

Racial gap in children's asthma linked to social inequality in Houston neighborhoods

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African-American and poor children in the United States suffer disproportionately from asthma. But according to a new study from sociologists at Rice University, racial and socio-economic gaps in the proportion of children in Houston who have asthma may be a result of social inequalities in the neighborhoods where children live.

"Comprehensive Neighborhood Portraits and Child Asthma Disparities" will appear in an upcoming edition of the Maternal and Child Health Journal. In the study, the researchers found that of the 12,000+ children in Houston who have asthma, the chronic disease of airways in the lungs is more prevalent among African-American children than white children and occurs most often among African-American children living in [poor neighborhoods](#). The researchers also found that children of all races and ethnicities, including white children, have a greater risk of developing asthma when they live in poor neighborhoods, compared with children living in middle-class or affluent neighborhoods.

"We set out to find out if there is a concentration of children in different neighborhoods that was more likely to have asthma," said lead author Ashley Kranjac, a postdoctoral research fellow in the Department of Sociology and the Kinder Institute Urban Health Program at Rice. "We found, as others have, that asthma is more widespread among African-American children and children in poor neighborhoods. But in addition, we found that African-American children suffer disproportionately in every kind of neighborhood, from the poorest to the wealthiest."

All Houston neighborhoods were classified using several social and economic characteristics. One such characteristic was median household income; the researchers reported that the most affluent neighborhoods in Houston had median household incomes of over \$100,000. Middle-class neighborhoods were at \$58,100 and poor neighborhoods had median household incomes of just \$33,900.

Using these classifications, the researchers found that African-American children, when compared with [white children](#) living in the same type of neighborhood, were 8.8 percent more likely to have asthma in poor neighborhoods, 6.7 percent more likely in middle-class neighborhoods and 5.8 percent more likely in affluent communities. In addition, the likelihood of being diagnosed with asthma increased for all children in

Houston as they got older. For example, 6 percent of children in Houston between the ages of 2 and 6 have asthma, but 8 percent of children between the ages of 7 and 12 have asthma. And children growing up in the poorest neighborhoods are twice as likely to have an asthma diagnosis compared with children growing up in the most affluent neighborhoods.

Kranjac said that although the research did not provide a reason why African-American children growing up in poor neighborhoods were more likely to suffer from asthma, she theorized that it could partly have to do with socio-economic differences.

"Higher levels of income and higher levels of education go hand in hand," Kranjac said. "It may be that parents with more education have greater access to information on [poor air quality](#) and its effects on asthma. These individuals may not only be more likely to know how to access information on [air quality](#) but also decide to have their children play inside or be able to travel outside of their community on poor air quality days. Individuals with less education and/or income may not have access to that kind of information and/or may not have the resources to pursue alternative activities on poor air quality days. They likely also have fewer housing choices and have to settle for housing in the poorest air quality areas of the city."

Kranjac said that it is equally concerning that African-American [children](#), even in the wealthiest neighborhoods, are disproportionately suffering from [asthma](#).

"The drivers of those differences are not likely physiological but rooted in social and racial inequalities," she said.

More information: Ashley W. Kranjac et al. Comprehensive Neighborhood Portraits and Child Asthma Disparities, *Maternal and*

Child Health Journal (2017). DOI: [10.1007/s10995-017-2286-z](https://doi.org/10.1007/s10995-017-2286-z)

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