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The Structural Determinants of Health: How Systemic Racism Facilitates Community Violence in D.C.

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ABSTRACT

Racism is deeply embedded in social determinants of health, establishing racial health inequities in populations of color. Recent measures have been taken to address this issue in Washington, DC including the 2020 Racial Equity Achieves Results (REACH) Amendment Act, which focuses on racial equity, social justice, and economic inclusion. To further these efforts, there is a need to understand the relationship between structural racism, unemployment, poverty, and violence. This research explores the correlation between historic racism, social determinants of health, housing policies, and community violence in Washington, DC. Methods 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. Demographic data, drawn from various sources, were used to measure social determinants of health across statistical neighborhoods. Findings indicate Wards 5, 7 and 8, in South and Eastern parts of DC, have the highest rates of crime, unemployment and concentrated poverty, lowest house lending rates, and experienced the most housing displacement from 1940-2010. The district's racial dissimilarity index of 70.9 indicates that the city is still highly segregated and that zip codes play a significant role in individual health and exposure to violence. To achieve health equity, measures must be taken to dismantle structural racism that include community based participatory research and policies that incorporate a historical context of the problem as well as voices of community members.

INTRODUCTION

The social determinants of health is a concept that describes the circumstance and environment in which people live, work, and play, and determines 80% of population health outcomes (Healthy People 2023, n.d.). There are five key social determinants: Access to Quality Education, Access to Quality Health Serivces, Neighborhood and Built Environment, Social and Cultural Contexts, and Economic Stability (Healthy People 2023, n.d.). Such examples of these domains include access to safe and stable housing, experiences of racism/discrimination, income and employment opportunities, 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 allow for worse health outcomes in racially marginalized populations (Lynch, Malcoe, Laurent, Richardson, Mitchell, & Meier, 2021). It permeates in various social determinants and cause 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 across populations. Such examples are lower life expectancy, higher rates of maternal mortality, and worse mental health outcomes among disadvantaged populations (Alegria, NeMoyer, Falgas, Wang, & Alvarez, 2018). It is important to note that not all ethnicities and races experience social determinants of health in the same way.

Mental health problems are more prominent among populations experiencing racism or discrimination and can be influenced by an individual's perception of neighborhood safety (Alegria, NeMoyer, Falgas, Wang, & Alvarez, 2018). Direct and indirect experience with community violence during childhood have been correlated with elevated levels of depression, anxiety, and PTSD symptoms, especially among the Black and African American Community (APA, 2009). The development of mental illness related to social determinants of health can

negatively impact future social determinants such as homelessness, low educational attainment, and economic insecurity, establishing a positive feedback loop (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 behaviors. The onset of mental health symptoms at an early age through adverse childhood experiences can negatively influence how youth establish future relationships with society by undertaking future risky behaviors (CDC, 2021). Violence is the leading cause of death and morbidity among adolescents and young adults in the U.S. as over half of national homicides in 2020 occurred among people aged 15 to 34 (CDC, 2021). While young individuals 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. This research looks to determine the correlation between policies that support systemic racism in Washington, DC (hereafter referred to DC) and current neighborhood demographics and health outcomes.

METHODOLOGY

Methods in retrieving data 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, Buckley, Maheshwari, & Griffith, 2022), (Lynch, Malcoe, Laurent, Richardson, Mitchell, & Meier, 2021), and (Blank, Venkatachalam, McNeil, & Green, 2005) were used to measure the associations between historic redlining, a practice that discriminated lending services towards communities of color because of 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, Buckley, Maheshwari, & Griffith, 2022) and (Blank, Venkatachalam, McNeil, & Green, 2005) were additionally used to collect health outcomes and demographics. Publicly accessible demographic data drawn from the 2018 Health Equity Report from the DC Department of Health was used to measure social determinants of health, life expectancy, and rates of violence across DC's 51 statistical neighborhoods and 8 Wards.

