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Cutting Lead Poisoning and Public Costs

Despite dramatic improvements over the past 30 years, lead poisoning remains a serious hazard for hundreds of thousands of young children across the country. Lead exposure can cause significant biological and neurological damage, resulting in cognitive and behavioral impairment that can affect children's lifelong success. A new study finds continuing risks, especially to low-income children who live in older housing with lead paint,¹ and the potential for significant cost savings from reduced rates of lead exposure. This report concludes that **returns on large-scale lead abatement efforts would yield at least \$17 per dollar invested, saving billions of taxpayer dollars through a range of social benefits.**

Economic Impact of Lead Exposure

The \$192 to 270 billion in costs per birth cohort related to lead exposure fall broadly into six categories: health care, IQ loss, increased special education needs, lower earnings, behavior problems and crime. While researchers believe that preventive measures could avert the vast majority of these costs, it is impossible to document exactly what proportion. Thus, cost-benefit figures here represent the most conservative estimates. **The net benefit of lead hazard control ranges from \$181 to \$269 billion.**

Health Care—\$10.8–\$53.1 million

High lead levels can cause multiple, irreversible health problems, including mental retardation, stunted growth, seizures, coma and death. Total health-related costs of elevated lead levels for all children born in a given year are estimated to be between \$10.8 and \$53.1 million.²

IQ & Lifetime Earnings Losses—\$190–\$268 billion

Numerous studies on intellectual function have established a clear, negative relationship between IQ and high blood lead levels, and recent research finds IQ losses even at low levels of lead exposure.

Overall, national lead-related IQ losses range from 9.3 million to 13.1 million points, with resulting earnings losses of \$165 to \$233 billion. Associated tax revenue losses are estimated to cost another \$25 to \$35 billion per cohort of lead-poisoned children.

Increased Special Education Needs & Attention Deficit Hyperactivity Disorder—\$297–\$413 million

Lead-exposed children who have delayed cognitive and behavioral development may need special education services. These interventions cost an estimated \$30 to \$146 million over the lives of all children born in a single year. Research has also quantified the long-observed association between childhood lead exposure and ADHD at \$267 million in medical treatment and parental work loss.

Behavior Problems & Crime—\$1.7 billion

Medical and economic research has established a strong connection between early childhood lead exposure and later violent criminal activity. Direct costs of lead-related crime—for victims, the criminal justice system and workers who lose earnings—exceed \$1.7 billion.³

COST-BENEFIT ASSESSMENT OF LEAD ABATEMENT

Costs of lead hazard control: \$1.2–\$11.0 billion

Benefits of prevention: \$192–\$270 billion:

health care: \$11–\$53 million

IQ & lifetime earnings losses: \$190–\$268 billion

Increased special education needs & Attention Deficit

Hyperactivity Disorder: \$297–\$413 million

behavior problems & crime: \$1.7 billion

Costs of Lead Abatement

This brief assesses only costs related to lead-based paint, by far the most common source of early childhood lead poisoning. Though many millions of homes still contain lead paint, this analysis focuses on the 1.02 million homes at highest risk. Among these homes, **the estimated cost for abatement falls between \$1.2 and \$11.0 billion, or between 0.4 percent and 6 percent of lead-exposure costs.**⁴

Conclusion

The 1978 Congressional ban on lead paint has significantly reduced exposure rates, but the presence of lead paint in older housing continues to threaten the health and well-

being of many children. More recent efforts have been generally reactive, incremental and inefficient.⁵ For every dollar spent controlling lead hazards, at least \$17 would be returned in health benefits, increased IQ, higher lifetime earnings, tax revenues, lower special education costs and reduced criminal activity. Given the high societal costs of inaction, lead hazard control is a public health and fiscal imperative: It helps ensure a healthier start for many of our nation's most at-risk young children.

This policy brief, written by Jennifer Doctors and Elaine Weiss, is based on research conducted by Dr. Elise Gould at the Economic Policy Institute and supported by the Partnership for America's Economic Success. All statistics are referenced in the full report, which is available on the Partnership website, www.partnershipforsuccess.org.

Exposure Risk and Poisoning

As of 2006, between 40,000 and 194,000 U.S. children under age 6 had blood lead levels of at least 10 micrograms per deciliter—the concentration at which the Centers for Disease Control and Prevention (CDC) recommends procedures to remove lead from the bloodstream. This is also the level at which exposure becomes “poisoning.” Recent evidence suggests, however, that **even very low levels of lead exposure have measurable, detrimental and lasting impacts on cognition, behavior and IQ.**

- An additional 25 percent of young children—or roughly 6.9 million—had blood lead levels considered “low” but still harmful—between 2 and 10 micrograms per deciliter.
- Children with such low-level exposure were disproportionately male and Hispanic and/or Black.
- Most children with these low blood lead levels lived in households earning below 200 percent of the federal poverty threshold.

¹ Toys, especially those manufactured in countries with laxer lead regulations, can also pose a threat.

² BLLs below 10 µg/dL are not included due to a lack of relevant data. For this and a variety of other reasons, the health care costs presented here are significantly underestimated.

³ This conservative analysis considers only the direct costs of crime.

⁴ If the many more homes that pose lesser risks were included, the costs (and possibly benefits) would rise.

⁵ David C. Bellinger and Andrew M. Bellinger. 2006. Childhood lead poisoning: the torturous path from science to policy. *Journal of Clinical Investigation*: 11(4):853-857.

The Partnership for America's Economic Success is a national coalition of business executives, economists, funders and civic leaders mobilizing business to improve tomorrow's economy through smart policy investments in young children today. It is managed by The Pew Charitable Trusts and funded by Robert Dugger, the George Gund Foundation, John D. and Catherine T. MacArthur Foundation, Ohio Children's Foundation, The Pew Charitable Trusts and Scholastic, Inc.



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