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Pandemic Review: South Los Angeles

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Pandemic Review of South Los Angeles

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Dedication

To all the people who believed in me. To the second family I created that have supported me on the last four years, I love you all. All the teachers and professors who knew I could do so much more. For all the family and friends who couldn't see me at the end of my college career, thank you.

All my love,

Madeline

Abstract

IMPORTANCE The COVID-19 pandemic has deepened the discussion on social inequality and vulnerabilities of the Black, Indigenous, and People of Color (BIPOC) community. The understanding is that inequality is a multifaceted issue that stems from the historical mistreatment of BIPOC individuals—their sociodemographic and economic backgrounds are at the most risk in population studies. Many predictors of contracting COVID-19 included employment status (ability to work from home), education level, income (wealth), and housing conditions (environment) (Rozenfeld et al., 2020). Contracting COVID-19 in South Los Angeles was more likely to happen among those from racial and ethnic minorities and those living in poverty than among White and wealthy individuals (Allan-Blitz, Goldbeck, Hertlein, Turner, & Klausner, 2021)—this comes from an analysis of the demographics, socioeconomic, and risk factors of the community of South Los Angeles.

OBJECTIVE The COVID-19 pandemic disproportionately affected BIPOC individuals. The relationship between socioeconomic status and demographics is powerful enough to affect the care and resources of those within South Los Angeles. As a result of structural and systemic issues, the community of "South Los Angeles has had a 40% higher case rate than the entire country's rate (Bonilla & Bradley et al., 2021)". Understanding the reasons for this disparity will help with more health-affirming care and resources in South Los Angeles.

METHODS The methods of intersectionality exploration and analysis to understand public health and sociological determinants of health within South Los Angeles are used within this paper. This view of the cross sections of personal, systemic, and social attributes to social inequality experienced in the pandemic of COVID-19 enables a more holistic approach to understanding and solve problems. The search for scholarly articles on inequity, death rates, and classism

during the pandemic in California started to narrow increasingly to the BIPOC community. This process reflects the analysis of newspaper articles, scholarly reviews, and other research to analyze multifaceted public health issues that fuse to create the lived experience of residents of South LA over the past three years.

CONCLUSION This narrative review examined evidence of vulnerabilities, inequity, and disparities among the BIPOC community in South Los Angeles were examined. The pandemic only intensified those barriers and vulnerabilities in the many cases and death rates. Health and wealth coincide in the United States healthcare system, and in marginalized communities, quality of life is stripped away by facing the COVID-19 pandemic. Issues within the underlying systemic and social practices placed individuals in South Los Angeles in a vulnerable state that took many lives.

Keywords: COVID-19, socioeconomic disparities, BIPOC, South Los Angeles, vulnerabilities, inequality

Introduction

As the coronavirus (COVID-19) has spread worldwide, there have been increased studies on social inequality among marginalized groups. Many studies have shown that the COVID-19 pandemic heightened vulnerabilities and social inequality within the United States. Siller and Aydin (2022) the use of social resources, vulnerability, and resilience in minority and marginalized groups. The Black and Indigenous People and People of Color (BIPOC) community had significantly higher deaths due to COVID-19 across the United States than White individuals in 2021 (Hill & Artiga, 2022). Although a virus does not see race or ethnicity, systemic issues still leave BIPOC communities at risk, which was demonstrated locally and within Southern California.

This paper will focus on South Los Angeles, known for its significant historical areas and rich cultures of the Black and Latin communities, along with the many structural changes over the past 60 years. The vulnerabilities of BIPOC communities within this geographic area stem from historical mistreatment, pre-existing health conditions, and higher risk for exposure during the pandemic. The social inequality for those living in marginalized communities comes through less access to resources and funding, crowded housing, and those living in/below the poverty level. This scenario can be compared to those living in the more affluent economic area of Los Angeles with "better access to hospitals, a higher chance of living in uncrowded homes and cleaner air thanks to a lack of nearby freeways" (Lin & Money, 2022, pg.5). Public health organizations must take action to improve conditions within sectors of marginalized communities (Office of Disease Prevention and Health quality of life. Promotion, 2023). Understanding the social determinants of health and wellness and how they affect stability,

access to care, and education all of which puts people at high risk is essential to critical problem-solving.

Health and income status are linked at a systemic level in the United States. The intersection of racism and low income left BIPOC communities at a significant disadvantage. The Los Angeles Times summarized this disadvantage: "many Latino and Black residents live in areas where official government rations have neglected residents' public health, partly due to a legacy of racism and discrimination" (Lin & Money, 2022, pg.2). Neighborhoods like South Los Angeles that have a consistent web of freeways, backed up streets, and pollutants at their door, have a heightened risk for other chronic conditions that increased their vulnerabilities to COVID-19 (Lin & Money, 2022, pg.2). In this paper, the intersections of COVID-19 and the population of South Los Angeles were analyzed through the lens of public health, biology, and local news articles to understand what happened in the last three years. Understanding the impacts of viral, environmental, and individual factors that are within the determinants of health and wellbeing (Figure 1). Discussing the severity of what BIPOC individuals suffered through the pandemic-from mistreatment in the health system, pre-existing health conditions, and socioeconomic status within South Los Angeles.

