THE GLOBAL BURDEN OF DISEASE FROM LEAD POLLUTION

PURE EARTH

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]

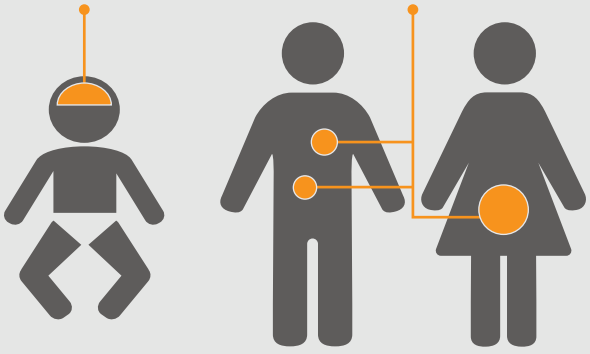
NEGATIVE HEALTH IMPACTS OF LEAD POISONING

CHILDREN

Decreased intelligence
Behavioral difficulties
Learning problems

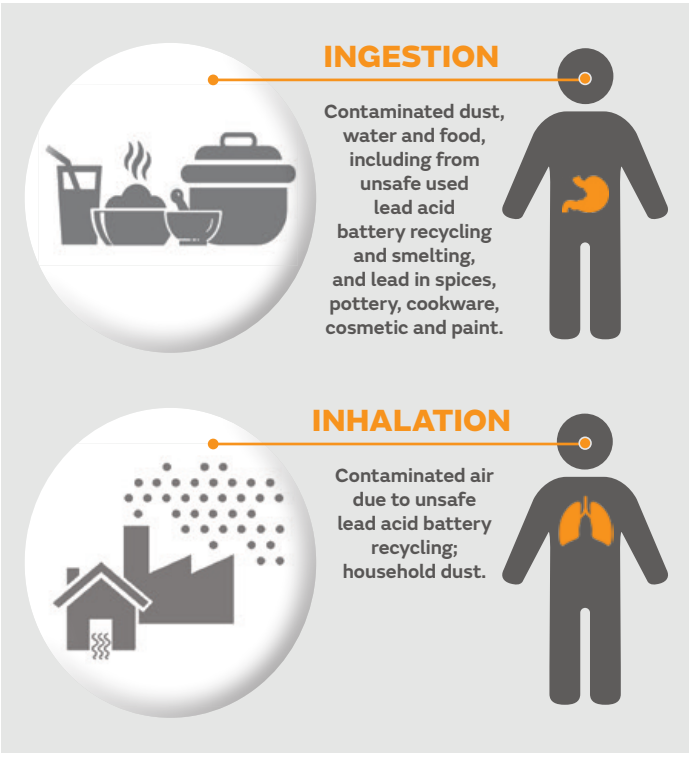
ADULTS

Cardiovascular disease
Liver/kidney disease
Pregnancy complications



- 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



- **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]

UNICEF and Pure Earth recommendations[20] on what countries can do to address lead pollution and reduce exposure among children:

- 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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