

University of Cincinnati-East Liverpool Pilot Research Study Fact Sheet



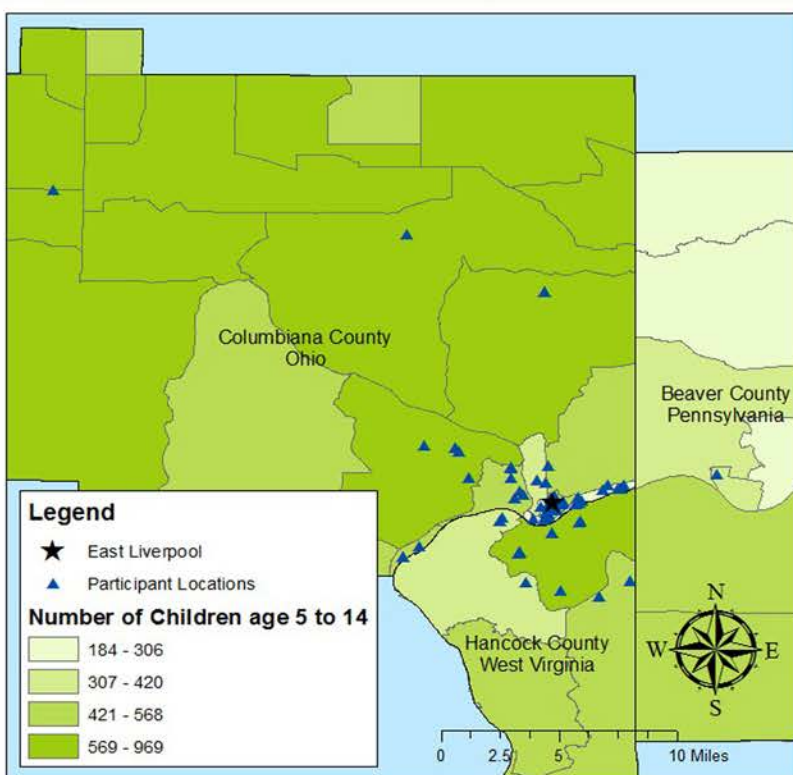
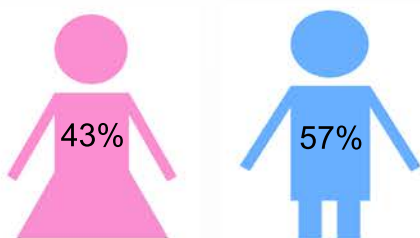
Pilot Study Overview

The goal of the study was to determine the extent of metal exposure in children living in East Liverpool and the surrounding area. The study took place at the Kent State East Liverpool Campus on November 4-5, 2011.

The study involved collecting a sample of blood and hair from children. Parents were asked questions about their child's health.

Study Participants

A total of 106 children, ages 4 to 17, participated in the pilot research study. The average age was 10 years.



Map of Study Participants

Pilot Study Funding

This study was funded by the UC Center for Environmental Genetics, National Institute for Environmental Health Sciences, NIEHS P30-ES006096 and the Communities Actively Researching Exposure Study, CARES R01 ES16531.

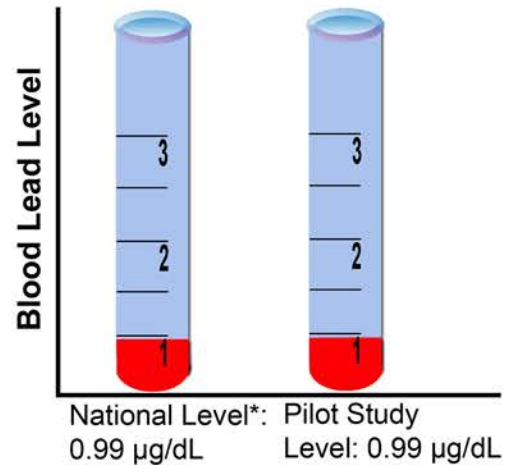
For questions contact Dr. Erin Haynes by phone at 513-558-5427, by email at Erin.Haynes@uc.edu or reach one of our study staff using our toll free number at 1-866-247-3299.