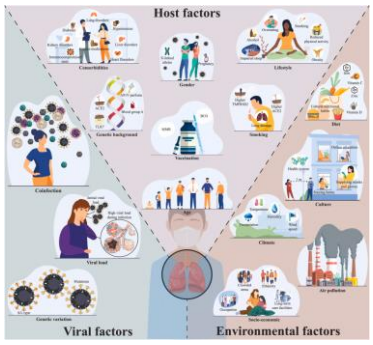
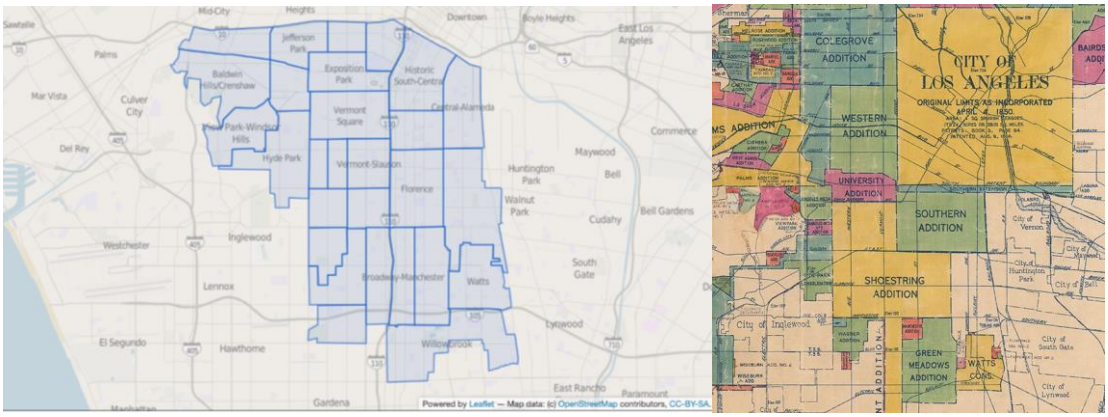


Figure 1. The three frameworks to the determinants of health from COVID-19 ranges from viral factors such as, coinfection, viral load and genetic variations. Host factors such as, comorbidities (asthma, diabetes), age, and lifestyle. Environmental factors that range from socioeconomic status, culture, and air pollution. (Samadizadeh et al. ,2021)



(Los Angeles Times, 2010) 1960s Map of South Central (Brightwell, 2017), (Creason, 2015)

Brief Demographic Overview of South L.A. 1960- 2021

In the 1960s, South Los Angeles was home to the most prominent Black community on the West Coast. Once known as South Central, South Los Angeles has been a place of struggle between the racist perceptions of outsiders. In contrast, this community has self-determination and the right to the equality of residents. The South Los Angeles demographic had 53% of the residents in the 1960s identified as Black. Data from 2016 on the demographics of South Los Angeles had Black residents at 27.3% and Latino residents at 64.4% (Comandon & Ong, 2019). Within this diverse community exists a rich culture of immigrants, multi-generational homes, and a central part of Los Angeles history. This community was hit the hardest in their population through the pandemic, with the highest risk of infection. Narrowing down the reasons for this phenomenon, it becomes clear that this stems from systemic and structural issues that have been present since the 1960s. In 2022 air pollution was known to cause respiratory diseases and other comorbidities found more commonly among BIPOC individuals (Lin & Money, 2022). Additionally, many of the community members were considered essential workers and working

from home and in an uncondensed environment was not available for those living in South Los Angeles

Community Mistreatment

Residents of South Los Angeles have experienced inequality from the early 1960s to 2016 that can be compared to the rest of Los Angeles counties from earnings, housing, and employment rates seen in Figure 2 (Comandon, 2020). With aspects of the United States healthcare, education, and resources limited by income, this marked a vulnerability for this community during the pandemic. All kinds of elements of health are at risk when states and cities have discriminatory housing practices that have left many BIPOC communities polluted and impoverished (Blackstone & Blackstone, 2021).

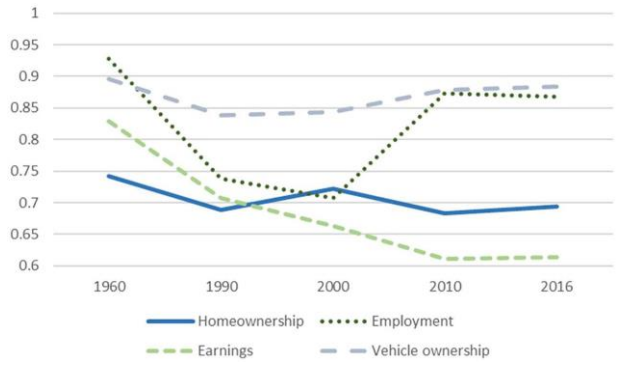


Figure 2. Disparities between South Los Angeles and the rest of the Los Angeles County the ratio compares the rate of each variable in the county. With earnings is the median earnings of full-time (Comandon, 2020).

Of those residents living in South Los Angeles as of 2021, around 23.8% live in poverty (Los Angeles Department of City Planning, 2021). Poverty and socioeconomic status have an impact on the well-being of a person. Bonilla & Bradley "South Los Angeles has had a 40% higher case rate than the entire country's rate (2021)". Many experts compare sociodemographic and economic disparities relative to race and class. South Los Angeles is a prime example of a region undergoing several social and economic transformation waves from the 1960s to now.

With protests, community programs (ex. Food drives, social organizations.), and shifting demographics to a highly Latinx (gender-neutral person of Latin American origin or descent) population, South Los Angeles has remained strong. With the pandemic amplifying the disparities within a BIPOC community, there is a drive in the community force that rose. With the community's resilience and better vaccination outputs within the community since 2020, the population was able to overcome much more. With the rising death rates early in the pandemic due to the disparities in employment and housing, South Los Angeles anchored in major public health outreach to spread the word on resources to fight against COVID-19.

What is Covid-19?

SARS-CoV-2, or severe acute respiratory syndrome coronavirus-2, is a novel (new) coronavirus (Figure 2). SARS-CoV-2 is the virus strain that caused the disease COVID-19. A breakdown of COVID-19 is the "C.O." for corona, "VI" for the virus, "D" for disease, and "19" for the year identified (World Health Organization, 2020, pg.2). Coronaviruses (CoVs) are a family of viruses that cause respiratory and intestinal illnesses in humans and animals (Cui, Li, & Shi, 2018). COVID-started in Wuhan, China, in November of 2019 and caused a significant outbreak worldwide.

