Air Pollution and Children's Health Inequalities

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November 28, 2022

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Abstract

This paper examines the differential impacts of early childhood exposure to air pollution on children's healthcare use across parental income groups using French administrative data. We isolate a quasi-experimental air pollution shock based on changes in local thermal inversion exposure between birth cohorts within municipalities. We provide causal evidence that the level of air pollution exposure affects the likelihood of emergency admissions and drug consumption related to respiratory issues for young children. We also uncover large health inequalities related to air pollution between children. More specifically, we characterize the treatment effect heterogeneity using generic machine learning inference, and we find that effects are concentrated in about 10% of the infant population. These infants are characterized by a combination of poor health indicators at birth and high PM2.5 exposure, which are both more frequently observed among children in the bottom parental income deciles.

Keywords: Air pollution, Inequalities

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