



News Release

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Experts warn cost of asthma caused by traffic-related air pollution is much higher than previous estimates

The total cost of asthma due to traffic-related air pollution is much higher than previous estimates, according to new research.

The study, published online ahead of print in the *European Respiratory Journal*, has revealed the true extent of the healthcare costs associated with living close to a busy road.

The researchers studied Long Beach and Riverside; two communities in Southern California that have high levels of regional air pollution and where there are large roads close to residential neighbourhoods. They analysed previous estimates of the number of asthma cases attributable to pollution exposure and multiple surveys on healthcare visits by children with asthma to estimate the yearly costs of childhood asthma.

Traditional methods of assessing the risks and costs of air pollution have not taken into account the causal relationship between pollution exposure and developing asthma, nor have they included the broader costs associated with the disease.

Instead, previous studies have been limited to pollution-related exacerbations (such as hospitalisations) of existing asthma cases. In this study, the research team used a new method of calculating costs that took into account asthma cases attributable to pollution and a broad range of costs including morbidity associated with asthma (such as sinus and ear infections) and the cost of regular care (such as daily control

medication). This 'asthma career cost' estimates the lifelong costs incurred throughout the 'career' of the disease.

To estimate this cost, the researchers assessed the typical volume of health services (such as doctor visits) and number of school absences for a child with asthma each year. They then calculated costs using the average amount charged (for health services) and the average wage rate for parents or guardians (for school absences or attending medical appointments).

The total economic burden of asthma cases and asthma exacerbations due to pollution in the two communities is approximately \$18 million a year, almost half of which is due to new asthma cases caused by pollution. The results also revealed that the total annual cost associated with a case of asthma was approximately 7–8% of average household income in both communities, which exceeds the 5% level that is widely considered sustainable for a family's healthcare expenses.

Sylvia Brandt, lead author of the study, said: "Traditional risk assessment methods for air pollution have underestimated both the overall burden of asthma and the cost of the disease associated with air pollution. Our research allows us to view the true cost of asthma attributable to air pollution as a 'career' cost.

"Our findings suggest the cost has been substantially underestimated and steps must be taken to reduce the burden of traffic-related pollution. While our study is specific to two communities in Southern California, its approach is applicable and relevant to other urban areas, especially since previous research suggests that over 50% of the population in 10 major European cities live within 150 metres of major roads."

Notes to editors:

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