

# SUMMARY OF FINDINGS

## Global health burden and cost of lead exposure in children and adults: a health impact and economic modeling analysis

BJORN LARSEN AND ERNESTO SÁNCHEZ-TRIANA, *LANCET PLANETARY HEALTH* / SEPTEMBER 11, 2023

The findings indicate the global health risks of lead exposure are similar to PM2.5 and household air pollution combined, and three times greater than unsafe drinking water, sanitation, and handwashing.

A central implication for future research and policy is that LMICs bear an extraordinarily large share of the health and cost burden of lead exposure; **consequently, research, policies, and practices are very urgently needed to address that burden.**

### THE COST OF LEAD EXPOSURE—2019

#### CARDIOVASCULAR DEATHS—CVD



- **5.5 million** adults died from CVD in 2019 due to lead exposure.
- **90–95%** of this burden was in low- and middle-income countries (LMICs).
- CVD deaths are **6 times** GBD 2019's estimate.

#### IQ POINTS LOST



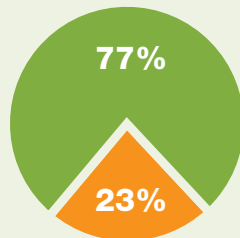
- Children under age five lost **765 million** IQ points.
- IQ loss in LMICs is nearly **80% higher** than a previous estimate.

### COMBINED COSTS



- The global financial cost of lead exposure in 2019 was US \$6 trillion, equivalent to **7%** of global GDP. In LMICs, it accounted for more than **10%** of GDP.

Welfare cost of CVD mortality



Present value of future income losses from IQ loss

### CONCLUSION

**“Reducing environmental lead exposure has almost immediate benefits for young children in terms of preventing cognitive impairment.**”

Reducing exposure also has long-term adult CVD benefits for today's children of all ages. A question is, however, if reducing exposure can also benefit today's adults who have been exposed to lead throughout their lives. Some studies shed some light on this which have shown that EDTA chelation therapy very effectively removes lead from the body and reduces the risk of adverse cardiovascular events over a five-year follow-up period in patients with prior myocardial infarction.”

—LARSEN AND SANCHEZ-TRIANA