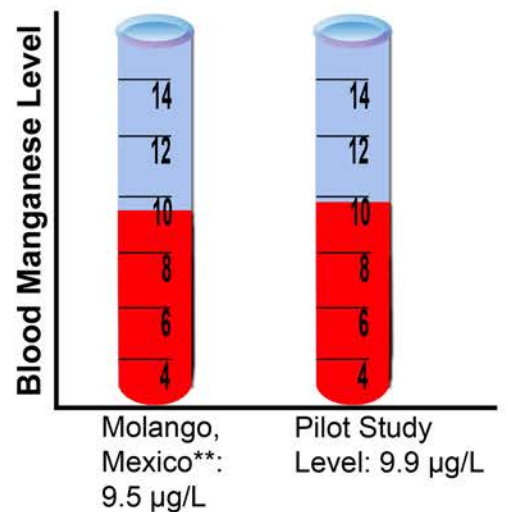
What we found...

Blood levels of cadmium and mercury in children in the East Liverpool Pilot Research Study were too low to detect. Similarly, in national studies* of children ages 6-11, blood levels of cadmium and mercury were also too low to detect.

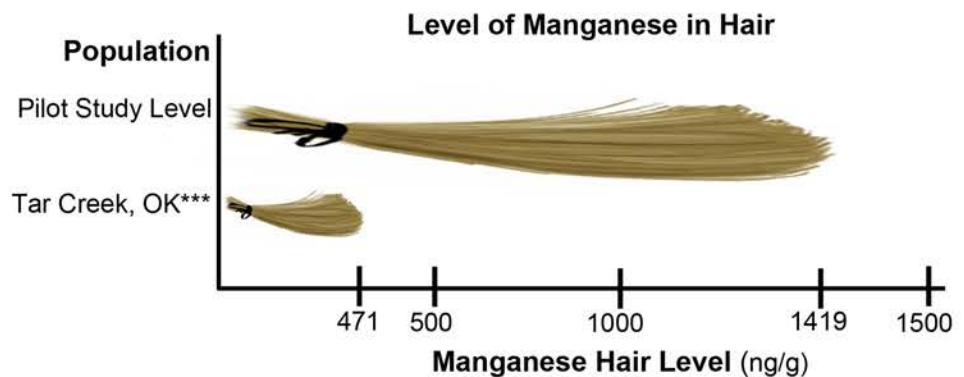
Blood levels of lead in children in the East Liverpool Pilot Research Study averaged 0.99 µg/dL. This level is the same as levels found in national studies*.



Blood levels of manganese in the East Liverpool Pilot Research Study averaged 9.9 µg/L. National studies of children do not include a measure of blood manganese; however, this level is similar to blood manganese levels found in children living near a manganese processing plant in Molango, Mexico**.



Hair levels of manganese in the East Liverpool Pilot Research Study averaged 1,419.23 ng/g. National studies of children do not include a measure of hair manganese. Hair manganese levels in children in this study were 3 times higher than levels found in children living near a hazardous waste site in Tar Creek, Oklahoma***.



What's next...

A larger study is needed to determine if blood and hair manganese levels in children living in the East Liverpool area are related to poor health outcomes. The University of Cincinnati, in partnership with the Kent State East Liverpool Campus, has been awarded a research grant by the National Institute of Environmental Health Sciences to further evaluate the health effects, if any, associated with childhood exposure to metals.

*Centers for Disease Control and Prevention (CDC). National Center for Health Statistics (NCHS). National Health and Nutrition Examination Survey Data. Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2012.

**Riojas-Rodríguez H, Solís-Vivanco R, Schilman A, Montes S, Rodríguez S, Ríos C, et al. Intellectual function in Mexican children living in a mining area and environmentally exposed to manganese. *Environ Health Perspect.* 2010;118:1465–1470.

***Wright RO, Amarasiwardena C, Woolf AD, Jim R, Bellinger DC. Neuropsychological correlates of hair arsenic, manganese, and cadmium levels in school-age children residing near a hazardous waste site. *Neurotoxicology.* 2006 Mar;27(2):210-6. Epub 2005 Nov 28.