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DISPARITY OF COVID-19 IN DIFFERENT COMMODITIES IN LOUISIANA

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Disparity of Covid-19 in Different Communities in Louisiana

***Abstract*— The surge of covid-19-positive cases and mortality among different communities in the state of Louisiana are concerning. It has affected us in different ways: psychologically, physically (mobility restriction), socially, and economically. It is a global catastrophe and all of us are dealing with multiple challenges due to this. As of 9th April 2023, there are almost 1.6 million covid-19 cases and 18,984 people lost their lives in the state of Louisiana. This pandemic created tremendous pressure in healthcare with an unexpected surge in the demand (more than existing production capability). According to our data, there were 3,022 covid patients hospitalized on 08/17/2021, and there were 571 covid-positive patients on the ventilator on 04/04/2020 on a single day. Louisiana has about 33% black population which is about half of white population of 63.0%. However, the covid infection rate was almost 20.0% higher in the black population compared to the white population. Here, we present a demographic chart, the infection rate, and death by region and race in different communities in Louisiana.**

I. Introduction

Covid-case was first reported in Jan 20, 2020 in the United States and it quickly spread all across the country [1]. In Louisiana, the first presumptive case related to it was announced on 9th March, 2020 [2]. Once the first case was confirmed, the virus spread relatively much faster than other states. As of April 9, 2023, there are 1,589,983 cumulative cases and 18,984 deaths [3]. It is around 35.0% of the total population of Louisiana of 4.6 million population [4]). The population distribution based on race is shown in Table 1. 95% of the demographic composition of the state is white and black population. Out of 95%, black population is almost half of white population while 4.6% is composed by the rest of the population [4].

Out of 1,589,983 cases, 554,649 cases were black and, 807,919 were white, and remaining 225,415 cases were from other races. The key point is that while black population composition (33.0%) is almost 50% of white (62.4%), however, the infection ratio is much higher in the black community which comes to be 68.7% (554,649/807919 x 100) which is around 19% higher (based on population density). Figure 2 shows the number of covid-patients hospitalized and on ventilators. The hospitalization rate continuously varied over the period of time. There were 3,022 Covid patients hospitalized on 08/17/2021, and 571 COVID positive patients on ventilators on 04/04/2020 on a single day. According to Figure 2, covid-19 cases surged exponentially in different periods of time and also fell at the same rate. It required a tremendous amount of healthcare resources to address the pandemic.

Louisiana Department of Health has 9 administrative region (i.e., shown in Figure 1) and the covid cases of each region and race presented in Figure 3. Among the 9 regions, covid cases are more or closed to 200,000 in region 1, 2, 4, 7 and 9. These are also more populous regions than other (shown in Table 2). In term of race, covid cases in Black communities are much higher in region 1, 2 and 7 as compared to other regions. the covid cases in black community is around 20% higher than white (based on population density).

Table 1: Population distribution of Louisiana based on Race

Race	Population %
White alone	62.40
Black or African American alone	33.00
American Indian and Alaska Native alone	0.80
Asian alone	1.90
Native Hawaiian and Other Pacific Islander alone,	0.10
Two or More Races, percent	1.80

