Health Equity through Environmental Justice: Case Studies in Environmental Racism

Defining Health Equity & Examining Racial Health Disparities

Much of the health research over the past couple of decades has shown alarming disparities in the health outcomes of different subsets of the U.S. population. Minorities and other marginalized groups in our country have not benefited from the massive advances in health care as much as White Americans. According to Braveman et al., "health equity means reducing and ultimately eliminating disparities in health and its determinants that adversely affect excluded or marginalized groups." Much work needs to be done by those in health care, government and other professions to begin to close those gaps. Black Americans are currently disproportionately affected by a host of conditions and diseases, such as asthma, diabetes, and HIV-AIDS. Life-expectancy, as an all-encompassing health indicator, is also much less for Blacks than for White Americans. The work of David Williams and others has shown that disparities in health outcomes between Black and White Americans remain even once education and income are accounted for. One factor that is strongly considered to contribute to these disparities is the differences in living environments between significant portions of both groups. The places where Black people and other minorities live, work, and play may be more apt to negatively impact health than those of Whites.

Environmental Justice as a Facet of Health Equity

A longer version of the health equity definition posited by Braveman et al. reads, "health equity means that everyone has a fair and just opportunity to be as healthy as possible. This requires removing obstacles to health such as poverty, discrimination, and their consequences, including powerlessness and lack of access to good jobs with fair pay, quality education and housing, safe environments, and health care". Keying in on the housing and safe environments portion of this definition, suggests that environmental justice is an essential factor to advancing

health equity. According to the EPA, environmental justice means “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies”. Much of the evidence from the past few decades shows that these environmental policies have not been implemented fairly – negatively impacting people of color and low-income communities. These vulnerable populations are more likely to have environment-linked health problems, such as certain respiratory ailments, lead poisoning, and some cancers.

The Legacy of Urban Racial Segregation

Housing policy is one of those systems that must be implemented fairly to achieve environmental justice, since where a person lives affects so many health-related circumstances, ranging from access to greenspace to proximity to medical facilities. Recent studies have examined the impact of historical racial housing segregation on black and minority communities in America’s cities – specifically, mid 20th century practices such as redlining. Redlining refers to the Home Ownership Loan Corporation’s (HOLC) efforts to grade areas based on worthiness for mortgage lending. This used a color-tiered system with neighborhoods rated A/Best/Green, B/Still Desirable/Blue, C/Definitely Declining/Yellow, or D/Hazardous/Red. HOLC published this information as “Residential Security Maps.” Areas containing or near communities of Blacks and other minorities were routinely rated in the red or yellow tiers. Other efforts through the Federal Housing Authority (FHA) and public housing initiatives also helped to segregate major American cities and deny Black Americans pathways to home ownership. By the middle of the 20th century, the majority of many cities’ black residents ended up in a few crowded neighborhoods in undesirable locations. These communities began to be overlooked for private and public investment. They came to lack access to utilities and were often near unsightly, polluting industries. The legacy of these practices can be seen in the racial wealth gap, as well as disparities in schooling, nutritional access, recreational opportunities, and environmental contamination. These environmental factors have all played a role in the disparate health outcomes of Black Americans.

Case Studies

In many cases, the history of communities impacted by segregationist policies can be traced to more recent evidence of health effects and health hazards. According to a 2022 research scoping review by Carolyn Swope et al., the body of scientific literature on this subject "nearly universally report evidence of an association between redlining and health-relevant outcomes." Most of the literature examined in this study was published in 2020 or later, with the earliest being 2017. This exemplifies how recently such topics have become an area of research focus. Unfortunately, affected communities have long felt the impact of environmental racism without exposure from media or researchers. These case studies aim to shed light on the story of specific neighborhoods and how historical inequities have created lasting health disparities.

Pittsburgh

HOLC issued a Residential Security Map for Pittsburgh/Allegheny County in 1937. Many areas classified with C and D grades were, and continue to be, majority Black and minority in nature. These included communities near the center of town such as the Hill District, Homewood, and Manchester. Data suggests that such areas have been hit the hardest by population loss and disinvestment. But health has also been impacted by the historical segregationist policies.

Alexander Schuyler and Sally Wenzel's 2021 study examined the burden of asthma on Black people in Pittsburgh/Allegheny County, Pennsylvania. The researchers used geocoding and an asthma registry to analyze asthma burden in neighborhoods graded by HOLC in the 1930's. They concluded that HOLC redlining "profoundly contributes" to long-term health inequities in Black adults.

