The Structural Determinants of Health: How Systemic Racism Facilitates Community Violence in Washington, DC

By

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Abstract

Racism deeply affects the social determinants of health, resulting in racial health inequities in populations of color. Recently, measures have been taken to address this issue in Washington, DC. These measures include the 2020 Racial Equity Achieves Results (REACH) Amendment Act, which focuses on racial equity, social justice, and economic inclusion (The DC Line, 2020). To further these efforts, there is a need to understand the relationship between structural racism, unemployment, poverty, and violence. The research reported here explores the correlation between historic racism, social determinants of health, housing policies, and community violence in Washington, DC. The methods used include mapping racial covenants from 1940 to 2010, neighborhood displacement, and social determinants of health. Current mortgage lending in the neighborhoods across the city was used to measure the housing market and lending discrimination. The author also used demographic data from various sources to measure the social determinants of health across statistical neighborhoods. Findings indicate that Wards 5, 7, and 8, in Southern and Eastern parts of DC, have the highest rates of crime, unemployment and concentrated poverty and the lowest house lending rates. Between 1940-2010, these wards also experienced the most housing displacement. The district’s racial dissimilarity index of 70.9 indicates that Washington, DC is still highly segregated and that individual health and exposure to violence varies significantly by zip code. To achieve health equity, appropriate measures to dismantle structural racism must be taken. The needed measures must be linked to community-based participatory research and policies that incorporate the historical context of the problem along with the voices of community members.

Keywords: Washington, DC, structural racism, social determinants of health, housing policies, violence

INTRODUCTION

The social determinants of health include the circumstances and environments in which people live, work, and play. These social determinants affect 80% of a population's health outcomes (Healthy People 2030 n.d.). The five key social determinants of social health are 1) Access to Quality Education, 2) Access to Quality Health Services, 3) Neighborhood and Built Environment, 4) Social and Cultural Contexts, and 5) Economic Stability (Healthy People 2030, n.d.). Examples of these domains include access to safe and stable housing, income and employment opportunities as well as experiences of racism/discrimination, exposure to polluted environments, and level of language/literacy skills.

Systemic racism is a product of history and adapts its contexts over time to create conditions that result in worse health outcomes for racially-marginalized populations (Lynch et al. 2021). Systemic racism causes disproportionate burdens of environmental hazards and diminished access to quality education, housing, and health care to people of color. Structural determinants are the driving force for many health disparities including lower life expectancy, higher maternal mortality, and more severe mental health issues among disadvantaged populations (Alegria et al. 2018). It is important to note that not all racial and ethnic groups experience the social determinants of health in the same way. For example, Alegria et al. (2018) found that mental health problems are more prominent in populations experiencing racism or discrimination.
and community violence during childhood. Such experiences have been correlated with elevated levels of depression, anxiety, and PTSD symptoms, especially among Black and African American communities (APA 2009). The development of adverse experiences at a young age can negatively impact future social determinants including homelessness, low educational attainment, and economic insecurity (Hjorth, et al 2016). According to the Center for Disease Control and Prevention (2021) young adulthood is a critical period where many social determinants of health intersect and influence future health. Thus, the onset of mental health symptoms at an early age can negatively influence how youth establish future relationships with others, and our undertaking of youth who undertake future risky behaviors (CDC, 2021).

Violence is the leading cause of death and morbidity among adolescents and young adults in the United States. In 2020, over half of national homicides occurred among people aged 15 to 34 (CDC 2021). While urban youth are disproportionately impacted by violence, certain populations are more at risk than others – specifically, those experiencing systemic racism, bias, discrimination, economic instability, concentrated poverty, and limited housing/educational opportunities (CDC 2021). Drivers for violence impact communities of color and place residents at greater risk for poor mental health outcomes (APA, 2009). Addressing these underlying factors is important to creating health equity and reducing the exposure of young people to adverse childhood experiences.