COVID-19 is "spread between people in close contact with each other. The virus is spread from an infected person's mouth or nose in small liquid particles when they cough or sneeze, speak, sing or breathe (WHO Int., 2021)." With many people not knowing what this virus was, or how infectious it was, this created a large opportunity for massive spread.

Viruses are described and classified by several characteristics, including the type of genetic material they contain such as DNA/RNA (Cascella et al., 2022). The genome of SARS-CoV-2 has one of the largest genomes of R.N.A. viruses (Figure 3). Genomes encode proteins

essential for replication, including the spike protein. The spike protein is what viruses use to infect a host cell and will cause the infection (Cascella et al., 2022). How a virus is structured can change with its environment to stay alive. The development of the virus can change the severity as it mutates and learns the navigation of the body's immune system.

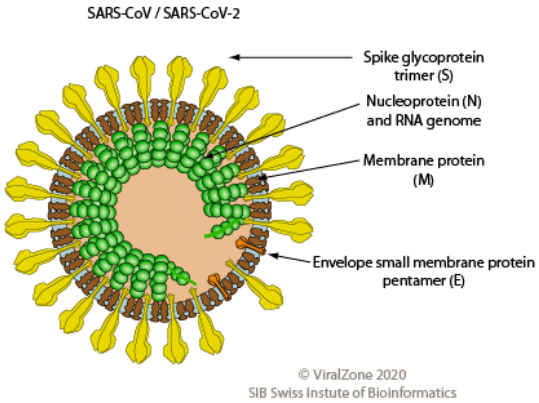


Figure 3. Enveloped, spherical, about 120nm in diameter SARS-CoV-2 virus. Gives a glimpse of the spike glycoprotein and the RNA genome within the virus. Shape defines function of a virus and with the known shape and proteins similarities can be found among other known viruses (Swiss Institute of Bioinfomatics, 2020)

Many viruses are structured differently but share a genome sequence like their family of viruses. "Like other R.N.A. viruses, SARS-CoV-2, while adapting to their new human hosts, is prone to genetic evolution with the development of mutations over time, resulting in mutant variants that may have different characteristics than its ancestral strains (Cascella et al.)". Those variants include either new symptoms or severity, thus making it harder to stop the spread when it can evolve so quickly. Virus classification strains include alpha, beta, gamma, and delta coronaviruses (Figure 4) (Swiss Institute of Bioinformatics, 2020). These strains have titles like “Omicron”, which came about as a subvariant of delta. A novel (new) virus and without vaccines causes a new strain to adapt rapidly as more people get infected. The virus can replicate and be easily transmitted, harsher symptoms, or lasting effects.

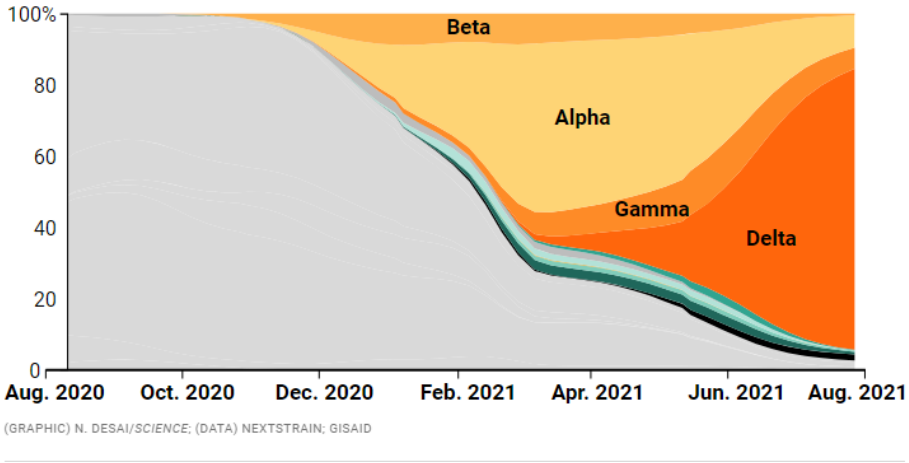


Figure 4. From 2020 through 2021 the graph image goes through and identifies the peak and lows of each different variant occurrence. Where there is Beta and Gamma that had the smaller amount of cases in comparison to Alpha and Delta (Kupferschimidt, 2021).

Socioeconomic Demographic- South Los Angeles

The relationship between health and socioeconomic status is complex as it is both structural and systemic. According to research by Allan-Blitz and Goldbeck data from the Journal of Preventive Medicine and Public Health, "individuals residing within zip codes with lower average annual household income, lower rates of health insurance coverage, and lower employment were more likely to test positive (pg.164)." Defining the economic background of the region of South Los Angeles gives a more precise foundation for the vulnerabilities during the pandemic. Data from 2021 City of Los Angeles has shown that the poverty rate in South Los Angeles is about 23.8% of persons living below the poverty level (Los Angeles Department of City Planning, 2021). To define the annual family income and poverty levels within Los Angeles County, the Los Angeles Almanac is used.

The listing of the Housing and Urban Development (H.U.D.) and the Federal Poverty Level defines three poverty levels. With around thirty percent of the median income is below the poverty level. According to the Housing and Urban Development for Los Angeles, level 1

poverty income should be about $76,240 for a married home. The median household income was around $47,692 in South Los Angeles in 2021, marking it within the level 2 poverty level. Within the same data from the Los Angeles Department of City Planning in 2021 was poverty by education attainment. About 12.5% of the population (around 36,000 residents) has an income in at or below the poverty level. Those with less than a high school degree were about 6% of people living below the poverty line.