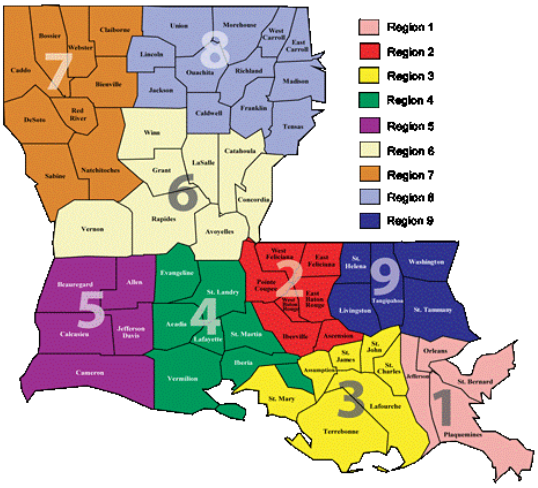

Figure 1: Nine Different Department of Health Administrative Region in Louisiana

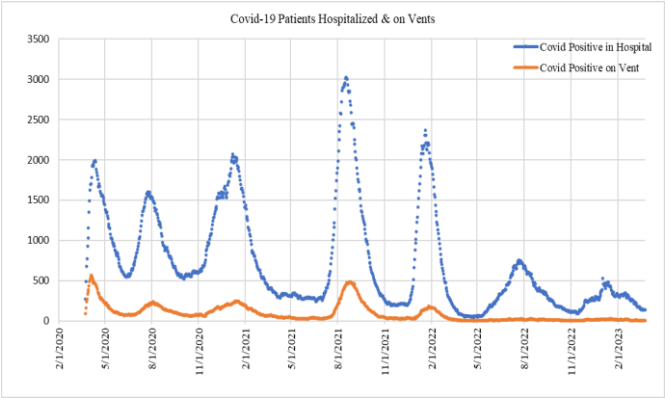

Figure 2: It shows the Covid-19 patients hospitalized and vents in Louisiana

The Louisiana Department of Health has 9 administrative regions (i.e., shown in Figure 1) and the covid cases of each region and race presented in Figure 3. Among the 9 regions, covid cases were more or close to 200,000 in region 1, 2, 4, 7 and 9. These are also more populous regions than others (shown in Table 2). In terms of race, covid cases in Black communities were higher in region 1, 2 and 7 as compared

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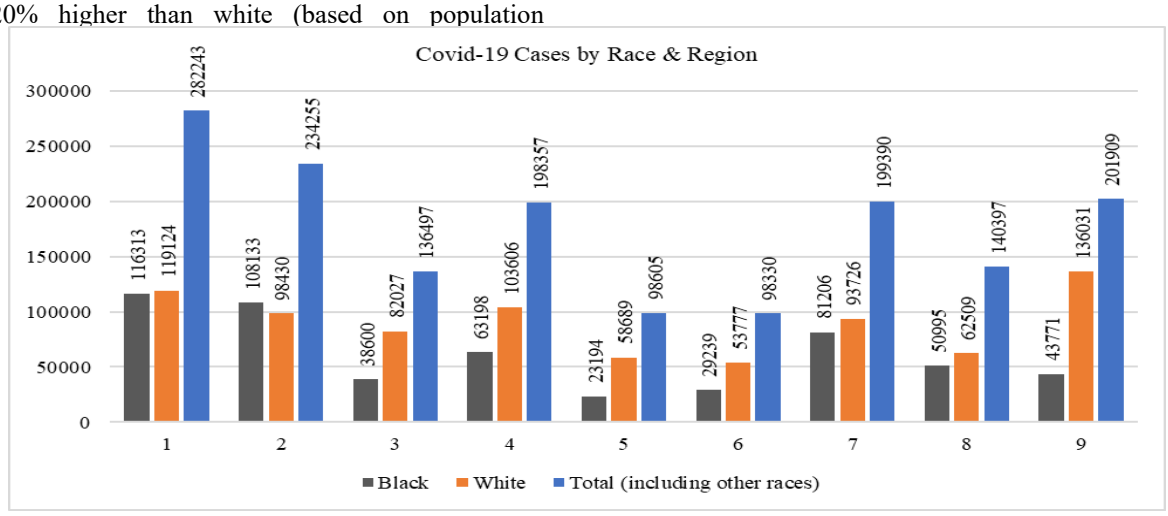

Figure 3: Covid-19 cases by race in region in Louisiana (highest covid cases in region 1)