**RESEARCH QUESTION**

What is the correlation between policies that support systemic racism in Washington, DC (hereafter referred to DC) and current neighborhood demographics and health outcomes?

**METHODOLOGY**

Methods used include mapping racial covenants from 1940 to 2010, through the Mapping Segregation in DC Project developed from data collected by the U.S. Census Bureau and the National Historic Geographic Information System. Previous research studies (King et al. 2022; Lynch et al. 2021; and Blank et al. 2005) were used to measure the associations among historic redlining, a practice that lending services used to discriminate against communities of color based on race or national origin (DOJ 2021), current mortgage lending, and health behaviors to measure neighborhood displacement, housing stability, and lending discrimination. Demographic census block group data from DC Department of Health, US Census Bureau, and DC research-based studies (King et al. 2022; and Blank et al, 2005) were also used to collect health outcomes and demographics. Publicly accessible demographic data drawn from the DC Department of Health Health Equity Report (2018) were used to measure social determinants of health, life expectancy, and rates of violence across DC’s 51 statistical neighborhoods and eight Wards.

**DC HISTORY OF RACIAL COVENANTS: 1940-2010**

DC’s legacy of racial housing covenants illustrates the persistently segregated, racial landscape of residential communities across the city. Discriminatory policies defined where Black Washingtonians could live and frequently forced individuals of color to move due to privatization of public housing (Solberg et al. 2022). Racial covenants are clauses that were developed in property deeds to prevent people of color from buying or occupying land, restricting them to smaller sections in city borders (University of Minnesota, n.d.). Since 1940, racial covenants confined most of DC’s expanding Black population to older housing near the city center, waterfront areas along the Potomac and Anacostia rivers, and along remote borders of East DC (Solberg et al. 2022). After 1948, the enforcement of racial covenants was ruled unlawful under the constitution by the Supreme Court and allowed Blacks/African Americans the right to move into formerly restricted blocks north of Park Road NW, a former racial dividing line (Solberg et al. 2022).

By 1960, Blacks/African Americans began to move into various sections of the city that were previously inaccessible to them. As a result of urban renewal projects and increasing gentrification in the Southwest, many Blacks relocated east of the Anacostia River. During the time period that they existed, racial covenants assigned values to neighborhoods based on the race of residents—leading white families to relocate from areas perceived to be declining in value. Gentrification was linked to worse perceived health for Black residents and low-income families located in Southeast, DC, preventing minority residents from accumulating wealth or assets (King et al. 2022).

Although DC’s Black population peaked in the 1970’s, it shrunk by 15% in the 1980’s as Black homeowners...
moved out of the city due to disinvestments from the "White Flight" into suburban affordable housing East of DC near Prince George's County (King et al. 2022). The exodus of Whites decreased municipal revenue and led to a decline in social services and the quality of life in the city (Solberg et al, 2022). Further lack of maintenance of public housing occurred as the number of habitable units plummeted. Renters were displaced by the high rate of gentrification as new investors bought up older housing in neighborhoods such as Capitol Hill, Logan Circle, and Mount Pleasant (Solberg et al. 2022).

According to Solberg et al. (2022), by 1995 public housing units were presumed “nearly uninhabitable” due to dangerous and unsanitary conditions. Those units that remained in the city were lost because of incarceration or public health epidemics that disproportionately impacted the Black community. By 2010, a plan to attract new and affluent members to the DC was carried out by investing in community developments in historically Black and White neighborhoods. Between 2000 and 2010, investment in community development projects resulted in certain zip codes—Columbia Heights, Shaw, and Logan Circle, becoming the most “Whitened” in the nation causing the Black population in DC to decline by almost 40,000 whereas the White population increased by 55,000. Currently, 40% of DC’s population is white and 39% is of Black descent. However, the proportion of neighborhood demographics and distribution of individuals based on race are far from equal.

