

Summary and Action Items

The Lead Exposure and Prevention Advisory Committee (LEPAC) convened on May 12, 2022. Remote participation through a virtual ZOOM meeting was used to hold the meeting. Approximately 95 public participants attended the meeting or a portion of the meeting. Approximately 24 Federal employees attended the meeting or a portion of the meeting. The meeting was open to the public.

Voting LEPAC Members Present (in alphabetical order)

- Matthew Ammon, M.S., LEPAC Chair; Director, Office of Lead Hazard Control and Healthy Homes, U.S. Department of Housing and Urban Development (HUD)
- Tammy Barnhill-Proctor, M.S., Supervisory Education Program Specialist, Office of Innovation and Early Learning, Office of Elementary and Secondary Education, U.S. Department of Education
- Jeanne Briskin, M.S., Director, Office of Children's Health Protection, U.S. Environmental Protection Agency (EPA)
- Wallace Chambers, Jr., Ph.D., M.A.S., M.H.A., R.E.H.S., Deputy Director, Environmental Public Health, Cuyahoga County Board of Health
- Michael Focazio, Ph.D., M.S., Program Coordinator, U.S. Geological Survey (USGS)
- Kristina M. Hatlelid, Ph.D., M.P.H., Toxicologist, Division of Health Sciences, U.S. Consumer Product Safety Commission (CPSC)
- Karla Johnson, M.P.H., Administrator, Marion County Public Health Department
- Donna Johnson-Bailey, M.P.H., R.D., Senior Nutrition Advisor, U.S. Department of Agriculture (USDA)
- Howard Mielke, Ph.D., M.S., Professor, Department of Pharmacology, Tulane University School of Medicine
- Anshu Mohllajee, Sc.D., M.P.H., Research Scientist Supervisor I, Childhood Lead Poisoning Prevention Branch, California Department of Public Health
- Jill Ryer-Powder, Ph.D., M.N.S.P., Principal Health Scientist, Environmental Health Decisions

Non-Voting LEPAC Liaison Members Present

- Jamie Mack, M.A., Environmental Health Director, Delaware Division of Public Health, liaison to Association of State and Territorial Health Officials (ASTHO)
- Ruth Ann Norton, President and CEO, Green & Healthy Homes Initiative (GHHI), liaison to Green & Healthy Homes Initiative (GHHI)
- Patrick Parsons, Ph.D., Director, Division of Environmental Health Sciences, Chief, Laboratory of Inorganic and Nuclear Chemistry, New York State Department of Health, liaison to Association of Public Health Laboratories (APHL)
- Stephanie Yendell, D.V.M, M.P.H., Senior Epidemiology Supervisor, Minnesota Department of Health (MDH), liaison to Council for State and Territorial Epidemiologists (CSTE)
- Lauren Zajac, M.D., M.P.H, F.A.A.P, Assistant Professor, Icahn School of Medicine at Mount Sinai, liaison to American Academy of Pediatrics (AAP)

Absent Voting LEPAC Members

- Tiffany DeFoe, Ph.D., Director, Office of Chemical Hazards-Metals, Occupational Safety & Health Administration (OSHA), U.S. Department of Labor
- Monique Fountain-Hanna, M.D., M.P.H., M.B.A., Senior Regional Medical Consultant, Maternal and Child Health Bureau, Health Resources and Services Administration (HRSA)
- Nathan Graber, M.D., M.P.H., F.A.A.P., Clinical Associate Professor, Department of Pediatrics, Albany Medical Center
- Erika Marquez, Ph.D., M.P.H., Assistant Professor, School of Public Health, University of Nevada, Las Vegas

Absent Non-Voting LEPAC Liaison Members

- Amanda Reddy, M.S., Executive Director, National Center for Healthy Housing (NCHH), liaison to National Center for Healthy Housing (NCHH)

Speakers (in alphabetical order):