THE 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, Shoefeld, & Cherkasy, 2022). Racial covenants are clauses that were developed in property deeds to prevent people of color from buying or

occupying land, restricting individuals 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, Shoefeld, & Cherkasy, 2022). After 1948, the enforcement of racial covenants was ruled by the Supreme Court unlawful under the Constitution and allowed Blacks/African Americans the right to move into formerly restricted blocks north of Park Road NW, a former racially dividing line (Solberg, Shoefeld, & Cherkasy, 2022). By 1960, Black/ African Americans moved into various sections of the city that have been previously inaccessible, many relocated east of the Anacostia River due to urban renewal projects in the Southwest. During this time, racial covenants had assigned value to neighborhoods based on the race of residents, leading white families to relocate from areas perceived to be declining in value. This gentrification was linked to worse perceived health for Black residents and low-income families located in Southeast, DC, preventing any residents from accumulating wealth or assets (King, Buckley, Maheshwari, & Griffith, 2022).

DC's Black population peaked in the 1970's but was soon shrunk by 15% in the 80'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, Buckley, Maheshwari, & Griffith, 2022). This exodus decreased municipal revenue leading to a decline in social services and quality of life in the city (Solberg, Shoefeld, & Cherkasy, 2022). Further lack of public housing maintenance occurs as the number of habitable units plummeted and renters were displaced by a high rate of gentrification as new investors bought up older housing in neighborhoods such as Capitol Hill, Logan Circle, and Mount Pleasant (Solberg, Shoefeld, & Cherkasy, 2022). In 1995, public housing units were presumed "nearly uninhabitable" due to

dangerous and unsanitary conditions (Solberg, Shoefeld, & Cherkasy, 2022). Those that remained in the city were lost to incarceration or public health epidemics that disproportionately impacted the Black community (Solberg, Shoefeld, & Cherkasy, 2022). By 2010, a plan to attract new and affluent members to the DC community was carried out by investing in community developments in historically Black and White neighborhoods (Solberg, Shoefeld, & Cherkasy, 2022). This resulted in certain zip codes such as Columbia Heights, Shaw, and Logan Circle to become the most "Whitened" in the nation between 2000 and 2010, causing the Black population to decline by almost 40,000 as the White population increased by 55,000 (Solberg, Shoefeld, & Cherkasy, 2022).

DC DEMOGRAPHICS

The demographic makeup of Wards 5, 7, and 8 are predominantly non-Hispanic Black, encompassing 93.7% to 98% of Southeast and Northeast DC while the non-Hispanic White population encompasses 61.1%-72.8% of Northwest and Southwest DC (DC Health Equity Report, 2018). Ward 3, the highest percentage of White Americans, has an increased sixteen-year difference in life expectancy compared to Ward 8, a predominantly Black community (King, Buckley, Maheshwari, & Griffith, 2022). The infant mortality rate (IMR), a measure for structural racism, is six times higher in Ward 8 than Ward 3 (King, Buckley, Maheshwari, & Griffith, 2022). There were also significant differences in access to food, income, and educational attainment between the "affluent" (Wards 2 & 3) and "impoverished" Wards (Wards 7 & 8). The Racial Dissimilarity Index (RDI) measures the segregation between races and ethnicities by using the distribution of populations across a geographic area. A score of zero indicates complete integration while a score of 100 would indicate complete segregation. Using a

US Census five-year average from 2011 to 2015, it was found that 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 an important indicator for structural racism as only 19 of the statistical neighborhoods have concentrated poverty, exceeding the district average (DC Health Equity Report, 2018).

Historically Black neighborhoods such as Ledroit Park, Park View, Logan Circle/Shaw, Barry Farm, Hillsdale, Historic Anacostia, Douglass, Deanwood, Marshall Heights, Benning Heights, Capitol Hill, and Trinidad are encompassed in Wards 5, 7, and 8 along South and East DC (DC Health Equity Report, 2018). These Wards characterized by the highest poverty rates, gross rent rates, pediatric asthma emergency visits, and violent death rates. They also experienced 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 at 57.7 per 100,000, lower than the national average (DC Health Equity Report, 2018). However, the 16.0 death rate to homicide in the district is 3 times higher than the national rate of 5.2 between 2011 and 2015 (King, Buckley, Maheshwari, & Griffith, 2022). 74% of these violent deaths were due to homicide from firearms with the remaining 26% consisting of suicides, 70% of which were individuals aged 16 to 39 years old (DC Health Equity Report, 2018). These Black/White disparities are drastic as homicide violence impacts younger male individuals in the Black community as 94% of victims were Black and 88% were male, living in Wards 5, 7, and 8 (DC

Health Equity Report, 2018). Understanding causes to 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.