**DC DEMOGRAPHICS**

The demographic composition of Wards 5, 7, and 8 is predominantly non-Hispanic Black, comprising between 93.7% to 98% of Southeast and Northeast DC. In contrast, the non-Hispanic White population comprises between 61.1% - 72.8% of Northwest and Southwest DC (DC Health Equity Report 2018). This demographic change resulted from revising the earlier racial dividing that prevented Blacks from moving west of Rock Creek. Ward 3, which contains the highest percentage of White Americans, has a higher life expectancy by sixteen-years compared to Ward 8, the neighborhood containing the highest percentage of the Blacks (King et al. 2022). The infant mortality rate (IMR)-- a measure of structural racism, is six times higher in Ward 8 than Ward 3 (King et al. 2022). There were also significant differences in access to food, income, and educational attainment between residents of the “affluent” wards (2 & 3) and the “impoverished” wards (7 & 8).

The Racial Dissimilarity Index (RDI) is a tool that measures racial and ethnic segregation by using the distribution of populations across a geographic area. A score of zero indicates complete integration whereas a score of 100 indicates complete segregation. Using a US Census five-year average from 2011 to 2015, DC has a “White/Black” RDI Score of 70.9, meaning that 70.9% of White residents would have to move to achieve complete White/Black integration, concluding that the city continues to be highly segregated (DC Health Equity Report 2018). The RDI score for “White/Non-White” in DC is 59.9 indicating that 59% of residents would have to move to obtain integration by race and ethnicity. Poverty by neighborhood level is another important indicator of structural racism. The DC Health Equity Report (2018) found that 19 of the 51 statistical neighborhoods are living in concentrated poverty, all of which fall under the Southeast geographic location of DC (DC Health Equity Report 2018).

Historically Black neighborhoods are located in Wards 5, 7, and 8, along South and East DC (DC Health Equity Report 2018). These Wards reflect the highest poverty rates, gross rent rates, pediatric asthma emergency visits, and violent death rates. They also contain residents who have the lowest life expectancy, educational attainment, employment, and income levels compared to other wards (DC Health Equity Report 2018).

DC mortality data has shown improvements in injuries over time--57.7 per 100,000 which is considered lower than the national average (DC Health Equity Report 2018). However, between 2011 and 2015, King et al (2022) report that the 16.0 per 100,000 deaths due to homicides is three times higher than the national rate of 5.2. About three quarters (74%) of these violent deaths were due to homicide from firearms. The remaining 26% were due to suicides. Seven out of 10 (70%) of these victims were between 16 to 39 years. Young Black males were much more likely to be victims of violence if they lived in Wards 5, 7, and 8 (DC Health Equity Report 2018). Understanding the variables that influence the racial dissimilarity index has been proven useful when researching historic policies of segregation and redlining from the Federal Housing Administration’s 1933 “New Deal” Project (Gross 2017).

**DC HOUSING AND REDLINING**

Redlining by the “New Deal” Project furthered segregation efforts by refusing to lend mortgages in neighborhoods of color while insuring mortgages and
reinvestments in White neighborhoods (Gross 2017). In a study done of Milwaukee, Wisconsin, a hyper-segregated metropolis, metropolitan Lynch et al. (2021) report that areas in the country were color-coded by the Homeowners’ Loan Corporation (HOLC) -- a federal agency in the 1930s to grade mortgage investment risk of neighborhoods. This discriminatory practice led to lasting impacts of generational wealth and property ownership as Black individuals were less likely to own a property of value and more likely to live in disinvested communities that were deliberately maintained by racial segregation (Lynch et al. 2021).

Demographics in current DC neighborhoods are a manifestation of these racist housing policies that shaped the built environment and created adverse health outcomes including higher infant mortality rates and diminished rates of self-reported mental health and physical health issues (Blank et al. 2005). HOLC’s ‘redlining’ has also been associated with pre-term births, late-stage cancer diagnoses, higher rates of emergency visits for asthma, higher alcohol outlet clusters, and increased urban violence (Blank et al. 2005).

