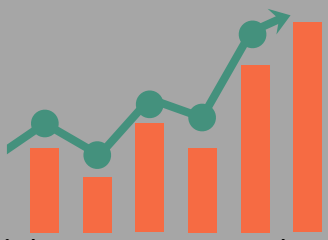
POLICY BRIEF

THE PROBLEM: LEAD

Lead is a naturally-occurring metal that has no necessary role in the body[6]. It mimics calcium, an essential part of our brain chemistry, and disrupts the movement and storage of calcium inside cells. Lead can compete with calcium in communication pathways to interfere with neuron signals and cause the death of brain cells. The bones and teeth of adults contain about 94% of their total lead body burden; in children, that figure is approximately 73%. [4] Lead can stay in the blood for about a month, but it can stay in the bone for 30 years. Within the body, lead can harm cognition and executive functioning of the brain which can lead to difficulty self-regulating and processing information.

Homes built prior to 1978 are likely to contain lead-based paint. Many older homes contain lead paint under newer coats of non-lead paint. Areas that get a lot of wear and tear (windows, doors, railings, stairs, porches, etc.) are higher risk and can contribute to lead-filled dust. Soil near streets and roads may contain lead as a result of past use of lead in gasoline. Lead may also be found in the soil next to houses where the exterior was painted with lead-based paint. Lead enters drinking water when there is corrosion in the water supply system and household plumbing. Old toys, pottery, leaded crystal, inks, plaster, ammunition, stain glass work, and clothing contaminated with lead from the workplace can expose you to lead.[1-3]

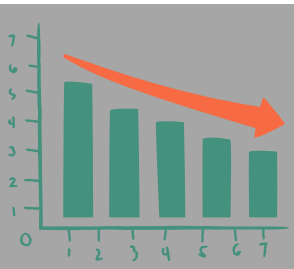
LEAD & VIOLENCE



higher exposure to lead through drinking water is associated with a 24% higher rate of homicides.[3]

4X↑

countries with air lead levels of .17 have four times more homicides than countries with no measureable lead[2][3]



reductions in childhood lead exposure in the 70s-80s accounted for over half the reduction in violence in the 90s [3]

RECOMMENDATIONS

PROACTIVE TESTING

Increase testing in locations where children frequent (playgrounds, schools, etc.).

ENVIRONMENTAL SAFETY

Require mediation in places where hazards are identified.

ACCESSIBLE NUTRITION

Increase access to nutritious foods for young children and those at risk lead poisoning.

Increase testing in locations where children frequent.

Maryland's "Lead Law" requires rental unit owners of properties built prior to 1978 to pass an inspection for lead contaminated dust prior to every change in occupancy.[7] The property must also be free of any chipped or peeling paint. Any hazards occurring after occupancy must be reported to the landlord. The landlord must remove the hazard within 30 days of the report.

- Requiring ongoing lead inspections, regardless of occupancy changes, could increase the recognition of lead hazards
- Testing soil near playgrounds and other areas frequented by children could identify environmental concerns outside of the home
- Without increased testing, exposure sources could go undetected

Require mediation in places where hazards are identified.

The main sources of lead exposure are environmental. Homes built before 1978 are likely to contain lead-based paint. Some water pipes may contain lead, which can leach into the water. Soil in urban environments near heavily-traveled roads may be contaminated due to past usage of lead in gasoline.

- Soil remediation can reduce blood lead levels in children [8]
- Repairing chipped or peeling paint can reduce the likelihood of children ingesting lead or inhaling leaded dust
- In the absence of remediation efforts, children could continue to be poisoned

Increase access to nutritious foods for young children and those at risk lead poisoning.

Many children living in an underresourced family receive access to health foods through free lunch programs in school. Extending healthy free food into preschools and daycares can help increase the access to nutritious foods during the critical developmental periods of early childhood. A healthy, balanced diet can help protect against lead poisoning: [9]

- Vitamin C, calcium, and iron can block lead from be absorbed and/or may help the body eliminate iron from the body
- The body may absorb lead faster when the child has an empty stomach
- Without increased access to nutritious foods, children may be more vulnerable to lead exposure and the harmful neurological effects

SOURCES

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Dena Barnwell | PUBH807 | Fall 2023