- Sonya Frick, Manager, Lead Safe Home Unit, Michigan Department of Health and Human Services
- Mona Hanna-Attisha, M.D., M.P.H., F.A.A.P., Director, Michigan State University–Hurley Children’s Hospital Pediatric Public Health Initiative; C.S. Mott Endowed Professor of Public Health, Division of Public Health; and Associate Professor, Department of Pediatrics and Human Development, Michigan State University College of Human Medicine
- Cori Ice, Health Education Coordinator, West Virginia Department of Health and Human Resources
- Paul Ice, Environmental Resource Specialist, West Virginia Department of Health and Human Resources
- Nicole Jones, Ph.D., M.S., Director, Flint Registry, Michigan State University–Hurley Children’s Hospital Pediatric Public Health Initiative, and Assistant Professor, Department of Pediatrics and Human Development, Division of Public Health, Michigan State University College of Human Medicine
- Jennifer McClain, Ph.D., Director, Office of Ground Water and Drinking Water, EPA
- Howard Mielke, Professor, Ph.D., M.S., Tulane University School of Medicine
- Perri Ruckart, DrPH, M.P.H., Team Lead/Health Scientist, Lead Poisoning Prevention and Surveillance Branch (proposed), National Center for Environmental Health (NCEH)/Agency for Toxic Substances and Disease Registry (ATSDR), Centers for Disease Control and Prevention (CDC)
- Rio Schondelmeyer, M.P.A., M.S., Health Scientist (Policy), Lead Poisoning Prevention and Surveillance Branch (proposed), NCEH/ATSDR, CDC
- Carin Speidel, Manager, Lead Services Section, Michigan Department of Health and Human Services
- Courtney Wisinski, M.P.H., Manager, Local Lead Services Development Unit, Michigan Department of Health and Human Services
- Nicole Wyse, Associate Director, Community Development, City of Detroit Housing and Revitalization Department

Public Commenters (in alphabetical order)

- Michael Kosnett, M.D., M.P.H., Associate Adjunct Professor, Colorado School of Public Health
- Tom Neltner, Chemical Policies Director, Environmental Defense Fund
- Nathan Park, Associate Legislative Representative, Earthjustice

CDC Attendees who participated in the LEPAC Meeting (in alphabetical order):

- Paul Allwood, Ph.D., M.P.H., RS, Branch Chief, LEPAC Designated Federal Officer (DFO), Lead Poisoning Prevention and Surveillance Branch (proposed), NCEH/ATSDR, CDC
- Patrick N. Breyse, Ph.D., CIH, Director, NCEH/ATSDR, CDC
- Perri Ruckart, DrPh, M.P.H., Team Lead/Health Scientist, Lead Poisoning Prevention and Surveillance Branch (proposed), NCEH/ATSDR, CDC

Common Themes: Federal activities to prevent, reduce, and eliminate childhood lead exposure; primary and secondary prevention; implementing CDC's updated blood lead reference value; state and local activities in communities with high lead exposures; lead in drinking water; lead service line replacement (LSLR); funding opportunities; lead in soil; partnerships; lead in schools; data and surveillance; environmental justice; strategies to improve rates of blood lead screening; adult and occupational lead exposure.

Identified Research Gaps: Communication and outreach strategies to increase blood lead testing; impact of a lower blood lead reference value; lead service line inventories; adult lead exposure; legacy lead contamination in soil; impact of public-private partnerships; accuracy of laboratory test methods; accuracy of point-of-care instruments in identifying lower blood lead levels (BLLs).

Meeting Notes

Lead Branch Updates

Paul Allwood, Ph.D., M.P.H., R.S., LEPAC DFO, Branch Chief, Lead Poisoning Prevention and Surveillance Branch (proposed), NCEH/ATSDR, CDC

- Recent CDC lead poisoning prevention activities and initiatives include
 - Publishing recipient success stories on CDC's website.
 - Continuing to support efforts in Flint, Michigan, and Clarksburg, West Virginia.
 - Providing technical assistance to a childhood lead poisoning case in the U.S. Virgin Islands.
 - Distributing information to funded recipients and the public regarding a hazardous cosmetic used among Afghan refugees known as Kajal, Kohl, or Surma.
 - Presenting to partners to raise awareness about the importance of blood lead testing.
- The Blood Lead Reference Value (BLRV) work group has been sunset.
- All attending LEPAC members approved submitting the committee's 2021 Annual Report to the U.S. Department of Health and Human Services (HHS) Secretary.