Why would this matter in a pandemic? Foundations within our system have left communities like South Los Angeles at risk for lower quality of care and educational resources. Many of those working through the pandemic had "essential worker" jobs, meaning they were in person—left with limited personal protective equipment and without a vaccine to protect themselves. Many living in South Los Angeles have multi-generational homes, and crowded spaces do not leave room for quarantine (Samadizadeh et al., 2021). Among other disparities, Latinx and Black populations of previous burdens of underlying health conditions.

Sociodemographic risks

Researchers suggested higher hospitalization rates come from higher case rates within a given area. Overcrowding in hospitals was especially significant at the beginning of the pandemic—limited spots in hospital beds, limited availability of ventilators, and understaffed and underpaid nurses. It was a chain of reactions that caused uproar for concern. Staying safe and protected inside is what most people should be able to do. Although, if they were an essential worker, that was not an option if they needed to pay the bills. Death rates were increasing as fast as cases.

"Deaths peaked in December 2020 and January 2021 across groups. American Indian and Alaska Native (AIAN) and Hispanic people had the highest death rates, and all groups of

color had a higher death rate than White people as of January 2021. Following that surge, death rates fell across all racial and ethnic groups, and disparities narrowed by early summer 2021" (Hill & Artiga, 2022).

As many BIPOC individuals are experiencing a disproportionate number of COVID-19 cases this is seen as a health inequity (Figure 5). A breakdown of federal, state, and local community data has shown that people of color have higher rates of COVID-19 cases and deaths than White people when adjusted for age by race and ethnicity (Hill & Artiga, 2022). South Los Angeles has a high case rate and high minority group which causes concern about addressing health inequities that as systematic issues.

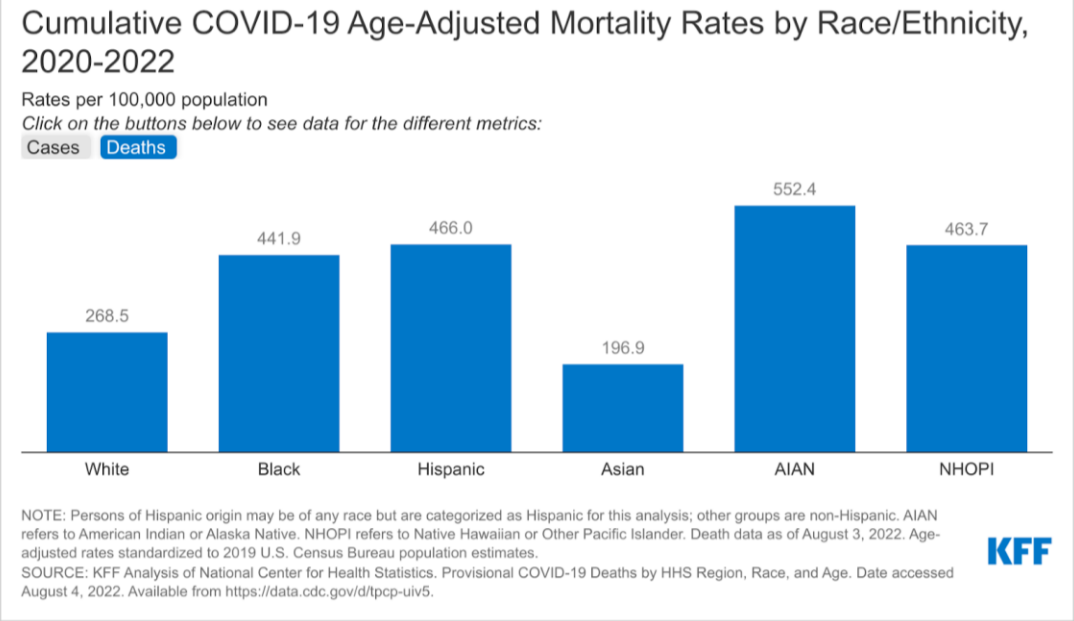


Figure 5. For 2020-2022 the Mortality rates among BIPOC and AIAN individuals has been a cause of concern. With White and Asian communities seeing less deaths rates per 100,000 of the population data (KFF Analysis of National Center for Health Statistics, 2022).

The United States reached 1 million deaths on May 17, 2022: the data shows age, race, ethnicity, and wealth disparities (Donovan, 2022). This data shows the ongoing need for community outreach strategies, with the facts of life expectancy also seeing a shift through the

pandemic. The research found that "Black Americans' life expectancy declined almost three years to an average of 72 years, compared with a loss of almost one year for White Americans (now 78 years) (Lewis, 2021)". This factor is not considered for vaccination output when life expectancy for those within the BIPOC community is much lower. As a person of color, the average lifespan is about 6 years less than White Americans. This is a significant disparity in the quality of life with the higher risk of pre-existing health conditions. At the beginning of vaccination roll out the age requirement was higher and less applicable to BIPOC individuals. They would need the vaccination earlier than those who are White. To have a vaccine age should have been lowered to serve the inequality of the average life span. As well as the severity of symptoms from pre-existing health commonly found among more BIPOC individuals. Leading to higher mortality rate across the country for those individuals.

Comorbidities

As mentioned previously, the severity of COVID-19 depends on environmental, individual, and systematic factors that address the complexity of COVID-19 clinical phenotype (observable characteristic or trait of the disease) (Samadizadeh et al., 2021, p. 1). Research on the severity of an individual's health showed an interconnection between environmental aspects and the virulence of the strains. The environmental aspects is not just the city you live in, it is the climate you experience, air pollution that you are exposed to, and your socioeconomic status (Weaver, 2022). South Los Angeles has many chemical exposures from traffic, machinery, and factories. Results from a study suggested that "long-term exposure to air pollution had a severe increase reaction to COVID-19… in comparison with patients exposed to cleaner air (Wu et al., 2020, as cited in Weaver, 2022)". The association of pollution and lung health coincided with

higher asthma cases within more densely populated city areas, which in turn, predisposes people to more severe consequences from COVID-19.