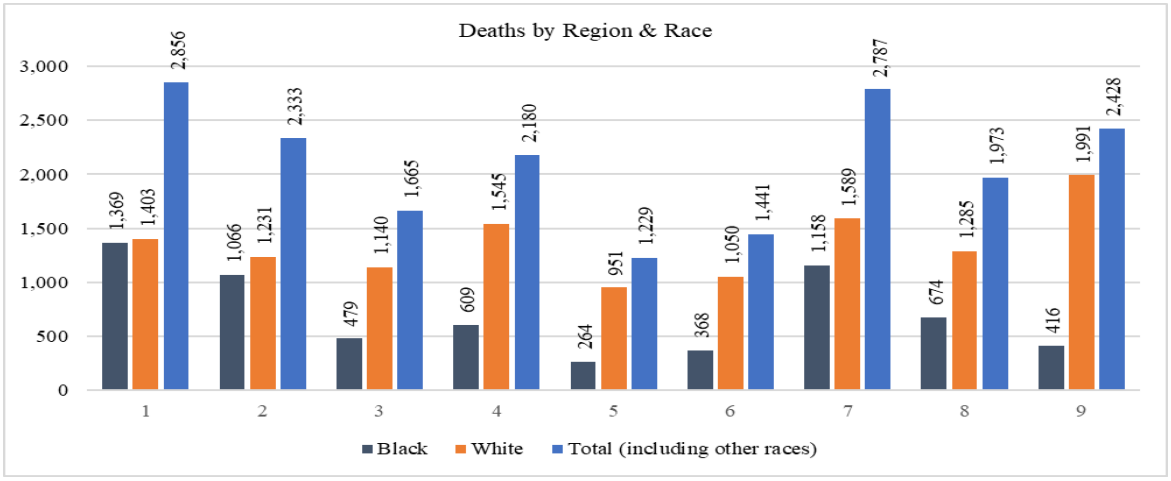

Figure 4: Covid-19 deaths by region and race in Louisiana (infection rate is directly correlated with covid related deaths)

Table 2: Population of each region in Louisiana [2]

Region	Region Population
1 - New Orleans	894,015
2 - Baton Rouge	681,120
3 - South Central	402,776
4 - Acadiana	606,054
5 - Southwest	300,947
6 - Central	305,140
7 - Shreveport/Bossier	542,829
8 – Monroe	353,159
9 - Northshore	577,576

Figure 5 shows the loss of life in different age groups during the pandemic. X-axis represents the death age ranges (seven categories: <18, 18 to 29, 30 to 39, 40 to 49, 50 to 59, 60 to 69, and 70+) and Y-axis represents the total loss of life (total number of deaths) in different age groups. As of 9th April, 18,894 people lost their lives from covid virus in Louisiana.

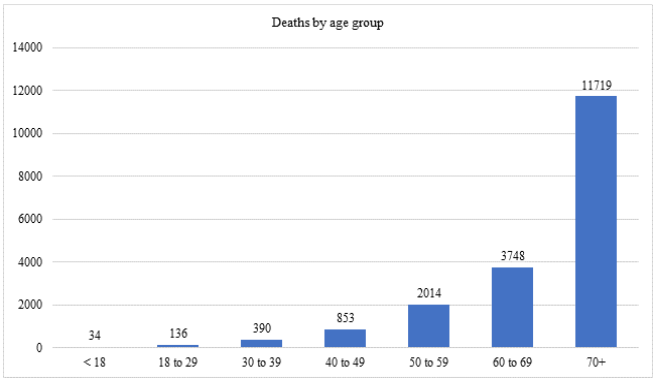

Figure 5: Covid-19 related death based on age group in Louisiana

Further analyzing the different age groups, 34 people lost their life from coronavirus under age group (<18). The death rate keeps increasing with the rise of age and increases 4-times (34 to 136) in the age group 18 to 29 as compared to age group less than 18. The increasing death trend continues with age 30 to 39, 40 to 49, 50 to 59 and so on. According to this Figure, aging people (above 60) are more vulnerable with coronavirus than other age groups. There are 11,719 (out of 18,894) people who lost their lives at the age of 70+.

It is around 62% of total deaths. The death pattern (with raise age) is almost exponential in Louisiana. It shows the vulnerability of aging people with corona virus and sufficiently creates the fear and anxiety in society [5, 6, 7].

It is important to note that older adults are at higher risk for severe illness and death from COVID-19 due to age-related changes in their immune systems, as well as the presence of underlying health conditions that increase their susceptibility to infections. Additionally, older adults may be more likely to have prolonged hospitalizations and require intensive care, which can increase the risk of death.

II. Conclusion:

We presented how Covid-19 positive cases surged in different communities based on Louisiana Department of Health data. The infection rate has varied over the period of time and it disproportionately impacted the different communities. The covid infection rate among black population was higher than White (around 20% more as of 9th April, 2023). The data showed that the young population have a strong immune against the coronavirus. Therefore, the death rate of the young population is very less as compared with older people. Figure 5 shows that the risk of losing life increases with raising age. People more than 70 lose their lives 62% (11,719) in Louisiana.

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