

## Shelby County Lead Environmental Scan and Accountability Map

### PROJECT BACKGROUND

The scientific community has known for centuries the danger lead poses to young children.<sup>i</sup> Early childhood exposure to lead lowers IQ and can cause lifelong health, behavioral and economic challenges and deficits. Lead in our environment is a legacy of its historical use in industry, transportation (leaded gasoline), lead-based paint in pre-1978 housing, and lead water service lines. Particularly in older urban areas, lead is present in the soil, water, and air of the outdoor and indoor spaces where we live, learn, work and play.

Shelby County has 11 of the top 20 ZIP codes for lead poisoned children in Tennessee.<sup>ii</sup> The county has approximately 300 children identified with elevated blood lead levels ( $\geq 3.5$  dl/mg) annually, and a majority of those affected are African American children.<sup>iii</sup> However, less than 1 in 5 (17%) of children under age 6 in Tennessee and Shelby County were screened for lead in 2022. Thus, many children go undiagnosed and receive no services.<sup>iv</sup>

#### **The Lead Poisoning Prevention and Treatment Landscape:**

Dozens of agencies across multiple sectors are involved in lead poisoning prevention and/or remediation services. They include public health and pediatric providers; environmental, housing, and code enforcement; local water utilities and public works; early childhood developmental services and K-12 education; environmental and juvenile justice courts; community-based and nonprofit organizations; private businesses such as contractors and landlords; and multiple governmental agencies at the local, state and federal levels.

Our understanding of how all of these agencies provide services, coordinate and interrelate is fragmented and incomplete. This lack of understanding impedes individual agency and provider efforts to both offer services and make needed referrals for affected families. It also makes data collection, communication and finding ways to improve the efficacy of lead poisoning prevention and mitigation services across the system as a whole challenging.

#### **Lead Scan and Accountability Mapping:**

To address this problem, Methodist LeBonheur Community Outreach (MLCO) and partners at the University of Memphis (School of Public Health and Cecil C. Humphreys School of Law) recently received County funding to initiate a project to conduct an environmental scan and accountability map related to the detection of and service delivery related to lead exposure and poisoning in Shelby County children. The aims of the project are to better understand the current lead exposure landscape; create a framework for accountability with regard to lead-

related services; educate the community and policy makers about the dangers of lead and strategies to remove lead from the water, soil, and infrastructure; update policies to create and reinforce accountability; and identify and implement innovative solutions to address lead prevention and remediation in Shelby County.

## **JOB DESCRIPTION:**

One of the project deliverables is the creation of a public-facing dashboard that provides information about lead-related services, screening data, relevant policies, and research findings.

We are seeking a Dashboard Specialist who will play a crucial role in designing and creating a data visualization dashboard that supports the goals of our project. The Dashboard Specialist will report to the School of Public Health Co-PI, Debra Bartelli, DrPH, and will collaborate with the project coordinating team to develop the dashboard. The ideal candidate will have skills in data visualization.

### Responsibilities:

- Design and develop an interactive dashboard using data visualization tools such as Power BI and Tableau;
- Create a visually appealing user-friendly dashboard that effectively communicates key information related to the Shelby County lead landscape;
- Data identification, retrieval, processing, cleaning, and publication for the dashboard;
- Ensuring confidential or sensitive data is handled securely and in accordance with data protection laws;
- Provision of training and support to end-users to ensure easy navigation and effective use of the dashboard;
- Additional related duties as necessary.

### Qualifications:

- University of Memphis Computer Sciences graduate student in good standing;
- Detail-oriented and able to work independently;
- Strong written and verbal communications skills, including excellent editing skills;
- Excellent research and analytical skills;
- Ability to multi-task and work well with others;.
- Ability to plan effectively and meet deadlines.

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<sup>i</sup> . Needleman, H.L. History of Lead Poisoning in the World. N.D.

[https://www.biologicaldiversity.org/campaigns/get\\_the\\_lead\\_out/pdfs/health/Needleman\\_1999.pdf](https://www.biologicaldiversity.org/campaigns/get_the_lead_out/pdfs/health/Needleman_1999.pdf)

<sup>ii</sup> Tennessee Department of Health, Child Lead Poisoning Prevention Program. Infographic. August 2022

<sup>iii</sup> Shelby County Health Department, CLPPP

<sup>iv</sup> Tennessee Department of Health, Child Lead Poisoning Prevention Program. Did You Know? Info-graphic. LeadTRK, Tennessee Department of Health, May 2023