Update on BLRV Post Implementation Planning

Rio Schondelmeyer, M.P.A., M.S., Health Scientist (Policy), Lead Poisoning Prevention and Surveillance Branch (proposed), NCEH/ATSDR, CDC

- CDC developed a post-implementation plan to evaluate progress of state and local public health agencies and laboratories toward using the updated BLRV and associated impacts.
- The plan includes outreach to select CDC-funded recipients, reviewing surveillance data, analyzing results from the Awardee Lead Profile Lead Assessment (ALPA), and conducting laboratory proficiency testing.
- LEPAC members discussed strategies to increase blood lead testing rates and how the updated BLRV will affect proficiency testing criteria.

Updates on the Flint Lead Registry

Mona Hanna-Attisha, M.D., M.P.H., F.A.A.P., Director, Michigan State University–Hurley Children’s Hospital Pediatric Public Health Initiative; C.S. Mott Endowed Professor of Public Health, Division of Public Health; and Associate Professor, Department of Pediatrics and Human Development, Michigan State University College of Human Medicine

Nicole Jones, Ph.D., M.S., Director, Flint Registry, Michigan State University–Hurley Children’s Hospital Pediatric Public Health Initiative, and Assistant Professor, Department of Pediatrics and Human Development, Division of Public Health, Michigan State University College of Human Medicine

- The Flint Registry leverages a participatory democracy approach to conducting outreach efforts and providing services to community members. Some of these tactics include partnering with local organizations and initiatives, conducting focus groups, and creating a youth advisory board and a community ethics review board.
- Children make up one-third of enrollees.
- The next phase of the registry involves targeted recruitment to enroll children who were less than 6 years old at the time of the water crisis.
- The Flint Registry is currently working with the University of Iowa to develop an address-specific lead in water risk score.
- Registrants are referred to services in the areas of lead elimination (most common), health care, child development, and nutrition. For those who receive referrals, registrants are referred to an average of two services.
- Adults are reporting high levels of stress and pressure on a daily basis compared to national norms, especially young adults.
- Almost half of the families say it is hard for them to cover basics like food and housing.
- Next steps for the Flint Registry include continuing focused recruitment of groups at high risk, surveillance and cohort maintenance, and ongoing data evaluation to inform policy and practice.

Information about Lead Exposure in Clarksburg, WV

Paul Ice, Environmental Resource Specialist, West Virginia Department of Health and Human Resources

Cori Ice, Health Education Coordinator, West Virginia Department of Health and Human Resources

- Three environmental lead assessments conducted in Clarksburg, West Virginia, between September 2020 and August 2021 revealed high levels of lead in the area’s public drinking water.
- The West Virginia Bureau for Public Health Office of Environmental Health Services issued an administrative order to the Clarksburg Water Board (CWB). The order required the CWB to provide alternate sources of drinking water and/or point of use filters where known lead service lines exist; submit a corrective action plan; and conduct additional water testing, LSLRs, and public education. This order is still in effect.
- A strategic planning/communication team, consisting of staff from EPA, ATSDR, and NCEH, has been working with the West Virginia Department of Health and Human Resources (WV DHHR) to facilitate corrective actions, community outreach, and efforts to increase childhood blood lead testing.
- WV DHHR and its local, state, and federal partners have encountered the following challenges during this effort:
 - Incomplete blood lead reporting from healthcare providers.
 - Low levels of testing in the Medicaid population.
 - Delays in data reporting due to data system uploads and data cleaning issues.
 - Low concern level/awareness of lead risks to children and the importance of blood lead testing.
 - Lack of resources for community members to access residential lead mitigation and/or remediation.
- WV DHHR and its partners have engaged in several outreach and education efforts including
 - Creating and disseminating infographics to over 4,500 families.
 - Coordinating with the local school system and Unicare to provide blood lead testing events.
 - Participating in outreach events to provide education.
 - Conducting a focus group at a local church.
- The West Virginia Childhood Lead Poisoning Prevention Program (WV CLPPP) collaborated with programs in Michigan and Wisconsin to share resources and gain insights on best practices.
- On April 4, 2022, Childhood Lead Screening Rule §64-42 was amended to update their BLRV and require universal testing for all West Virginia children.
- WV CLPPP is currently working with Villanova University’s Mid-Atlantic Center for Children’s Health and Environment to create a podcast educating to nurses and providers about the harms of lead exposure and host an education session at the West Virginia University United Hospital Center.
- WV CLPPP is working to sustain funding and continue these efforts.