South Los Angeles hosts a Latinx and Black population who experience higher cases of comorbidities such as chronic bronchitis, diabetes, and hypertension (Samadizadeh et al., 2021, p. 1). The central aspects that have affected the lives of BIPOC individuals throughout the pandemic are pre-existing vulnerabilities. Those with a history of inflammatory diseases, diabetes, and higher exposure to pollution have all had lasting effects of COVID-19. They are making the experience of having COVID-19 more severe on the body and even causing death—the setting of work as an essential worker who has held jobs in close contact during the pandemic. "Environmental factors influence COVID-19 through… immune system impairment; viral survival and transport; and behaviors that increase viral exposure" (Weaver, 2022, p.2). Immune system impairment can be genetic and societal. The "host survival" for an individual comes at a systemic level, where many individuals do not have a primary health care provider or insurance through their employer (part-time workers). This inequity to quality care puts a barrier for care before existing conditions become worse with being exposed to COVID-19. Many of those living in South Los Angeles were at an increased risk for viral exposure to COVID-19 due to the inability to work from home or have paid time off to recover.

Barriers and Vulnerabilities

Along with comorbidities, crowded/dense housing, and lower socioeconomic stance placing vulnerabilities among the BIPOC community, "occupational segregation has concentrated Black Americans in low-paying jobs with limited or no health insurance" (Lewis, 2021). The repeated inequity was also in the vaccine outreach. The eligibility outline for the first wave of vaccines is as follows:

> "Those 65 and older are also recommended to get the vaccine early if supplies are limited. Moreover, other groups that could get vaccinated early next year include essential workers and people with underlying conditions that put them at greater risk of severe illness from Covid-19, including cancer, kidney disease, heart conditions and type 2 diabetes" (Stieg, 2020, p.3).

At first cutoff for eligibility was 75 and was later reduced to 65. That gap is scarce when the rate "Black people ages 45 to 54 are seven times more likely to die of COVID-19 than similarly aged White Americans" (Blackstock & Blackstock, 2021). Many factors lower life expectancy among Black Americans, and during the pandemic, life expectancy within this group were furthered lowered across the country. At the beginning of the rollout of vaccines BIPOC, individuals should have been a priority, especially in marginalized communities, to have slowed the spread of COVID-19 cases in those communities.

Vaccination Hesitancy

To counter this statement is the vaccination hesitancy among Black and Latinx individuals who cited many reasons for distrust. The hesitancy comes with the historical mistreatment and view of healthcare witnessed in cases before COVID-19. "From gruesome experiments on enslaved people to the forced sterilizations of Black women and the infamous Tuskegee syphilis study that withheld treatment from hundreds of Black men" (Hostetter and Klein, 2021, p. 2). A study mentioned within Hostetter and Klein's article was the analysis of treatment between race/ethnicity and analgesic (pain-relief) treatments, showed that Black/African Americans had a high number of disparities than any other group in the lack of help to relieve their pain. As well as the use of higher opioid treatments for both Hispanic/Latinx and Black/African Americans (Meghani and Byun, 2012, p.1). The lack of trust between

healthcare providers and the community they serve the lack of health insurance, as stated previously. Even further back is the racial discrimination "of experimentation on Black/African Americans was among the influences of potential vaccine inequity for the community (Carson et al., 2021, p.5)." Also, they more frequently witness fewer positive experiences in hospitals or clinics. There is an understanding that medical professionals are there to help. However, many have been mistreated or not taken seriously.

South Los Angeles has a high population of Latinx/ Hispanic communities. Although many speak Spanish and English, it is easier when the native language is used, especially in medical care. One problem for Hispanic people has been websites with poor Spanish translations—often resulting from a typical automated tool. "The grammatical errors we found would have made it impossible for a Spanish speaker to figure out what was being asked" (Lewis, 2021, p.5). Errors like this make it more challenging when there is no translator present in the home or available when needed to make an appointment, and the fear of not proving citizenship among many immigrants working in Los Angeles (Figure 5). Within Figure 5, it gives a visual on the number of naturalized citizens and non-naturalized citizens within South Los Angeles versus Los Angeles as a whole (Schoen et al., 2022). With a fear that there was proof of citizenship to receive the vaccines at the clinics many of those the live within that community would be hesitant to go (Lewis, 2021, p.2). Along with citizenship insecurity barriers, such as internet access, transportation, and proof of eligibility, made it difficult to get help from healthcare providers.

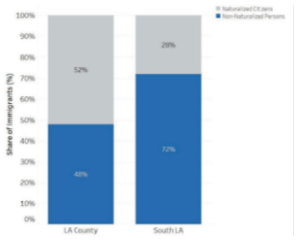


Figure 6 Immigrants by Citizenship Status within Los Angeles County and South Los Angeles comparing the naturalized and non-naturalized citizens within each county. This Source of data is from the American Community Survey from 2019 with a 5-year estimate (Schoen et al., 2022).

