

THE GLOBAL BURDEN OF DISEASE FROM LEAD POLLUTION

A CALL TO ACTION


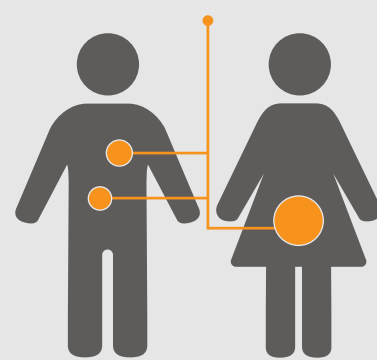
DEATHS DUE TO LEAD POISONING

1 IN 3 CHILDREN IS POISONED BY LEAD



- Approximately one third of the world’s children are lead poisoned—**as many as 800 million globally**¹—at or above the WHO threshold and US CDC action level of 5 µg/dL.²
- In 2019, **at least 900,000 premature deaths globally**, or 1.6% of all deaths, were attributable to lead poisoning—a similar number to deaths caused by HIV/AIDs.³
- **92%** of the deaths attributable to lead exposures occurred in **low- and middle-income countries**.⁴
- The global death rate attributable to lead exposures has **increased by 21% since 1990**—rising steadily even after most countries phased lead out of gasoline.⁵

NEGATIVE HEALTH IMPACTS OF LEAD POISONING


<p>CHILDREN</p> <p>Decreased intelligence Behavioral difficulties Learning problems</p> 	<p>ADULTS</p> <p>Cardiovascular disease Liver/kidney disease Pregnancy complications</p> 
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- There is **no safe level** of lead exposure.⁶
- High levels of lead exposure in pregnancy **can cause miscarriage, stillbirth, premature birth and low birth weight**.⁷

- **Children are particularly vulnerable** to lead poisoning due to their smaller size and higher rates of lead absorption.⁸
- Blood lead concentrations as low as 5 µg/dL are associated with **decreased intelligence** in children, **behavioral difficulties**, and **learning problems**.⁹
- Lead exposure in young children is also associated with **juvenile delinquency, violence and crime** later in life.¹⁰
- Even low levels of childhood lead exposure are associated with increased risk of death from **cardiovascular, liver and kidney disease** later in life.¹¹

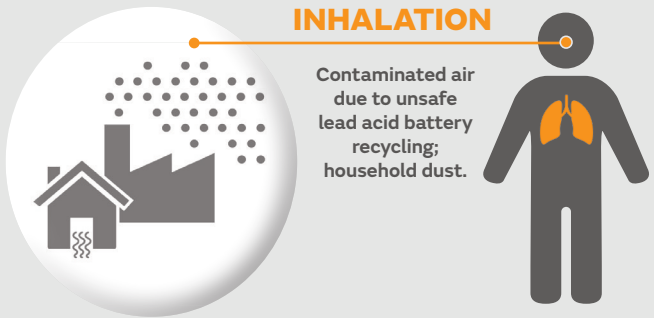
SOURCES OF LEAD POISONING AND EXPOSURE PATHWAYS

INGESTION



Contaminated dust, water and food, including from unsafe used lead acid battery recycling and smelting, and lead in spices, pottery, cookware, cosmetic and paint.

INHALATION



Contaminated air due to unsafe lead acid battery recycling; household dust.

- **Informal used lead-acid battery recycling** is a major source of lead poisoning globally.¹² 85% of the lead used today goes into lead acid batteries, and most of those batteries are made and sold in low- and middle-income countries.¹³
- Contaminated **cookware, pottery, spices and cosmetics** are also significant sources of lead poisoning.¹⁴

ECONOMIC COSTS

According to 2020 analysis by the World Bank, childhood lead exposure is estimated to cost lower- and middle-income countries almost **USD \$1 TRILLION IN LOST ECONOMIC POTENTIAL**.¹⁵

In many countries, economic losses from lead exposure **EXCEED THE TOTAL VALUE OF DEVELOPMENT AID** to that country.¹⁶

SOLUTIONS EXIST AND ARE COST-EFFECTIVE

- The economic benefits of reducing childhood lead exposure in the USA alone is estimated between \$110 billion and \$319 billion annually.¹⁷
 - Decreases in blood levels have been linked to significant reductions in crime rates.¹⁸
 - Soil remediation is cost-effective and provides excellent return on investment.¹⁹
- Set up monitoring and reporting systems, including blood lead level testing.
 - Implement prevention and control measures, including preventing children's exposure to high-risk sites, remediating contaminated sites and removing lead from products
 - Strengthening health systems so that they are equipped to detect, monitor and treat lead exposure among children;
 - Conduct public awareness education and behavior change campaigns about the dangers and sources of lead exposure with direct appeals to parents, schools, community leaders and healthcare workers.
 - Develop, implement and enforce environmental, health and safety standards for manufacturing and recycling of lead acid batteries and e-waste, and enforce environmental and air-quality regulations for smelting operations.
 - Create global metrics to verify results of pollution interventions on public health, the environment and local economies; build an international registry of blood lead level studies; and update international standards and norms around recycling and transportation of used lead acid batteries.

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