DC HOUSING AND REDLINING

Historic redlining by the development of the "New Deal" Project was used to further segregation efforts by refusing to lend mortgages in neighborhoods of color while insuring mortgages and reinvestments in White neighborhoods (Gross, 2017). According to a study in Milwaukee, Wisconsin, a hyper-segregated metropolis, metropolitan areas in the country were color-coded by the Home Owners' Loan Corporation (HOLC) - a federal agency in the 1930s to grade mortgage investment risk of neighborhoods (Lynch, Malcoe, Laurent, Richardson, Mitchell, & Meier, 2021). 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 live in disinvested communities that were deliberately maintained by racial segregation (Lynch, Malcoe, Laurent, Richardson, Mitchell, & Meier, 2021). Current DC neighborhood demographics are a manifestation of these racist housing policies that shaped the built environment and create adverse health outcomes such as a higher infant mortality rate and diminished rate of self-reported mental health and physical health (Blank, Venkatachalam, McNeil, & Green, 2005). HOLC's 'redlining' has also been associated with pre-term birth, late-stage cancer diagnosis, higher rates of emergency visits for asthma, higher alcohol outlet clusters, and increased urban violence (Blank, Venkatachalam, McNeil, & Green, 2005).

Lending discrimination, while considered illegal, has continued to occur to this day from unconscious biases made by the racialized perception of value and contributes to the devaluation

of property and housing stock in neighborhoods of color (Taylor, 2019). This is seen in DC as less than 10 percent of lending applicants in the underserved census tracts were denied loans inequitably (Blank, Venkatachalam, McNeil, & Green, 2005). The results from the study using data from the Home Mortgage Disclosure Act found that Blacks and Hispanics faced discrimination from mortgage lenders at the one percent significance level (Blank, Venkatachalam, McNeil, & Green, 2005). Furthermore, many public housing projects have been slated for private redevelopment, adding to the existing waitlist for rent vouchers to assist underserved populations to pay for private housing – one that reached nearly 40,00 names in 2017 (Solberg, Shoefeld, & Cherkasy, 2022). This explains how redlining from historically racist policies still prevail today in neighborhood housing quality and lending practices, contributing to the make-up of a community's demographics, built environment, and mental health outcomes.

DISCUSSION

From this research, it was found that structural drivers of social determinants of health have a long-standing impact on community violence in DC. Community trauma from adverse childhood experiences stemming from concentrated poverty, low-quality housing, and community segregation from redlining practices during the Jim Crow Era play a significant role in perpetuating community violence today. It was found that the availability of affordable housing shapes families' choices on 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 (Gilman, 2019). Housing expenses have displaced longtime residents by spending more than 35% of their annual income on rental costs (DC Health Equity Report). The focus on housing burden in DC needs to be addressed with preserving affordable homes,

strengthening neighborhoods to engage community members in decision-making, increase housing stability to prevent homelessness and gentrification, as well as enforcing fair housing and lending laws to all individuals (Gilman, 2019).

Visuals to help understand the theoretical framework depicting the influence of structural policies on the social determinants of health related to community violence are seen in Figure 1. This Web of Causation describes the influence that racial covenants had on community gentrification from 1940-2010 and how this racially profiled DC neighborhoods, undermining communities' efforts for house lending and greater health services. 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. The results also found many disparities across wards in DC seen in Table 1. Data inputted into a table format from the DC Health Equity Report (2018) shows the wide gaps in health outcomes and demographics, highlighting the city's Racial Dissimilatory Index of 70.9.

