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Taylor J. Rodriquez
Gettysburg College

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Abstract

Understanding the social determinants of health is essential when looking at low-income minorities in urban cities. Social determinants of health are conditions in the environment in which people are born, which affects a wide range of health and quality-of-life outcomes. Amongst other determinants, adequate housing can have a significant influence on population health outcomes such as asthma. Zoning inequality negatively and disproportionately impacts the health and the overall quality of life of low-income minorities; zoning is correlated to environmental injustice fueling adverse health effects and health disparities among low-income minority populations. Without the opportunity to receive adequate and affordable housing, communities of color will continue to be burdened by zoning regulations and strained by the environmental injustices—leading them to put their health at risk in hazardous areas. This paper seeks to review the state of the literature on the impact of zoning on environmental injustice, social determinants of health, exposure to indoor and outdoor pollutants and outcomes for asthma, with particular emphasis on how hypersegregation exposes people of color to environmental injustice in urban areas. The literature review shows that differences in neighborhood racial demographics and income result in more exposure to environmental injustice and asthma outcomes in New York City. Under representation and under-maintained public housing in black communities has also been associated with disparities in health outcomes.

Keywords

Asthma, Zoning, Environmental Injustice

Disciplines

African American Studies | Environmental Studies | Medicine and Health

Comments

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Environmental injustices' impact on Asthma disparities in New York City

AFS 250: HOUSING AND RACE

PROFESSOR REDDEN

TAYLER RODRIQUEZ.

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Understanding the social determinants of health is essential when looking at low-income minorities in urban cities. Social determinants of health are conditions in the environment in which people are born, which affects a wide range of health and quality-of-life outcomes. Amongst other determinants, adequate housing can have a significant influence on population health outcomes such as asthma. Zoning inequality negatively and disproportionately impacts the health and the overall quality of life of low-income minorities; zoning is correlated to environmental injustice fueling adverse health effects and health disparities among low-income minority populations. Without the opportunity to receive adequate and affordable housing, communities of color will continue to be burdened by zoning regulations and strained by the environmental injustices—leading them to put their health at risk in hazardous areas.

This paper seeks to review the state of the literature on the impact of zoning on environmental injustice, social determinants of health, exposure to indoor and outdoor pollutants and outcomes for asthma, with particular emphasis on how hypersegregation exposes people of color to environmental injustice in urban areas. The literature review shows that differences in neighborhood racial demographics and income result in more exposure to environmental injustice and asthma outcomes in New York City. Under representation and undermaintained public housing in black communities has also been associated with disparities in health outcomes.

Rodriquez

People of color experience America differently than their white counterparts. African Americans are far behind their Euro-American counterparts in regard to levels of income and education, disparities in wealth, and access to health care. These disparities come as a result of hyper segregation of black and brown communities, due to persistent zoning policies. The role that zoning racism plays in dictating where communities of color are placed, and its implications will be examined through the lens of critical race theory.

Rima Wilkes and John Iceland highlight the ways in which racial segregation has persisted at high levels in U.S. urban areas, with African Americans experiencing the most hypersegregation. They have found that twenty-nine metropolitan areas could be classified as having black-white hypersegregation, Hispanics having been hyper segregated in 2 cities, while Asians and Native Americans having not been hyper segregated at all. Coming to the conclusion that high hyper segregation in African American communities is indicative of the notion that race is and has shaped residential patterns in these highly divided metropolitan areas, and socioeconomic status has little impact on these patterns (Wilkes and Iceland 2004). In 2000, nearly 60% of Asians, 50% of Hispanics, and 40% of blacks lived in the suburbs, compared to 71% of whites, although these numbers indicate minority representation in more affluent areas, they're not accompanied by a decline in residential segregation in suburban areas (Charles 2003). Half of all urban African Americans have lived under conditions of hypersegregation, with 30% living under conditions that can still be described as high (Massey 2004).

