

Crippled Cities: The Continuing Saga of Urban Lead Contamination and New Approaches to Solving it

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The legacy of over a century of urban lead (Pb) deposition is painted on the contaminated communities that have suffered the multi-generational impacts of Pb poisoning. In contrast to high profile Pb poisoning cases such as water infrastructure changes at Flint, Michigan and mining town contamination at Port Pirie, Australia, most cases of Pb poisoning in cities is neither transient nor point-source related. Instead, the vast majority of Pb-poisoned children are exposed from widespread urban contamination of soils, and from the dusts that are generated from these soils. The vast spatial extent of the contamination issues requires a similarly vast response to effectively separate the contaminant from the human target. In the case of soil Pb geochemistry, it is not the science that is lacking but rather the action that arises from the science. Several new approaches to this issue have mobilized citizen scientists and community-engaged research to target and mitigate the Pb problem at the neighborhood scale, and in the process have enhanced science literacy and emboldened environmental justice efforts.

One example of this new approach is embodied by the Healthy Cities Project (<http://kheprw.org/healthy-cities-project/>), which has utilized community-based Youth Fellows to serve as science ambassadors in their communities, sampling area soils and relaying the laboratory results back to community members. Youth are exposed to the realities of environmental injustice in their backyards and schoolgrounds, and are also empowered by learning the science and solutions to many of these problems, and in the process are shaped into important voices for community development. Other environmental issues also lend themselves well to this model, and with proper organization and management, can make our cities more healthy and prosperous.