and mortality in older adults and geriatric patients than in children and young adults. There is growing recognition of the association between both race and obesity and disease severity in hospitalized patients with COVID-19. However, the impact of age, race, and other major comorbidities on COVID-19 course in children and younger adults is not as well understood.

Methods: We conducted a retrospective analysis of 2656 patients under the age of 36 years with COVID-19 between March 1, 2020 and August 6, 2020 as reported to HEALTHeLINK, a regional health information system for western New York State. Subjects were split into pediatric (0-19 years) and young adult (20- 36 years) datasets. We evaluated the association between candidate risk factors (age, sex, race, calculated BMI/BMI percentile, smoking status, diabetes, pre-existing respiratory disease, hypertension, and sickle cell disease) using recursive partitioning and linear regression. The primary outcome was hospital admission, with length of stay being the secondary outcome

Results: There were 2129 young adults and 527 pediatric patients who tested positive for COVID-19 during our study period. In our young adult population, race was the most significant predictor of admission, followed by BMI. African Americans with a BMI > 23 had the highest rate of admission (66%, p<0.001). Interestingly, Asian race was a strong predictor of outpatient management, regardless of BMI. Smoking status and hypertension were less significant predictors of admission, whereas sex, diabetes, pre-existing respiratory conditions, and sickle cell disease were not significant. For our pediatric population, race was also the most significant predictor of admission, with African Americans being admitted at higher rates than Whites and Asians. In the pediatric population, however, BMI percentile for age was not a predictor of admission. In regards to the secondary outcome, admitted young adult with COVID-19 had an average length of stay of 1.4 days (SD ±2) while the admitted pediatric COVID-19 patients had an average length of stay of 1 day (SD ±1.1). African American race was associated with longer length of stay in both populations however, BMI was only significant in the young adult population.

Conclusions: In a regional population of young adult and pediatric patients with COVID-19, race was strongly predictive of admission and length of stay. African American patients were most likely to be admitted, while Asian race was a strong predictor of outpatient management. For African American young adults, a BMI > 23 was the strongest additional predictor of admission. For younger patients with COVID-19 a simple decision tree that incorporates age, race, and BMI can help identify those patients least likely to need inpatient management.

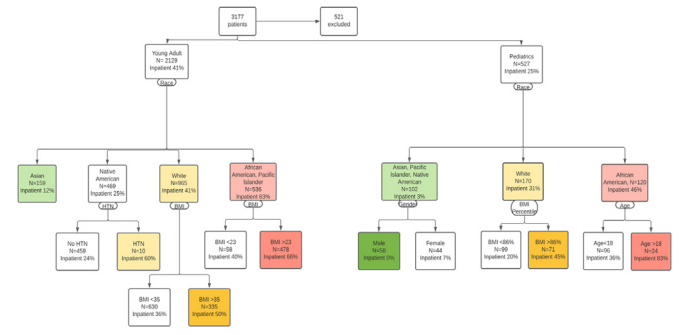


Figure 1: Recursive Partitioning Results for Young Adult and Pediatric Population

57 Effect of COVID-19 Surge Mitigation on Emergency Department Visits for Patients at High Risk for Opioid Overdose

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Study Objectives: Multiple reports in the US and worldwide demonstrate substantial decreases in ED utilization for serious conditions during the early surge mitigation phase of the COVID-19 crisis. In Ohio, governmental surge mitigation measures were instituted very early, beginning March 3, 2020, prior to its first reported case. Importantly, these recommendations prompted multiple hospital system wide initiatives to prevent “unnecessary” COVID and non-COVID ED and hospital utilization. However, these strategies may have decreased ED visits for more emergent conditions, causing underutilization of needed resources by high-risk ED populations. Opioid overdose (OD) is a leading cause of accidental death in the US and the effect of early surge mitigation on the population at high risk for opioid overdose death is unknown. The purpose of this study was to determine the effect of early COVID-19 mitigation measures on ED visits for patients at high risk for opioid overdose.

Methods: This study was performed in a major urban Midwestern hospital system with IRB approval. We previously created an algorithm using the electronic health record (EHR, Epic systems) to identify patients presenting to the ED with a high risk of a subsequent opioid. The number of patients from March 1, 2020 to June 30, 2020 (COVID-19 mitigation phase) were compared to patients presenting from March 1, 2019 to June 30, 2019. Total ED visits during that time were also determined. Statistical comparison was by Fisher’s exact test.

Results: There were 31,809 ED visits during the COVID-19 mitigation phase compared to 44,297 in 2019, a 29% decrease. We identified 188 patients at high risk for subsequent opioid OD during the COVID-19 mitigation phase compared to 206 during the control period. This represents a significant increase in the percentage of ED visits by high-risk patients for subsequent opioid OD during the COVID-19 mitigation phase (0.59% of ED visits vs. 0.46% of ED visits, p=0.018).

Conclusion: The number of patients presenting to the ED at high risk for subsequent opioid OD was not affected by the COVID-19 mitigation measures, resulting in a relative increase in the percentage of high-risk patients seen during that time. Future determination of the effect of surge mitigation strategies on linkage to care and treatment resources available during that time will be important to develop strategies to ensure appropriate resources are in place for these high-risk patients for future pandemic preparedness.