Change and Resilience

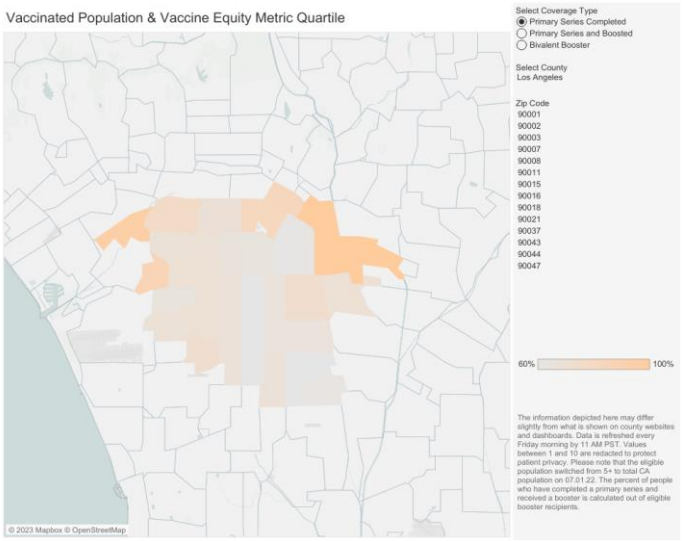


Figure 7. Data from California Open Data outlines the vaccination population within a given zip code. This range for South Los Angeles ranges within around 60%-100% of the population is vaccinated. Zip codes are listed on the right and metric range is listed on the bottom right. (CA Open Data & LHJ Vaccine Equity Performance, 2023)

No more than two and half years ago, there was a disproportionate amount of BIPOC individuals that suffered from the racial inequities and systemic issues that plagued our healthcare systems. The disproportionate rates of COVID-19 cases and deaths spurred many researchers to answer the question of why. Overcoming inequity and racism through community resources community workers played a foundational role in helping bring awareness and get help for their communities (Patrice, 2021). There is a map of the vaccinated population those who received two vaccines and a boost out of those eligible. This data comes from the California

Department of Public Health and is updated every Friday. About 60% of South Los Angeles has since received their vaccines, some areas even higher than that seen in Figure 6. Allowing for a more equitable distribution of vaccines and care for the community. Overall, though, Indigenous mortality rates are at their highest across the United States. The concern grows for the White demographic have recently surged in mortality as of December in California, now at the second place for overall crude deaths seen within Figure 7. This could be from a false sense of security for those who have been vaccinated or have lifted wearing a mask. With the 4th Quarter of the data from 2022 expressing the death rates significant increase on White Americans, the questions of how to assist in the understanding on how this could be. With vaccines now readily available and accessible at most clinics and pharmacies, this is a public health issue.

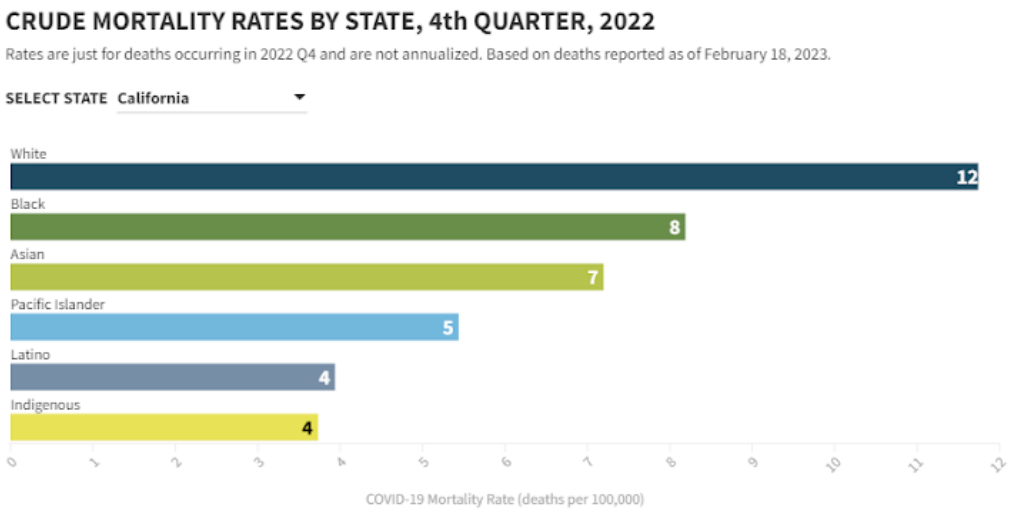


Figure 8. Crude mortality rates are the actual number of deaths per 100,000 within the given race/ethnicity group and are not adjusted for age. Within California this data comes from February 18,2023 within the deaths that were reported (APM Research Lab 2023).

Resources for the Community

For South Los Angeles, community resources have been helping to bring attention to climate injustice, making greenspaces more accessible, and fighting for community-controlled

land. The T.R.U.S.T. South LA was founded in 2005 and updated its community resources online throughout the pandemic. As well as making brochures in Spanish and English for community members to find and access COVID-19 resources. The second foundation, Building Healthy Communities South LA (BHCSLA), "is a collaborative of community partners working for low-income housing, transforming punitive school disciplinary policies, addressing health disparities for Black and Latino peoples, and much more." They have worked towards community outreach and helped with resources for many years with several other organizations they are partnered with. They had Giving a safe space for BIPOC individuals to seek help and access resources from community-built foundations. Working alongside the Community Health Council in the recovery phase of the pandemic, South LA was given funds from the American Rescue Plan, this was meant to drive small businesses within the community that may have been impacted from the pandemic (Community Health Council, 2021).

Conclusion

Evidence of BIPOC community members' vulnerabilities, injustice, and inequality in the South Los Angeles area is discussed in this narrative review. The pandemic made health barriers and vulnerabilities worse, was evident by high morbidity and mortality rates over the past three years. The need for equitable access for the recovery of South Los Angeles neighborhoods must be made due to structural and systemic issues that have led to discrimination in the development of its infrastructure. Inequality of healthcare access, discrimination, and environmental inequity left the foundations of this neighborhood at high risk. At the pandemic's peak, South Los Angeles hosted the highest case rate, and the Black and Latinx population was increasing in death rates. COVID-19 was more severe for those with comorbidities and chronic illness, most in communities like South Los Angeles. The attitudes toward providers come from historical

mistreatment that led to vaccination hesitancy in some groups and concern for immigrants and Spanish speakers who had to navigate a system without proper comprehendible information. This paper shows the connection between socioeconomic status and higher case rates from COVID-19 and the severity of the virus and how it affected racial/ethnic minorities. Vulnerability due to social determinants to the well-being of a community and individuals, resulted in BIPOC individuals facing a higher risk of mortality and case rate. That has decreased as White individuals in California has increased since December 2022.