Industrial land use was found to be most prevalent in historically D-graded areas, as well as emissions of certain air pollutants. These environmental hazard indicators increased across the HOLC grades from A to D. In terms of health outcomes, "uncontrolled and/or severe asthma" incidences also increased incrementally from A to D areas. Outcomes such as asthma

exacerbation occurrences and missed work/school days due to asthma showed a similar trend. As the researchers point out, this work demonstrates “that racism (rather than race) ...appears to worsen asthma morbidity in Black people.”

Chattanooga

The Residential Security Map for Chattanooga was issued by HOLC in 1939. Along with large concentrations of Black residents, many C and D-graded areas were determined to be less desirable due to proximity to industry. Some of the descriptions for C and D-rated areas feature terms such as “many industrial plants” and “noise and smoke is a nuisance,” along with various mentions of certain plants and factories. This proximity to sources of contamination is the principal reason residents of Chattanooga’s southside now face an extreme risk of lead poisoning.

In 2011, a rash of elevated blood-lead level cases clustered in south Chattanooga neighborhoods led EPA and State of Tennessee personnel to investigate sources of exposure. It was found that soil in residential areas was highly contaminated with lead due to the industrial history of the communities. Several facilities of foundry companies existed in the area along the Tennessee River’s east bank, south of downtown, during the 20th century. Lead-bearing foundry waste products were often used as fill and topsoil in the adjacent neighborhoods. After extensive soil sampling, the EPA added the area to the National Priorities List as a Superfund site in 2018. The EPA will continue to test soils and remediate properties for the foreseeable future. Neighborhoods such as Richmond, Southside Gardens, and Coward Place are primary points of contamination and were part of redlined areas in HOLC’s classifications. This represents another example of discriminatory practices directly impacting the health of subject populations.

Conclusion

Examining examples such as these allows communities to identify specific causes of negative health impacts and understand how these effects may be reversed. In the Chattanooga case, for instance, a federal initiative such as the Superfund program allows affected neighborhoods to be targeted and have remediation done at no costs to residents. In

Pittsburgh, leaders can move past basic clinical responses and look to address environmental factors directly. For redressing the legacy of racial segregation nationwide, the National League of Cities suggests taking steps to; 1) study the history of your city, 2) revise implicitly racist policies, and 3) incentivize investment in economically deprived areas. The power of community organizing has also helped many localities around the country begin to combat environmental injustice. Those with established institutional and political power are just now turning their attention to these deep-rooted problems. In the years to come, more strategies and success stories will emerge and become tools to build more equitable American cities.

References

Braveman, P., Arkin, E., Orleans, T., Proctor, D., & Plough, A. (2017). What Is Health Equity? And What Difference Does a Definition Make? Princeton, NJ: Robert Wood Johnson Foundation.

Holifield, R. (2001). Defining environmental justice and environmental racism. Urban Geography, 22(1), 78-90. doi: 10.2747/0272-3638.22.1.78

Rothstein, R. (Director). (n.d.). Segregated by design [Film]. Based on The Color of Law: A Forgotten History of How our Government Segregated America. Retrieved from https://www.segregatedbydesign.com/

Rutan, D. (2017, February 21). The legacies of redlining in Pittsburgh. Students Using Data for Social Good. Retrieved from https://suds-cmu.org/2017/02/21/the-legacies-of-redlining-in-pittsburgh/

Schuyler, A. J., & Wenzel, S. E. (2022). Historical redlining impacts contemporary environmental and asthma-related outcomes in Black adults. American Journal of Respiratory and Critical Care Medicine, 206(7), 824-837. doi: 10.1164/rccm.202112-2707OC

Swope, C. B., Hernández, D., & Cushing, L. J. (2022). The relationship of historical redlining with present-day neighborhood environmental and health outcomes: A scoping review and conceptual model. Journal of Urban Health, 99, 959-983. doi: 10.1007/s11524-022-00665-z

Taylor, D. E. (2000). The rise of the environmental justice paradigm: Injustice framing and the social construction of environmental discourses. The American Behavioral Scientist, 43(4), 508-580. doi: 10.1177/0002764200043004003

Williams, D. R. (2016, November). How racism makes us sick [Video]. TED. Retrieved from https://www.ted.com/talks/david_r_williams_how_racism_makes_us_sick

“Reversing the Residual Effects of Redlining.” (2020, October 13). National League of Cities. Retrieved from https://www.nlc.org/article/2019/03/29/reversing-the-residual-effects-of-redlining/

“Southside Chattanooga Lead Site Profile.” (2017, October 20). EPA. Environmental Protection Agency. Retrieved from https://cumulis.epa.gov/supercpad/SiteProfiles/index.cfm?fuseaction=second.cleanup&id=0410686.