The lack of both generational wealth and property ownership that many Black DC residents faced was manifested from the “White Flight” of the 60’s – a time where many White residents fled to newly renovated suburbs (Zickuhr 2018). As they were prohibited from living in these suburbs, Black residents were limited to housing options that became increasingly overcrowded and deteriorated in quality (Zickuhr 2018). Today, middle- and higher-income Black families have a higher chance of living in low-income neighborhoods than White families with similar income levels, and Black Americans continue to experience lower rates of upward economic mobility compared to White Americans (Zickuhr 2018). According to a study from Olsen (2018), between the early 1900s and 2014, the Black and White homeownership gap increased from 27.6% to 30.3%.

Blank et al. (2005) created a three-way cross tabulations approach to assess the interconnectedness of race/ethnicity and income of DC residents and their respective mortgage application approvals. Using data from 1996 and controlling income, they found that race had an impact on loan approvals for applicants with incomes greater than or equal to $40,000. In contrast, for all income brackets lower than $40,000, they found no statistically significant evidence of disparate treatment by race. For higher income brackets, based on a Chi-Square test, which measures whether the relationship between race and loan approval/denial, they found that White residents received more favorable treatment than Blacks. Blank et al. (2005) found that, if all other variables are equal, Black and Hispanic residents have a significantly lower probability of getting their loan applications approved than Whites residents at the 1% level. Furthermore, they reported that the higher the number of vacancies in a tract, the lower the probability that the loan application will be approved since houses in high vacancy neighborhoods are considered to be of lower value compared to houses in low vacancy neighborhoods. Blank et al. (2005) discovered that unconscious biases resulting from the racialized perception of value in 1996 contributed to the devaluation of property and housing stock in neighborhoods of color in DC.

In sum, based on historically racist policies, redlining impacted neighborhood housing quality and lending practices which contributed to the makeup of a community’s demographics, built environment, and mental health outcomes.

**DISCUSSION**

The research reported here shows that structural drivers of the social determinants of health have a long-term impact on community violence in DC. Traumas from adverse childhood experiences of concentrated poverty, low-quality housing, and community segregation continue to play a significant role in perpetuating community violence today. Gilman (2019) found that the availability of affordable housing shapes families’ choices of where they live and has the potential to relocate low-income families to substandard housing in neighborhoods with higher rates of poverty and crime, and fewer health care services. The high cost of housing has displaced longtime residents from neighborhoods because they cannot afford to spend more than 35% of their annual income on rental costs (DC Health Equity Report). The focus on the housing burden in DC needs to be addressed through preserving and increasing the availability of affordable housing, strengthening existing neighborhoods, and engaging community members/partners in decision-making. Such actions will increase housing stability and prevent homelessness and individual displacement (Gillman 2019).

**Table 1** compares the population of White and Black residents, violence mortality rates, life expectancy, housing stability, poverty rate, and % of gross rent exceeding 35% of income between wards. The biggest differences are found in life expectancy, % of monthly
household income on gross rent, and mortality due to assaults/homicides. Households that spend more than 30% of their monthly income on housing are considered cost burdened, and those that spend more than 50% are considered severely cost-burdened (DC Health Equity Report 2018). Households that spend 50% or more percent of their monthly income on housing costs are at high risk of homelessness, job loss, or the possibility of eviction (DC Health Equity Report 2018). Table 1 also shows disparities across the eight Wards in DC. The data were inputted into a table format from the DC Health Equity Report (2018). They show the significant gaps in health outcomes and demographics, highlighting the city’s Racial Dissimilatory Index of 170.9. Wards 1, 2, and 3 are data suppressed for violence mortality rate.

In sum, Table 1 provides a theoretical framework depicting the influence of structural policies on the social determinants of health related to community violence. This web of causation illustrates the influence that Racial Covenants had on community gentrification for the 80-year timeframe between1940-2010 and how this Covenant racially profiled DC neighborhoods, undermining communities’ efforts for better housing and health care opportunities.