Affluent whites have taken political actions such as redlining and zoning to separate themselves spatially from African Americans. In 1970, just after the 1968 Fair

Rodriquez

Housing Act, but before the 1974 Equal Credit Opportunity Act and the 1977 Community Reinvestment Act, 40 metropolitan areas experienced hypersegregation (Massey 2015). Although the number of hyper segregated metropolitan cities has declined between the 1970s and 2010, the degree of segregation within those areas has not (Massey 2015). Furthermore, jurisdictions with low-density zoning were less likely to have Black residents than those without such regulations (Pendall 2000). Zoning poses as a gatekeeper and determines where different categories of land use may be placed within a city, town or designated municipality. The first comprehensive municipal zoning code was taken up by New York City in 1916. Municipal zoning codes in America followed codes that focused more on issues like fire safety or would apply only to a discrete area. Before official coding laws became popular, some developers would attach their own restrictions to homes to secure exclusivity and high property values (CityLab). As a result of this, multiple cities in the 1910's passed race-based ordinances which would prohibit home sales to the black population and reduce the amount of affordable housing in the form of apartments available to black and brown communities ultimately contributing to hyper segregation in urban areas. In the case of *Euclid v. Ambler Realty*, the Supreme Court found that apartments are "a mere parasite, constructed in order to take advantage of open spaces and attractive surroundings created by the residential character of the district"—demonstration of income/class bias on the Supreme Court (Housing and Race Lecture 2020). The Courts' ruling associated apartments with crime which justified the exclusion of multiple-family housing from the "better neighborhoods", ultimately contributing to the segregation of black and brown communities (Babcock and Bosselman 19). During the early twentieth century few African Americans could afford their own dwellings and a

Rodriquez

similar trend persists today. About 71% of whites are homeowners while 45% of African Americans are homeowners (Ortiz and Zimmerman 2013)

Single-family-only zoning and the ideal of the American dream allowed for the maintenance of this separation and prevented the integration of white suburbia. The single family home is a symbol of the American Dream, a dream that only a selected group of people had access to turning into reality because of zoning laws and lack of unaffordable housing. Those that were and continue to be left out of this American dream are people of color. Today many individuals are unable to let go of the idea of a single family household because they allow for generational wealth, security, and represent lasting upward mobility while apartments are viewed as temporary dwellings and a symbol of crime. The idea of the single-family home is so ingrained within the American psyche, it can be suggested that socio-economic conditions and those with access to these single family dwellings directly inform the ways in which society defines the home. The representation of apartments as parasites and their exclusion from areas with wealth by zoning jurisdiction, has given way to individuals creating a disconnect between their idealized view of home and the apartments in which they live. The courts' ruling of apartments being "a mere parasite, constructed in order to take advantage of open spaces and attractive surroundings created by the residential character of the district" is a demonstration of coded language in which the courts associate parasites with communities of color since people of color are the primary renters. These courts and urban planners played a large role in the adverse health effects that scare the black community today, decisions that would never affect the communities in which these judges live. It can be argued that the courts' decision was primarily based on their view

Rodriquez

of the single-family home being an expression of the “separate, unique, private, and protected” family unit—furthering the notion that the presence of African American communities and apartments would therefore jeopardize that privacy and protection that white homes benefit from by having access to single family units.

Zoning regulation poses as a gatekeeper to keep whites and African Americans separate. Segregational zoning represents the long-standing idea of people of color being invaders—and with their arrival, the neighborhood would see an increase in crime and violence and the value of the homes would deteriorate. A similar notion drives the idea behind building a border wall to keep immigrants of color out of the United States, despite their attempts to create a better life for them and their families. Zoning laws and Supreme Court decisions pose as a wall, a wall that keeps people of color out of white neighborhoods. White hostility for African Americans gave life to white flight where white people would move from cities to suburbs and take away the money in those cities and in doing so contributed to the degradation of these cities and the health of the individuals. A consequence of hypersegregation, as a result of zoning, is environmental racism. More often than not the apartments black and brown communities live in are undermaintained because of the lack of funds in the neighborhood. Leaving them exposed to poor ventilation, mold, or pest infestation, which may lead to infectious disease, injuries, and chronic conditions.

