

US Clean Air Act associated with increased average lifetime earnings of \$21,400

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The new work used confidential Social Security and US Census Bureau records to analyze the long-term effects of improvement in the US air lead concentration on adult socio-economic outcomes including earnings, disability, time working, education and public assistance. Credit: alfcermed, Pixabay, CC0 (creativecommons.org/publicdomain/zero/1.0/)

Early exposure to airborne lead has long-term outcomes on employment, disability and lifetime earnings, and the passage of the US Clean Air Act in 1970 has had an estimated US \$4.23 trillion in benefits through its impact on airborne lead levels and the resulting increase in labor market outcomes, according to a new study published November 15 in the open-access journal *PLOS ONE* by Spencer Banzhaf of North Carolina State University and Melissa Ruby Banzhaf of the US Census Bureau.

Even at low levels, lead exposure in utero and in young childhood has been shown to reduce cognitive ability and increase [behavioral problems](#) and risky behavior throughout life. In the new work, the Banzhafs used confidential Social Security and U.S. Census Bureau records to analyze the long-term effects of improvement in the U.S. air lead concentration on adult socio-economic outcomes including earnings, disability, time working, education and public assistance.

The study found that the decrease in air lead between 1975 and 1985, resulting from the passage of the Clean Air Act, is associated with an increase in [lifetime earnings](#) of 3.5% or \$21,400 for the average U.S. worker, with greater impacts on women than men. Additionally, greater exposure to air lead in utero is associated with an increase in adult disability, an increase in receiving public assistance and a decrease in employment. Overall, the total earnings impact of the Clean Air Act totals US \$4.23 trillion, with a benefit of about \$252 billion in 2020 alone.

The authors conclude that there are long-term links among air lead exposure, [cognitive development](#) and socio-economic outcomes. The Clean Air Act's lead phase out is still returning a national dividend of more than 1% each year, they report.

The authors add, "These results indicate that the phaseout of leaded gasoline in the 1970s and 1980s is continuing to pay long-term

dividends. They also highlight the importance of continued efforts to identify and abate lead in drinking water and old paint."

More information: Impact of in utero airborne lead exposure on long-run adult socio-economic outcomes: A population analysis using U.S. survey and administrative data, *PLoS ONE* (2023). [DOI: 10.1371/journal.pone.0293443](https://doi.org/10.1371/journal.pone.0293443)

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