	Ward 1	Ward 2	Ward 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8
% non-Hispanic Black Population	29%	9%	7%	54%	69%	35%	94%	92%
% non-Hispanic White Population	44%	67%	74%	21%	18%	51%	2%	4%
% Hispanic/ Latino Population	21%	10%	10%	20%	9%	6%	3%	2%
Violence Mortality Rate (per 100,000)	----------	----------	----------	13.6	25.1	14.3	43.9	50.5
Life Expectancy	80.7 years	85.2 years	86.1 years	79.1 years	75.8 years	78.4 years	71.7 years	69 years
Median Income	$82,159	$100,388	$112,873	$74,600	$57,544	$94,343	$39,165	$30,910
Unemployment rate	3.6%	3.4%	3.5%	4.5%	6.0%	4.4%	8.4%	11.0%
% of household income on gross rent	32.7%	34.4%	37.7%	43.6%	42.8%	31.0%	49.0%	52.8%

Table 1. 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. Compares 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. Biggest differences are seen between life expectancy, % of monthly household income on gross rent, and mortality to assault/homicides. Households that spend more than 30% of their monthly income on housing are considered cost burdened, and those that use more than 50% are considered severely cost-burdened (DC Health Equity Report, 2018). Households that spend 50% or more on housing costs are at high risk of homelessness, job loss, or the possibility of eviction (DC Health Equity Report, 2018).

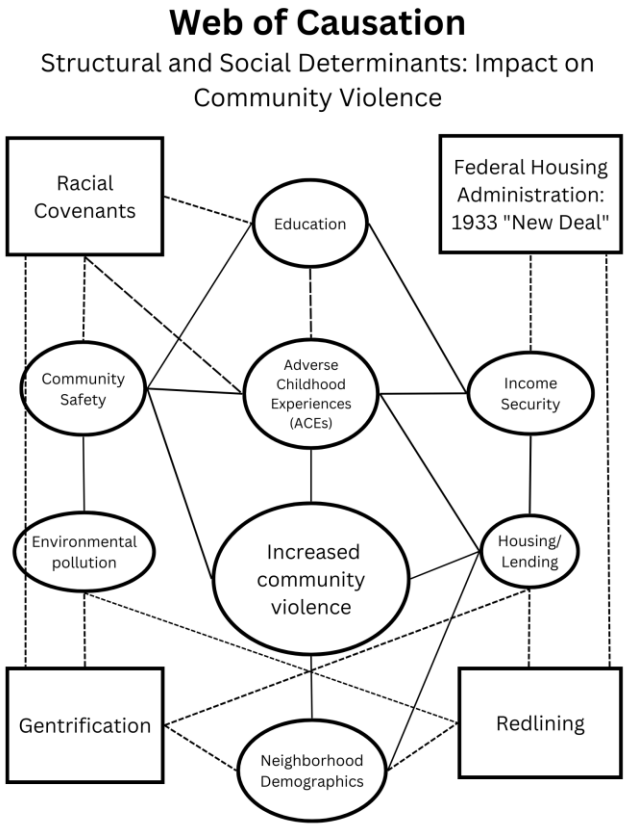

Fig. 1. Inspired by the ROOTT (Restoring Our Own Through Transformation) [1] and Ecosocial Theory [2] Framework, the figure identifies structural determinants and social determinants that influence community violence in DC. Structural determinants are in boxes connected by dotted lines while social determinants are 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.

Addressing structural racism needs to focus on preventative, equity-based programs by assessing risk factors through the social ecological model (WHO, n.d.). The social ecological model reflects on risk and protective factors at individual, relationship, community, and societal levels, each of which is interconnected and influences each other (WHO, n.d.). Simply using law enforcement for measure against community violence has not been proven effective and negatively impacted communities' attitudes towards government officials (DC Health Equity Report, 2018). Effective community safety and crime prevention strategies must change community infrastructure, include diverse approaches involving youth, and are multi-sectoral with private-public partnerships including multiple stakeholders in the community (CDC, 2022). Developing positive community attributes such as quality schools, stable housing and employment opportunities, and clean environments would be necessary to develop equal health outcomes (DC Health Equity Report, 2018).

Current programs in the city to address community violence such as the Office of Neighborhood Safety and Engagement, engage with high-risk individuals to provide mental health services such as trauma-informed therapy, life-planning, and mentorship to interrupt violence through trauma informed care (Office of Neighborhood Safety and Engagement, n.d.). This mental health and community-based therapeutic approach has been proven successful in Richmond, Virginia as it decreased gun-violence deaths by 76%. Programs to address housing quality and lending practices have fallen short to address the disparities in White and Black residents. The Hope VI program was developed due to recommendations by the National Commission to eradicate severely distressed public housing (Solberg, Shoefeld, & Cherkasy, 2022). It targeted longstanding public housing complexes for private redevelopment as a solution to break up concentrated poverty fueled by municipal neglect, but ultimately led to the forced

displacement of tight-knit black communities - transforming a 90% Black neighborhood into a 70% white in 2018 while increasing Black poverty (Solberg, Shoefeld, & Cherkasy, 2022). According to the *Mapping Segregation in DC Project* (2022), new "affordable" housing is priced higher than what public housing tenants can pay, and as of 2019, more public housing properties are still being removed for privatization.

