

How Lead Poisoning Prevention Saves the Community Huge \$\$

The main source of childhood lead poisoning in New Hampshire is exposure to lead-based paint dust in homes built before 1978. Approximately 1 in 3 New Hampshire children with an elevated blood lead level (BLL) were exposed as a result of recent home renovations.

The community at large pays a huge price for problems caused by childhood lead poisoning both in human terms and in billions of dollars. These problems are serious and can be life-long including chronic health problems, learning disabilities, increased need for special education services and higher crime rates.

Findings

IQ

Lead exposure in children age 6 and younger can lower IQ. It is estimated that for each microgram per deciliter of blood, a child can lose .52 IQ points.

For each IQ point that is lost, a child makes between an estimated \$16,809 less over the course of his or her lifetime. (1)

Special Education

There is a strong link between childhood lead poisoning and a need for special education due to lowered IQ and impaired neurobehavioral function. The estimated average cost of special education in the state of New Hampshire is \$12,144 per student per year. As a result, lead poisoning prevention can cost taxpayers up to \$7.8 million per year to pay for special education services. According to the NH Dept. of Health, in 2009 alone, out of the small number of children tested, 118 had elevated blood lead levels. Many of these children are likely in need of special education. (2)

Health Care

As the amount of lead in a child's blood increases, so do the medical costs for doctor visits, follow up testing, nurse only visits, chelation therapy or, in severe cases, for treating a child over several days in a hospital. Preventing childhood lead poisoning could save up to \$53 million (*Gould basing the estimates on Kemper et al*).

The United States could save an estimated \$43.4 billion per year in healthcare costs by preventing childhood lead poisoning (*Landrigan 2002*). (3)

Crime

There is a link between early childhood lead exposure and future criminal activity, especially violent crimes. This includes, murder, rape, aggravated assault, robbery and burglary (*Bellinger 1994, Nevin 2006, Wright 1998*). The estimated total direct costs of violent crimes linked to early childhood lead poisoning is nearly \$1.8 billion (*Gould 2009*). (4)

Tax Revenue

Childhood lead poisoning has been shown to cause loss of IQ points, life-long illnesses and lower academic achievement. All of these factors can bring down the amount a child will earn over a life time. Lower incomes mean a loss to society as a whole because less comes back to us in tax revenue. It is estimated that the loss in potential tax revenue is between \$25 and \$35 billion. (5)

Return on Investment

It is estimated that preventing childhood lead poisoning would result in a combined net benefit of up to \$270 billion with an initial investment of \$11 billion. That is a \$24 return on every \$1 invested in lead poisoning prevention. (6)

Source(s)

(1) Nevin, et al (2008). *“Monetary benefits of preventing childhood lead poisoning with lead safe window replacement”* in Environmental Research, July 2007 106: 410-419.

(2) Korfmacher, KS (2003). *“Long-Term Costs of Lead Poisoning: How Much Can New York Save By Stopping Lead?”* in Working paper: Environmental Health Sciences Center, University of Rochester, 9 July 2003. Available: <http://www.sehn.org/tccpdf/lead%20costs%20NY.pdf>.

Bureau of Special Education FY’10 Memo #27 – Available:

http://www.education.nh.gov/instruction/special_ed/documents/fy10_memo27.pdf

(3) Kemper et al (1998). *“Cost-effectiveness analysis of lead poisoning screening strategies following the 1997 guidelines of the Centers for Disease Control and Prevention.”* In Archives of Pediatric Medicine 152:1202-1208.

Landrigan, et al (2002). *“Environmental pollutants and disease in American children: Estimates of morbidity, mortality, and costs for lead poisoning, asthma, cancer, and developmental disabilities.”* In Environmental Health Perspectives 110(7): 721-728.

Gould, E (2009). *“Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control.”* In Environmental Health Perspectives v 117 no. 7.

(4) Bellinger et al (1994). *“Pre- and post-natal lead exposure and behavior problems in school age children.”* In Environmental Research 66:12-30.

Wright et al (1998). *“Association of prenatal and childhood blood lead concentrations with criminal arrests in early adulthood.”* In Public Library of Science Medicine 5:e101 available at:

<http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.0050101>

Nevin, R (2006). *“Understanding international crime trends: the legacy of preschool lead exposure.”* In Environmental Research 104:315-336.

Gould, E (2009). *“Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control.”* In Environmental Health Perspectives v 117 no. 7.

(5) Gould, E (2009). *“Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control.”* In Environmental Health Perspectives v 117 no. 7.

(6) Gould, E (2009). *“Childhood Lead Poisoning: Conservative Estimates of the Social and Economic Benefits of Lead Hazard Control.”* In Environmental Health Perspectives v 117 no. 7.