

SUMMARY OF FINDINGS

Bangladesh 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 12, 2023

Bangladesh, the fourth most lead pollution impacted country in the world, is facing a significant IQ loss among children and cardiovascular diseases death among adults due to lead pollution.

Bangladesh bears an extraordinarily large share of the health and cost burden of lead exposure; reducing GDP and impacting the economy **consequently, research, policies, and practices are urgently needed to address that burden**

THE COST OF LEAD EXPOSURE—2019

CARDIOVASCULAR DEATHS - CVD



- **138,045** died from CVD in 2019 from lead exposure.
- **85** out of every **100,000** people die from CVD due to lead exposure.
- CVD deaths are **more than 4 times higher** than GBD 2019's estimate.

IQ POINTS LOST



- Children under age five lost about **20 million** IQ points.
- Per child lost **6.9 IQ points** due to lead exposure.
- Increasing the risk of **decreased intelligence, learning problems, and behavioural disorders**

“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.”

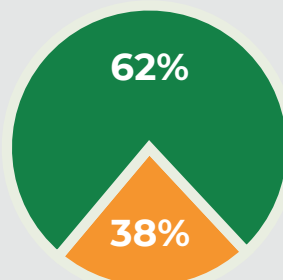
—LARSEN AND SANCHEZ-TRIANA

COMBINED COSTS



- The cost of CVD: **US \$17,736 million**
- The cost of IQ loss: **US \$10,897 million**
- The combined financial cost of lead exposure in 2019 was **US \$28,633 million, equivalent to 6 to 9% of GDP.**

Welfare cost of CVD mortality



Present value of future income losses from IQ loss