Lead in Drinking Water

Fact Sheet

The following list represents a small subset of the thousands of studies and resources on lead in drinking water, its harmful effects on human health, and effective approaches to prevention and remediation. They are presented as representative examples to support to the declarative claims expressed below.

Lead is present in drinking water at harmful levels worldwide.

- Cite to the submitted systematic review article
- Jarvis, P., & Fawell, J. (2021). **Lead in drinking water – An ongoing public health concern?** Current Opinion in Environmental Science & Health, 20, 100239. https://doi.org/10.1016/j.coesh.2021.100239)
- Fisher, M. B., et a. (2021). **Occurrence of lead and other toxic metals derived from drinking-water systems in three West African countries**. *Environmental Health Perspectives*, *129*(4), 047012

The primary source of lead contamination in drinking water has been demonstrated to be lead leaching from the parts and components used to construct drinking water systems.

- Fisher, M. B., et a. (2021**). Occurrence of lead and other toxic metals derived from drinking-water systems in three West African countries**. *Environmental Health Perspectives*, *129*(4), 047012
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Lead in drinking water is associated with higher blood lead levels in people

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- Levallois, P., Barn, P., Valcke, M. *et al.* **Public Health Consequences of Lead in Drinking Water**. *Curr Envir Health Rpt* **5**, 255–262 (2018). https://doi.org/10.1007/s40572-018-0193-0
- Levallois, P., et al.. (2014**). The impact of drinking water, indoor dust and paint on blood lead levels of children aged 1-5 years in Montréal** (Québec, Canada). Journal of Exposure Science & Environmental Epidemiology, 24(2), 185–191.
- Lee J, Hu M. **Effect of Environmental and Socioeconomic Factors on Increased Early Childhood Blood Lead Levels: A Case Study in Chicago**. *International Journal of Environmental Research and Public Health*. 2024; 21(4):383. https://doi.org/10.3390/ijerph21040383
- Ngueta, G., et al. (2016). **Use of a Cumulative Exposure Index to Estimate the Impact of Tap Water Lead Concentration on Blood Lead Levels in 1- to 5-Year-Old Children** (Montréal, Canada). Environmental Health Perspectives, 124(3), 388–395.

Increased blood lead levels represent a significant health risk.

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- Boyle J, Yeter D, Aschner M, Wheeler DC. **Estimated IQ points and lifetime earnings lost to early childhood blood lead levels in the United States**. Sci Total Environ. 2021; 778:146307. pmid:34030355
- Reuben A, Caspi A, Belsky DW, et al. **Association of Childhood Blood Lead Levels With Cognitive Function and Socioeconomic Status at Age 38 Years and With IQ Change and Socioeconomic Mobility Between Childhood and Adulthood**. *JAMA*. 2017;317(12):1244–1251. doi:10.1001/jama.2017.1712
- Stokes L, Letz R, Gerr F, et al. **Neurotoxicity in young adults 20 years after childhood exposure to lead: the Bunker Hill experience**. *Occup Environ Med*. 1998;55(8):507-516.
- Cecil KM, Brubaker CJ, Adler CM, et al. **Decreased brain volume in adults with childhood lead exposure**. *PLoS Med*. 2008;5(5):e112.
- Needleman HL, Schell A, Bellinger D, Leviton A, Allred EN. **The long-term effects of exposure to low doses of lead in childhood: an 11-year follow-up report**. *N Engl J Med*. 1990;322(2):83-88.
- Mazumdar M, Bellinger DC, Gregas M, Abanilla K, Bacic J, Needleman HL**. Low-level environmental lead exposure in childhood and adult intellectual function: a follow-up study**. *Environ Health*. 2011;10(1):24

Lead-free plumbing materials and corrosion control treatment are cost-effective ways to control lead in drinking water

- Roy, S., Fisher, M. B., Minyila, S., Seidu, Z., Liang, K., & Salzberg, A. (2025). **Preventing lead (Pb) contamination in rural community water systems in LMICs through integrated screening, standards enforcement, and supply chain interventions**. *Groundwater for Sustainable Development*, 101509.
- Hayes, C. (Ed.). (2010). **Best practice guide on the control of lead in drinking water.** IWA publishing.