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"Demographic, epidemiological, and clinical factors of presumptive positive COVID-19 patients admitted from an urban emergency department"

BACKGROUND: Louisiana was first introduced to coronavirus (COVID-19) on March 9, 2020 and within one month cases were seen in all 64 parishes, with New Orleans at its epicenter.[1] Since then, the number of individuals who tested positive for infection increased to more than 39,920 by the end of May 2020.[2] According to the Louisiana Department of Health (LDH), Black patients have been disproportionately impacted by COVID-19 as compared to White patients, with 74.6% of the 586 deaths in Orleans Parish being Black individuals and 23.7% White (as of 10/7/20).[1] Of Louisiana's 5,402 deaths 86.1% of fatalities occurred in patients at or above 60 years of age ($\mu=75$),[1] despite that age group comprising only 21.9% of Louisiana's population.[3] To date, little information has been published regarding the association between patient demographics, treatment modalities, and outcomes in COVID-19 in the Louisiana population, thus limiting our understanding of both the spread and control of COVID-19.

OBJECTIVES: This preliminary study sets out to identify the demographic, epidemiological, and clinical factors associated with the outcomes of patients infected with the novel coronavirus in the Greater New Orleans area.

METHODS: Electronic medical records (EMR) were reviewed of the first 160 patients testing positive for COVID-19 at University Medical Center New Orleans Emergency Department (UMC-ED), from March of 2020. Data points were extracted regarding patient characteristics, clinical care practices, and hospital course. Collected data were stored in the HIPAA-approved online data storage tool, RedCap and analyzed using Microsoft Excel and SAS software.

RESULTS: Admissions of COVID-19(+) patients presenting in the UMC-ED peaked on 3/16/20. In our sample of 160 patients, Black/African American individuals comprise 89.38% and White individuals comprise 6.88%. The mean age of patients who expired in our sample was 58.67. Fifty-five patients (34.37%) were admitted,103 (64.37%) were initially discharged from the ED, and 12 (7.5%) died. Most patients received oxygen therapy by nasal cannula (69.09%);14 were intubated and of those, 8 of them expired. On average, patients who expired at UMC had significantly longer hospital stays than recovered patients. Common chief complaints of COVID-19(+) patients include flu-like symptoms, cough, fever, and shortness of breath. Common pre-existing health conditions include obesity (BMI>35), hypertension, and diabetes.

CONCLUSIONS: Regarding patient demographics, some of our results reflect the trends seen in the LDH's data reports, and some do not. Further exploration is required to assess the relationships between these factors and their contributions to COVID-19 infectivity and mortality.

(1)"Coronavirus (COVID-19): Department of Health: State of Louisiana." Coronavirus (COVID-19) | Department of Health | State of Louisiana, ldh.la.gov/Coronavirus/. (2) "Louisiana." Worldometer, www.worldometers.info/coronavirus/usa/louisiana/. (3)"Census Profile: Louisiana." Census Reporter, censusreporter.org/profiles/04000US22-louisiana/.