The focus on redlining from the 1933 “New Deal” project influenced many social determinants of health such as access to quality education, income security, housing opportunities, neighborhood demographics, and exposure to environmental pollution; most of which establish adverse childhood experiences according to the CDC (2021), leading to increased community violence. (See Table 1 in the Appendix.)

Figure 1 shows structural determinants in boxes connected by dotted lines and social determinants in circles connected by solid lines. These multiple interconnected pathways between social and structural determinants shape the inequities in outcomes related to community safety and violence. (See Figure 1 in the Appendix.)

Structural racism needs to be addressed by focusing on preventative, equity-based programs that assess risk factors using the social ecological model (WHO n.d.). The social ecological model takes into account risk and protective factors at individual, relationship, community, and societal levels, each of which is interconnected and influenced each other (WHO n.d.). Effective community safety and crime prevention strategies must focus on changing community infrastructure, include diverse approaches involving youth, and be multi-sectoral with private-public partnerships including multiple stakeholders in the community (CDC 2022). Developing positive community attributes such as quality schools, stable housing, employment opportunities, and clean environments are necessary to develop better health outcomes for disadvantaged populations (DC Health Equity Report 2018).

LIMITATIONS of the EXISTING RESEARCH

Unfortunately, the research used in the analysis described here lacks census block group data allowing one to conduct real time demographic analyses. It is also limited to publicly available reports and research studies. Therefore, the results reported here need to be supported with more granular data to allow the possibility of investigating causal connections. Information on mortgage lending in DC is limited to one research study using data from 1996 that was unable to provide statistical evidence of racial discrimination for applicants with incomes below $40,000; however, the study did find statistical significance at higher income brackets. There may be bias within the study due to omitted variables which reduced the definitiveness of these findings. While public policies and laws have been developed to combat discriminatory lending practices, there was still a statistically significant difference in population groups’ approval rate at the one percent level. Furthermore, finding tools for measuring structural racism was challenging--although such measures are currently being developed and evaluated for future use. Current approaches to measure systemic racism use the Infant Mortality Rate (IMR) and Racial Dissimilarity Index (RDI).

CONCLUSION

Like many municipalities in America, DC’s history of structural racism has exacerbated health disparities across races and ethnicities. As reported throughout this article, historic policies that support systemic racism in Washington, DC have impacted current neighborhood demographics and health outcomes. Health inequities such as community violence is one of many symptoms that resulted from discriminatory practices in housing, lending, and community displacement. This research has shed light on how current health disparities are a product of time and are a manifestation of a prolonged racial gap in the foundation of U.S. policy, preventing greater achievements in health equity. Suggestions for future paths forward include the possibility of statehood for the District of Columbia as statehood could lead to
increased health benefits for its residents (King et al. 2022). Previous research suggests a strong relationship between political representation and Black-White inequities in infant mortality at the city level (King et al. 2022).

The Covid-19 pandemic further perpetuated health inequities, showing the association between community deprivation and access to quality health care (Walls et al. 2023). Key areas that have been used to advance antiracist policies include researching the historical context, geographical context, and theory-based qualitative and quantitative methods that capture systemic racism (Hardman et al. 2022). Future research needs to examine specific policies and practices that create and exacerbate structural racism across a variety of domains, and an analysis of policies that maintain current neighborhood health outcomes. Additionally, further research on community displacement from racial covenants is needed to assess ties to zip code demographics and their contribution to community violence.

Multi-disciplinary research aimed at testing interventions to establish affordable housing for all communities is needed. Such research could focus on more than just individual health behaviors. It could also influence the creation of preventative-based programs that include community voices, input from public-private partnerships, and needs assessments research oriented toward preventing longtime families from neighborhood displacement in DC (CDC 2021). If addressed appropriately, multi-disciplinary research could contribute to the Health in All Policies approach by using effective social policies to foster equitable health outcomes across communities and reduce health disparities by 2030 (Healthy People 2030, n.d.).

