

Neighborhoods can affect the need for urgent asthma care

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In a new study presented at CHEST 2017, researchers from Columbia University Medical Center in New York aimed to determine if the associations between combustion-related air pollutant levels and urgent asthma care differed by neighborhood in New York City. The research revealed asthma prevalence and emergency department visits for asthma vary widely among different neighborhoods.

Concentrations of annual average [nitrogen dioxide](#), particulate matter, and elemental carbon and summer average sulfur dioxide were significantly higher in [neighborhoods](#) with higher asthma prevalence than in those with lower prevalence. Nitrogen dioxide and elemental carbon particulate matter were associated with greater prevalence of urgent asthma care. Neighborhood asthma prevalence modified the relationship between pollutant levels and urgent asthma care. Associations between pollutants and urgent asthma care were observed only among children in lower asthma prevalence neighborhoods.

Researchers concluded that the relationship between street level pollutant levels and urgent asthma care was stronger among children who lived in lower asthma prevalence neighborhoods compared with those with high asthma prevalence.

"The lack of significant relationships between pollution and urgent asthma care in high asthma prevalence neighborhoods suggests that the influence of additional environmental and biological factors may be more influential in those neighborhoods," states lead researcher Dr.

Lovinsky-Desir, "yet pollutant exposure modeled at residential street level remained an important predictor of urgent [asthma](#) visits in lower [asthma prevalence](#) neighborhoods of urban New York City."

Further results from this study will be shared at CHEST Annual Meeting 2017 in Toronto on Sunday, October 29, from 7:45 AM-8:00 AM at the Metro Toronto Convention Centre, Room 606. The study abstract can be viewed on the journal *CHEST* website.

More information: Stephanie Lovinsky-Desir et al, Air Pollution, Urgent Asthma Care, and the Impact of Neighborhood Asthma Prevalence, *Chest* (2017). [DOI: 10.1016/j.chest.2017.08.861](https://doi.org/10.1016/j.chest.2017.08.861)

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