In 2000, nearly 60% of Asians, 50% of Hispanics, and 40% of blacks lived in the suburbs, compared to 71% of whites (Charles 2003). Showing that the African American communities are consistently exposed to environmental injustice more often than other demographics. Health can also be affected by levels of air and noise pollution.

Neighborhood environments contribute to health disparities across racial/ethnic and socioeconomic lines. Residential segregation in the United States, highlights how ethnic minorities and poor individuals live in very different areas than their white and wealthier counterparts. Environmental injustice often places disproportionate health risks on people who are already the most vulnerable or susceptible to those risks. The current efforts in US politics to weaken environmental laws and regulations only drive the environmental injustices communities face. Within the confines of critical race theory, we can continue to analyze the history of the environmental injustices held against the black community, from a geographical macro lens of America with a focus on New York, underlining the stark implications and consequences of hypersegregation.

Environmental justice studies have found that areas with higher mean housing values were further away from hazardous waste facilities compared to areas with significantly lower mean housing values. In the United states, race continues to be a significant predictor of commercial hazardous waste facility locations where socioeconomic and other nonracial factors are taken into account. According to the UCC report, the proportion of people of color are higher closer to the facilities about 47% at 1km away from hazardous waste facilities. Beyond five kilometers of the nation's hazardous waste facilities the proportion of people of color is only 22.2% (United church of Christ 2007).

Segregation does not allow people of color access to a clean environment and equal protection from possible environmental harm because it pushes these communities towards environmental stressors. Scholars of environmental justice, Gloria Helfand and James Petyon found that toxic facilities would be established in areas due with low

Rodriquez

property and land values and the increased likelihood that the communities concentrated in these areas would accept the proximity of such facilities with less compensation (Petyon and Helfand 1999). Supporting this argument, Maantay suggests that zoning practices that allow heavy industry in minority and low-income communities contribute to the overall decline of these communities. As the presence of industry increases, property values decrease, community members are slowly displaced, and these areas become increasingly undesirable. Industrial zones carry a higher pollution impact and risk than residential areas do (Maantay 2002). In contrast, Robert Bullard found that 82 % of all solid waste disposed of in Houston from the 1930s to 1978 was dumped in mostly black neighborhoods, with blacks making up only 25 % of Houston's population, without zoning (Bullard et al. 1983). Supporting the asserted notion of numerous studies that race is a determining factor in trends of environmental injustice.

Several studies have observed that African American communities in urban areas are disproportionately impacted by air pollution compared to white communities. Su et al. reveal that areas densely populated with black and brown communities were more exposed to pollutants NO₂ and PM_{2.5} (Su et al. 2011). Nicole Wirtz et al. examined the long-term dynamics of environmental inequality while focusing on racial and ethnic disparities in exposure to neighborhood air pollution from 1990 to 2009 (Wirtz 2016); they found that African American and Latinos are, on average, are more likely to be exposed to higher levels of (nitrogen) NO₂, (particulate matter) PM_{2.5}, and (particulate matter) PM₁₀ than Whites. Specifically, in New York City, according to the New York City Department of Health, the health of New Yorkers can vary drastically by neighborhood and is linked to race, housing issues, and poverty. Air pollution is a leading environmental

Rodriquez

threat to the health of urban populations overall and specifically to New York City residents and can lead to increased mortality rates among black and brown communities compared to white wealthier communities. (New York Health Department)

Environmental regulations that could potentially protect these vulnerable communities are being attacked in order to implement more economic policies that will drive additional health problems. Current and past administrations have weakened environmental legislation because it harms profits made by the fossil fuel industry. Sixteen legislations dealing with air pollution and emissions have been reversed (New York Times). For example, the administration has replaced the Obama-era Clean Power Plan, which would have set strict limits on carbon emissions from coal and gas-fired power plants, with a new version that would let states set their own rules (Popovich 2019). The public and environmental health consequences of the deregulation of the EPA will be severe and far-reaching (Dillon et al. 2018).