References


University of Minnesota. (n.d.). *What is a Covenant?* [https://mappingprejudice.umn.edu/racialcovenants/what-is-a-covenant](https://mappingprejudice.umn.edu/racialcovenants/what-is-a-covenant)


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**Author's Note:** Nadia Altaher is a recent graduate from George Mason University in Fairfax, Virginia with a major in Community Health and a minor in Data Analysis. She has experience interning at various health departments, including at the Office of Health Equity in DC Department of Health and with a maternal public health nurse at Fairfax County Health Department. Nadia won an award within the College of Public Health at George Mason University for Interdisciplinary research and graduated with honors. She is excited to continue her education by obtaining a master’s in public health at George Washington University. Nadia hopes that her research on the Structural Determinants of Health can provide more discourse across various academic communities on the legacy of structural racism and how it resulted in the neighborhood demographics and inequitable health outcomes seen today.
## Table 1. Comparison of Wards 1-8 on Race/Ethnicity of Residents, Violence Mortality Rates, Life Expectancy, Median Income, Unemployment Rate, and Percentage of Household Income Relative to Rent

<table>
<thead>
<tr>
<th></th>
<th>Ward 1</th>
<th>Ward 2</th>
<th>Ward 3</th>
<th>Ward 4</th>
<th>Ward 5</th>
<th>Ward 6</th>
<th>Ward 7</th>
<th>Ward 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>% nonHispanic Black Population</td>
<td>29%</td>
<td>9%</td>
<td>7%</td>
<td>54%</td>
<td>69%</td>
<td>35%</td>
<td>94%</td>
<td>92%</td>
</tr>
<tr>
<td>% nonHispanic White Population</td>
<td>44%</td>
<td>67%</td>
<td>74%</td>
<td>21%</td>
<td>18%</td>
<td>51%</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>% Hispanic/Latino Population</td>
<td>21%</td>
<td>10%</td>
<td>10%</td>
<td>20%</td>
<td>9%</td>
<td>6%</td>
<td>3%</td>
<td>2%</td>
</tr>
<tr>
<td>Violence Mortality Rate (per 100,000)</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>13.6</td>
<td>25.1</td>
<td>14.3</td>
<td>43.9</td>
<td>50.5</td>
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<tr>
<td>Life Expectancy</td>
<td>80.7 years</td>
<td>85.2 years</td>
<td>86.1 years</td>
<td>79.1 years</td>
<td>75.8 years</td>
<td>78.4 years</td>
<td>71.7 years</td>
<td>69 years</td>
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<tr>
<td>Median Income</td>
<td>$82,159</td>
<td>$100,388</td>
<td>$112,873</td>
<td>$74,600</td>
<td>$57,544</td>
<td>$94,343</td>
<td>$39,165</td>
<td>$30,910</td>
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<tr>
<td>Unemployment rate</td>
<td>3.6%</td>
<td>3.4%</td>
<td>3.5%</td>
<td>4.5%</td>
<td>6.0%</td>
<td>4.4%</td>
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<tr>
<td>% of household income on gross rent</td>
<td>32.7%</td>
<td>34.4%</td>
<td>37.7%</td>
<td>43.6%</td>
<td>42.8%</td>
<td>31.0%</td>
<td>49.0%</td>
<td>52.8%</td>
</tr>
</tbody>
</table>

Source: Data drawn from the DC Health Equity Report (2018) and DC Department of Employee Services (2020) to compare health outcomes across wards in the city.
Figure 2. Web of Causation

Structural and Social Determinants: Impact on Community Violence

Source: Inspired by the ROOTT (Restoring Our Own Through Transformation) and Eco-social Theory Framework, this figure identifies structural and social determinants that influence community violence in DC.