Aspects of United States healthcare have been analyzed throughout the pandemic. With a focus on disparities that were noticeable through the numerous cases across the country. All leading back to BIPOC individuals facing the greatest deficit to overall health and well-being. Understanding the effects of underlying systemic issues can help public health initiatives and overall governmental changes to adjust. The first two years of the pandemic BIPOC people faced a higher gap of mortality rate in comparison to White Americans. The causes were then identified within scientific articles and the public health system adjusted. COVID-19 is here to stay and with vaccines readily available there has been a significant change in mortality rates across each race and ethnicity. To be able to identify where our resources are most needed due to COVID-19, there can be a way to move forward with the least number of lives lost. A discussion of goals of closing the gap on socioeconomic status and health inequity would reduce or prevent the amount deaths in a future pandemic.

References

Allan-Blitz, L.-T., Gladbeck, C., Hertlein, F., Turner, I., & Klausner, J. D. (2021). Association of Lower Socioeconomic Status and SARS-CoV-2 Positivity in Los Angeles, California. *Journal of Preventive Medicine and Public Health*, *54*(3), 161–165. https://doi.org/10.3961/jpmph.21.126

APM Research Lab. (2023, February 23). *Color of Coronavirus: COVID-19 deaths analyzed by race and ethnicity — APM Research Lab*. APM Research Lab. https://www.apmresearchlab.org/covid/deaths-by-race#recent-trends.

Blackstock, O., & Blackstock, U. (2021, February 19). Black Americans should face lower age cutoffs to qualify for a vaccine. *The Washington Post*. https://www.washingtonpost.com/opinions/black-americans-should-face-lower-age-cutoffs-to-qualify-for-a-vaccine/2021/02/19/3029d5de-72ec-11eb-b8a9-b9467510f0fe_story.html

Bonilla, Emily, Bradley, S., & Kolton Nephew, Emilie Fu, Hannah Kate Woodworth, Daisy Kahn, Olivia Tyler, Reagan Griffin Jr., Fernando Cienfuegos, Mia Brower and . (2021, March 29). *A year in the pandemic in South L.A.* Annenberg Media. https://www.uscannenbergmedia.com/2021/03/30/a-year-in-the-pandemic-in-south-la/

California Department of Public Health. (2023, February 23). *LHJ Vaccine Equity Performance*. Tableau Public; CA Open Data. https://public.tableau.com/app/profile/ca.open.data/viz/LHJVaccineEquityPerformance/MapView

Carson, S. L., Casillas, A., Castellon-Lopez, Y., Mansfield, L. N., Morris, D., Barron, J., Ntekume, E., Landovitz, R., Vassar, S. D., Norris, K. C., Dubinett, S. M., Garrison, N.

A., & Brown, A. F. (2021). COVID-19 vaccine decision-making factors in racial and ethnic minority communities in Los Angeles, California. *JAMA Network Open*, *4*(9), e2127582. https://doi.org/10.1001/jamanetworkopen.2021.27582

CA Open Data & LHJ Vaccine Equity Performance. (2023). MOM - 2020 - W41 - Data Assets & Data Culture. *Tableau Public*. Retrieved March 15, 2023, from https://public.tableau.com/app/profile/ca.open.data/viz/LHJVaccineEquityPerformance/MapView

Comandon, A., & Ong, P. (2019). South Los Angeles since the 1960s: Race, place, and class. *The Review of Black Political Economy*, *47*(1), 50–74. https://doi.org/10.1177/0034644619873105

Community Health Council. (2021, May 19). *South Los Angeles Building Healthy Communities*. Community Health Councils. Retrieved March 15, 2023, from https://chc-inc.org/south-los-angeles-building-healthy-communities/

Creason, G. (2015, September 23). *CityDig: How Los Angeles Annexed the port on a shoestring Los Angeles magazine*. Los Angeles Magazine. https://www.lamag.com/citythinkblog/citydig-how-los-angeles-annexed-the-port-on-a-shoestring/

Cui, J., Li, F., & Shi, Z.-L. (2018). Origin and evolution of pathogenic coronaviruses. *Nature Reviews Microbiology*, *17*(3), 181–192. https://doi.org/10.1038/s41579-018-0118-9

Hill, L., & Artiga, S. (2022, August 22). *COVID-19 Cases and Deaths by Race/Ethnicity: Current Data and Changes Over Time*. KFF. https://www.kff.org/coronavirus-covid-19/issue-brief/covid-19-cases-and-deaths-by-race-ethnicity-current-data-and-changes-over-time/

KFF Analysis of National Center for Health Statistics. (2022, August 22). *COVID-19 Cases and Deaths by Race/Ethnicity: Current Data and Changes Over Time*. KFF. https://www.kff.org/coronavirus-covid-19/issue-brief/covid-19-cases-and-deaths-by-race-ethnicity-current-data-and-changes-over-time/

Kupferschimidt, K. (2021, August 19). Science. Retrieved March 14, 2023, from Science website: https://www.science.org/content/article/new-sars-cov-2-variants-have-changed-pandemic-what-will-virus-do-next

Lewis, T. (2021, March 24). *The biggest barriers to COVID vaccination for black and Latinx people*. Scientific American. https://www.scientificamerican.com/article/the-biggest-barriers-to-covid-vaccination-for-black-and-latinx-people1/

Lin, R.-G., & Money, L. (2022, March 2). Disparities leave parts of L.A. County hit hard by COVID-19. *Los Angeles Times*. https://www.latimes.com/california/story/2022-03-02/alarming-disparities-leave-parts-of-l-a-hard-bit-by-covid