Additional current methods employed by the city include the establishment of The Office of Health Equity and the REACH (Racial Equity Achieves Results) Act which works to find approaches for racial equity and social justice in the city (The DC Line, 2020). This helped develop the Child Wealth Building Act of 2021 to create a trust fund of $1,000 per year until the child reaches 18 to use for college or business investments (King, Buckley, Maheshwari, & Griffith, 2022). Strong re-integration and job training programs for returning citizens, such as Project Empowerment, and Aspire to Entrepreneurship through the Department of Small and Local Business Development, help re-build communities to create employment opportunities and combat criminal reoffences (Office of Neighborhood Safety and Engagement, n.d.). These programs and policies have been used by the city to address community violence and to help create equitable outcomes for disadvantaged and segregated populations. Further unconventional upstream interventions need to occur to desegregate and destabilize the structural norms of systemic racism. More research regarding anti-racist housing policies in DC to prevent gentrification and the correlation to violence in low-income DC neighborhoods are needed, as well understanding the historical contexts that allowed for current community demographics and individual displacement.

LIMITATIONS

This research lacks census block group data to conduct real time demographic analyses and is limited to publicly available reports and research studies that have already conducted analyses. This theoretical approach needs to be supported with more granular data to allow potential for causation. House lending in DC is limited to one research study that was unable to provide statistical evidence of racial discrimination for applicants with incomes below $40,000; however, found statistical significance at higher income brackets. While public policies and laws have been developed to combat discriminatory lending practices, there was still a significant difference in population groups approval rate at the one percent level. Furthermore, finding tools for measuring structural racism was challenging to achieve antiracist policies, although they are currently in development and are being evaluated for future use. Current approaches to measure systemic racism use the Infant Mortality Rate (IMR) and Racial Segregation Index.

CONCLUSION

Like many municipalities in America, DC's history of structural racism has exacerbated health disparities across races and ethnicities. Suggestions for future paths forward include possibility of statehood for the District of Columbia to increase health benefits for its residents. There were studies done to suggest a strong relationship between political representation and Black-White inequities in infant mortality at the city level (King, Buckley, Maheshwari, & Griffith, 2022). The Covid-19 pandemic further perpetuated health inequities as it showed the relationship between community deprivation and access to quality health care (Taylor, Benatar, Mitchell, Liu, & Caraveo, 2023). Key areas that have been used to advance antiracist policies include historical context, geographical context, and theory-based qualitative and quantitative

methods that capture systemic racism (Hardman, Homan, Chantarat, Davis, & Brown, 2022). Future research needs to examine specific policies and practices that create and exacerbate structural racism across a variety of domains, and analyzing current policies that maintain the status-quo. Additionally, further research on community gentrification from displacement and racial covenants is needed to assess ties to social determinants of health and their indirect impact on community violence.

As 90% of Americans spend their time indoors, with two-thirds of that time spent at home, it is necessary to address the discriminatory housing and lending policies that drive current health outcomes, neighborhood conditions, and its ties to community violence (Bravemen, Egerter, Sadegh-Nobari,& Pollack, 2011). Multidisciplinary research is needed to create interventions at the upstream level to establish affordable housing for all communities and focus on more than just health behaviors and individual relationships, but also creating preventative programs focused on affordable and quality housing. Using community voices, public-private partnerships, and conducting needs assessments will allow for collaboration and input from residents to assess what resources and services are needed most and preventing longtime families from displacement in DC (CDC, 2021). If addressed appropriately, this would contribute to the Health in All Policies approach as it uses policymaking to create equitable health outcomes in all communities and facilitate the mission to eliminate health disparities by 2030 (Healthy People 2030, n.d.).

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