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## Lead in Philadelphia's Soils

Molly Goodman

*Union College - Schenectady, NY*, [goodmanm@union.edu](mailto:goodmanm@union.edu)

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Op-Ed: Lead in Philadelphia's Soils  
Molly Goodman  
June 6th, 2019

Philadelphia has a long history of being a major player in the industrial revolution, particularly in the manufacturing of lead paint and varnishes. Philadelphia was home to manufacturers like 'Philadelphia Lead Works,' and the 'National Lead Company.' At one time, Philadelphia had 36 active lead smelters, almost twice more than any other industrial city, consequently causing higher lead concentrations than Flint, Michigan.

Smelting is an essential procedure in the production of lead and involves heating lead ore with chemical reducing agents. This manufacturing method is responsible for releasing large quantities of lead contamination into the atmosphere and the surrounding environment. This practice had a devastating effect on Philadelphia, which now ranks as one of our nation's cities with the most cases of childhood lead poisoning, despite the outlawing of using lead paint in the late 1970s.

Eighteen of the 36 lead smelters were located in the River Wards of Philadelphia, which is situated along the Delaware River and contains the working-class, industrial neighborhoods of Kensington, Port Richmond and Fishtown. Low-income neighborhoods are more likely to be vulnerable to lead in paint due to the fact that the housing is unlikely to have been upgraded.

Although the lead industry fed the economy of Philadelphia for over a century, the financial gains are grossly negated by the environmental consequences of atmospheric lead pollution. The effects of childhood lead exposure last a lifetime, raising the need for special schooling, income support, and healthcare.

Exposure to lead is linked to developmental delays in children and in high doses can result in irreversible damage to the brain and body. A study done in 2014 found that 8% of children living in Philadelphia had a blood lead level above what the Center for Disease Control deems safe. The effects from the lead exposure increases the need for funding for public schooling for children who are developmentally delayed as well as the lifelong medical costs to treat the symptoms of lead poisoning.

In a recent study, exposed soils in 114 locations around the River Wards (mostly in parks, playgrounds, and yards) were tested and researchers concluded that nearly three out of every four sites contained hazardous levels of lead contamination. A report from USA Today found that children living near the sites of former lead manufacturing facilities were found to have elevated levels of lead in their bodies, up to six times that of the national average. Vegetables grown in a section of Kensington were tested and determined to have levels of lead that are up to 40 times the amount deemed safe for human consumption.

Recently, the expanding gentrification of the River Wards has caused a boom in local construction and real estate development. Developers are not required to test lead concentrations in the soils of the properties and the City's long history of industrialization makes it difficult to determine exactly where the contamination occurred. The excavation of sites with high concentrations of lead in soil reintroduces the lead particles into the atmosphere and puts the local communities at even greater risk. The Philadelphia Department of Public Health is supposed to implement a regulation that requires construction crews to contain toxic dust, however little is done to enforce the practice. Testing of the areas being developed concluded

that there were high amounts of toxic dust, with the most accumulating on sidewalks, door stoops and in entryways.

In 2012, the city passed the Lead Paint Disclosure Law, which holds landlords accountable for ensuring their property has safe lead levels. Although this is a step in the right direction, the problem remains: what do we do with all the lead contaminated soil? Lead abatement practices usually remove and replace contaminated soil with clean soil or permanently covers the site with concrete or asphalt. Since excavation is a necessary part of construction, it is impossible to avoid stirring up the contaminated soil risking exposure to nearby residents. Existing remedies can be expensive and have environmental and financial costs and consequences.

Developers must be required to test lead levels before proceeding with construction. Where significant lead is found, developers must then be required to reduce the potential harm to the surrounding atmosphere. Citizens and local residents need to be educated about the risks and signs of lead poisoning and the safety procedures that could limit their potential exposure to lead. It is our civic and moral responsibility to the well-being of our people and environment. A tax on new development, and fines for violations could fund remediation costs, potential medical bills, and public education programs, especially for lower income residents affected by the lead epidemic. If these taxes and fines were implemented, the burden of the cost to provide public environmental educational and remediation would fall on the developers/new property owners. It is our responsibility to protect our fellow citizens by holding developers/gentrifiers accountable for the environmental damage associated with their commercial gain.

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