Los Angeles County . (2020, April 8). *Report on LA County COVID-19 Data Disaggregated by Race and Ethnicity*. Department of Public Health. http://publichealth.lacounty.gov/

Meghani, S. H., Byun, E., & Gallagher, R. M. (2012). Time to take stock: a meta-analysis and systematic review of analgesic treatment disparities for pain in the United States. *Pain medicine (Malden, Mass.), 13*(2), 150–174. https://doi.org/10.1111/j.1526-4637.2011.01310.x

Oberle, D. (2022, January 31). *Resilience and rebuilding: COVID-19 recovery in south los angeles – neighborhood data for social change*. LA.Myneighborhooddata.Org. https://la.myneighborhooddata.org/2022/01/resilience-and-rebuilding-covid-19-recovery-in-south-los-angeles/

Office of Disease Prevention and Health Promotion. (2023). *Social determinants of health - Healthy people 2030*. Health.Gov. https://health.gov/healthypeople/priority-areas/social-determinants-health

Rozenfeld, Beam, Maier, Haggerson, Boudreau, Carlson, & Medows. (2020). A model of disparities: Risk factors associated with COVID-19 infection. *International Journal for Equity in Health*, *19*(1), 1–10. https://doi.org/10.1186/s12939-020-01242-z

Samadizadeh, S., Masoudi, M., Rastegar, M., Salimi, V., Shahbaz, M. B., & Tahamtan, A. (2021). COVID-19: Why does disease severity vary among individuals? *Respiratory Medicine*, *180*, 106356. https://doi.org/10.1016/j.rmed.2021.106356

Schoen, E., Hulburd, K., Yap, C., & Painter, G. (2022). Resilience & rebuilding South LA post pandemic. *Recommendations for an Equitable Recovery from COVID-19 in South Los Angeles*.

Siller, H., & Aydin, N. (2022). Using an Intersectional Lens on Vulnerability and Resilience in Minority and/or Marginalized Groups During the COVID-19 Pandemic: A Narrative Review. *Frontiers in Psychology*, *13*. https://doi.org/10.3389/fpsyg.2022.894103

State of California. (2023). *California's commitment to health equity*. Covid-19 ca Gov. https://covid19.ca.gov/equity/

Stieg, C. (2020, December 14). When Dr. Fauci and other experts say you can expect to get vaccinated for Covid-19. *CNBC*. https://www.cnbc.com/2020/12/14/who-gets-the-covid-vaccine-first-timeline-and-priority-explained.html

Swiss Institute of Bioinfomatics. (2020). *Betacoronavirus ~ viralzone*. ViralZone. https://viralzone.expasy.org/764?outline=all_by_species

Weaver, A. K. (2022, April 5). *Environmental Factors Influencing COVID-19 Incidence and*

Severity. Annual Reviews. https://www.annualreviews.org/doi/10.1146/annurev-publhealth-052120-101420

World Health Organization. (2020, March). *Key Messages and Actions for COVID-19 Prevention and Control in Schools*. https://www.who.int/docs/default-source/coronaviruse/key-messages-and-actions-for-covid-19-prevention-and-control-in-schools-march-2020.pdf

Bibliography

Brightwell, E. (2017, February 1). *Mapping the geography and history of South Los Angeles*. Eric Brightwell. https://ericbrightwell.com/2017/02/01/mapping-the-geography-and-history-of-south-los-angeles/

Cascella, M., Rajnik, M., Aleem, A., Dulebohn, S. C., & Napoli, R. D. (2022, October 13). *Features, Evaluation, and Treatment of Coronavirus (COVID-19).* NCBI Bookshelf. https://www.ncbi.nlm.nih.gov/books/NBK554776/

Johnson, C., & Funk, C. (2021, March 9). Black Americans stand out for their concern about COVID-19; 61% say they plan to get vaccinated or already have. *Pew Research Center*. https://www.pewresearch.org/fact-tank/2021/03/09/black-americans-stand-out-for-their-concern-about-covid-19-61-say-they-plan-to-get-vaccinated-or-already-have/

Los Angeles Department of City Planning. (2021). *Standard Report South Los Angeles*. https://doi.org/https://planning.lacity.org/odocument/4d9f3c45-3b02-43b9-a85f-1729c7ae2c33/CityPlanning_AnnualReport2021.pdf

Los Angeles Times. (2010). *South L.A.* Mapping L.A. https://maps.latimes.com/neighborhoods/region/south-la/

Oh, D. L., Meltzer, D., Wang, K., Canchola, A. J., DeRouen, M. C., McDaniels-Davidson, C., Gibbons, J., Carvajal-Carmona, L., Nodora, J. N., Hill, L., Gomez, S. L., & Martinez, M. E. (2022). Neighborhood factors associated with COVID-19 cases in California. *Journal of Racial and Ethnic Health Disparities*. https://doi.org/10.1007/s40615-022-01443-y

Patrice. (2021, February 24). INTERVIEW: A black health worker gets vaccinated to inspire her community. *SpeakPatrice Presents: Coronavirus News For Black Folks*. https://speakpatrice.substack.com/p/interview-a-black-health-worker-get

WHO Int. . (2021, December 23). *Coronavirus disease (COVID-19): How is it transmitted?* World Health Organization. https://www.who.int/news-room/questions-and-answers/item/coronavirus-disease-covid-19-how-is-it-transmitted

Wu, X., Nethery, R. C., Sabath, M. B., Braun, D., & Dominici, F. (2020). *Exposure to air pollution and COVID-19 mortality in the United States: A nationwide cross-sectional study*. Cold Spring Harbor Laboratory. http://dx.doi.org/10.1101/2020.04.05.20054502