Environmental injustice is a stark reality for communities of color, a reality that many white affluent neighborhoods do not face. Many of these black and brown communities cannot afford to move away from neighborhoods positioned next to landfills or hazardous waste facilities that are having negative effects on their health while many whites can simply just move to richer neighborhoods with better resources. The zoning ordinances were designed to protect public health; however, it only protects the health of white affluent communities. Hyper segregation as a result of these zoning ordinances, has allowed privileged groups to increase their environmental amenities and economic and social capital through environmental degradation. Which results in a decline in community growth, public health, and quality of life in communities of color. Administration

Rodriquez

is driving environmental injustice in these communities. Administrative deregulation of environmental regulation will disproportionately impact communities of color because these communities live in close proximity to fossil fuel industries. Negative health outcomes will only increase as a result. While white communities will not be as greatly impacted by environmental burdens that will result from these regulations. Governmental disregard of these environmental inequalities is just another example of how policy will destroy and disenfranchise the communities of color. This is evidence of how deep racism is ingrained within our policies, practices, and procedures that either disenfranchise black and brown communities or exclude them. As is observed with Trumps' deregulation of environmental legislation. The literature's consideration of racism as an important determinant of health, will help to address environmental injustice directly in black and brown communities.

The health of black and brown neighborhoods does not just rely on the decisions an individual make, ultimately many black and brown communities are not in control of their own health outcomes. The resources that are available to them in that neighborhood, and the decision of policy makers to bring change to these neighborhoods, are the main determinants of their health. Change that is not occurring at a fast-enough rate to save lives because many of these black and brown neighborhoods are underrepresented and lack the funds needed to make such a change, such as helping to combat environmental injustices. African Americans neighborhoods that are less likely to have representatives in high positions of power who forcefully advocate their interests as observed in the series "The Get Down". This inattention fuels the cycles of injustice. Air pollution is a leading environmental threat to the health of urban populations overall and specifically to New

York City residents and can lead to increased mortality rates among black and brown communities compared to white wealthier communities (New York Department of Health). In other words, it is much easier for whites to be healthy, because they can afford to live in a richer neighborhood. It is known that affluent neighborhoods contribute more to air pollution because they can afford to do so, therefore it can be argued that although white communities are causing air pollution due to higher rates of consumption than black communities, black communities are paying for it. The fact that communities of color are more likely to experience environmental injustice is no accident.

High levels of air pollution (ozone, nitrogen oxides, acidic aerosols, and fine particles) are also associated with making asthma symptoms worse; disproportionately impacting black communities. Through the lens of critical race theory, the literature continues to analyze the relationship between the environment, race, and asthma outcomes in Brooklyn, New York.

In urban environments, children, especially those in inner cities, have a higher prevalence of asthma (Andrew-Aligne 2000 et al). These children are more readily exposed to outdoor pollutants, including ozone and diesel exhaust, and indoor pollutants such as tobacco smoke and NO₂ contribute to the onset of asthma (Gern 2010). Notably, black children have seen the greatest rise in asthma prevalence rates, with just under a 50% increase from 2001 to 2009 (Akinbami et al. 2010). In New York the prevalence of childhood asthma in certain low-income, minority neighborhoods are as high as 23%, which is approximately 4 times the national average (New York Department of Health). Public housing environments may be a particular risk factor for asthma and a further example of environmental injustice other than deprotonate exposure to air pollutants

Rodriquez

(Matte and Jacobs 2000). Surveys on public housing have documented that these dwellings are frequently old and in poor repair, with leaky roofs, water damage, mold contamination, cigarette smoking rates are high, cockroach infestation are common, contributing to the onset of asthma (Crain et al 2002). In Brooklyn 70% or more rented homes have at least one maintenance defect (New York City Housing Authority). In 2017, over 90% of public housing residents were Black or Hispanic, while their total makeup in other types of housing was under 50% (New York City Housing Authority). Air pollution is a leading environmental threat to the health of urban populations overall and specifically to New York City residents. The New York City Department of Health found that when observing Brooklyn neighborhoods, Brooklyn's predominantly black neighborhoods have an increased rate of asthma hospitalizations compared to predominantly white neighborhoods. In Bed-Stuy, a neighborhood that is 64 % black, with 54 child asthma hospitalizations per 10,000 people, in contrast Bay Ridge which is 60 percent white, with nine child asthma hospitalizations per 10,000 people (New York Health Department).

Communities of color have the right to breathe clean air. Black mothers have the right to raise their children in safe environments, where they do not have to worry about taking their children to hospitals where their children's needs may not be properly met. The problems behind the disparities in asthma outcomes extend beyond the environment. The literature makes it clear that some people and some neighborhoods have the wrong complexion for protection. Studies conducted by the New York Health Departments are public documents yet, we do not see politicians taking the incentive to protect the lives and lungs of the young black and brown children, A similar event is seen in Flint Michigan whose residents still do not have clean water and governs who do not want to

Rodriquez

take responsibility and incentive to help individuals obtain access to clean water in one of the richest countries of the world. Surveys on public housing have documented that these dwellings are frequently old and in poor repair, with leaky roofs, water damage, mold contamination, high rates of cigarette smoking, common cockroach infestations, which all contribute to the onset of asthma. A large fraction of black communities live in public housing, therefore, it can be argued policies that improve access to cleaner and healthier neighborhoods, such as more dispersed affordable and subsidized housing units in places like New York City will possibly help improve black and brown communities exposure to environmental injustices and in turn asthma. The rezoning could potentially decrease the amount of asthma outcomes that we see in black and brown communities.

There are many social determinants of health and they all come to play when talking about, zoning, environmental injustice, and racial disparities. Zoning has the power to dictate land-use and with the dictation of land-use come the hypersegregation of black and white populations. With this type of segregation, resources are split, funding, toxic waste facilities are more prominent in certain parts of the city and over-all asthma is predicted through an individual's New York area code. Legislation is useful for protecting the health of the affluent White population, while it is difficult for communities of color to even breathe clean air. These disparities and environmental racism people of color face, point to an overarching issue, the issue of the scarcity of affordable housing especially in places like New York City where the cost to live is beyond many people's means. Access to more affordable housing would allow communities of color can move out of industrial areas, which could possibly stimulate integration of white neighborhoods, less exposure

Rodriquez

to indoor and outdoor air pollutants, less outcomes of asthma, and we could potentially see less environmental injustices that lead to health disparities.

Environmental racism is evidence of societies' ability to be compliant with and numb to black suffering. Why is that governmental officials are doing nothing to fix disparities in asthma outcomes, children are dying. Society's false ideas about how black peoples' experience American society drives the disparities we see in environmental injustice. Governmental officials need to realize climate change is real and it will impact black and communities differently than white communities. A better understanding of the mechanisms of these relationships between health, zoning, environment and race by our politicians, will improve the development of culturally tailored programs. Change needs to be made and it needs to be made quickly.

Trends in racial disparities for asthma outcomes is not only an environmental injustice but reproductive injustice as well. Mothers have the right to raise their children in safe and healthy environments. However, that would be difficult for a low income mother to do if she lives in a neighborhood that is in close proximity with a toxic waste facility and her children are forced to breathe toxic air because she is unable to afford adequate housing. Reproductive justice will only be achieved when all women and girls have the economic, social and political power and resources to make healthy decisions about their children's health despite their race and economic status. A future only foreseen access to more affordable housing.

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