Current Infrastructure Initiatives Related to Lead

Jennifer McClain, Ph.D., Director, Office of Ground Water and Drinking Water, EPA

- The bipartisan infrastructure law has provided EPA’s Drinking Water State Revolving Fund Program with \$15 billion for LSLRs and another \$11.7 billion for other eligible projects, including lead reduction projects.

- The State Revolving Fund Program established a federal-state partnership to create a perpetual source of funding for drinking water projects and reduce the cost of these critical public health infrastructures. All components of LSLR projects (e.g., identifying lead service lines, project design) are eligible for these funds.
- EPA current initiatives are focused on two areas:
 - Replacing lead service lines as quickly as feasible and providing resources and technical assistance to address lead-contaminated water.
 - School and childcare drinking water projects, such as lead testing in schools, lead remediation in schools, partnerships with other agencies, and providing technical assistance to communities with high drinking water levels.
- LEPAC members discussed strategies for prioritizing disadvantaged communities, reaching non-community drinking water systems, and current funding availability.

Public Comment

- Tom Neltner encouraged CDC to launch the Lead Exposure Risk Index (LERI) tool as soon as possible so communities can be aware of all sources of lead while conducting lead service line inventories. He also commented on the lead sampling methods used in Clarksburg, West Virginia and the lack of evidence of racial disparities in childhood BLLs in the most recent National Health and Nutrition Examination Survey (NHANES) data.
- Nathan Park encouraged EPA and CDC to collaborate to ensure all lead exposure pathways are identified, use the BLRV to inform EPA's Lead and Copper Rule, strengthen standards, and test as many children as possible. Park encouraged LEPAC to urge CDC to adopt science-based lead standards and pressed EPA to use CDC's BLRV as a benchmark for legislation.
- Michael Kosnett presented a formal petition to LEPAC to establish a subcommittee on understanding and preventing occupational lead exposure.

Updates from LEPAC Members on Lead-Related Activities

- The Department of Education continues to partner with EPA, share out information from EPA and CDC, and discuss lead-related topics with the Office of Safe and Healthy Students.
- In Fall 2021, EPA launched the Enhancing Lead-Safe Work Practices through Education and Outreach program, a training and outreach initiative focused on reducing childhood lead exposure in 11 underserved communities. EPA will publish final rules on updated dust lead hazard standards and clearance levels in 2024, and EPA plans to complete 225 Superfund cleanup projects that address lead as a contaminant by 2026.
- CPSC is enforcing requirements for lead content in children's products and preventing unsafe products from entering the U.S.
- HUD's efforts are rooted in environmental justice. Current initiatives include updating its strategic plan, raising awareness about funding opportunities, and targeting programs to make sure funds are distributed appropriately.
- USGS is building datasets on lead in drinking water at the taps inside homes where residents self-supply their drinking water as well as taps inside homes that receive public water. This data effort includes a focus in tribal areas and other underserved areas, such as Puerto Rico. The goal is to provide unique exposure data on samples that are collected at the point of use.ⁱ

- Marion County Health Department is working on testing all children in first grade and younger in all of the major school districts. The health department is also working with local universities to recruit students to help with testing and outreach.
- Dr. Mielke worked on research analyzing the effects of landscaping methods on soil lead levels at playgrounds near freeways.
- The California Department of Public Health provided new BLL data on their website that is segmented by race and ethnicity. The department is looking into medical enrollment data to determine if children are being tested for lead. The department is also working on adopting 3.5 ug/dL into their case management and follow-up processes.
- APHL is developing guidance for public health labs to use the updated BLRV and prescreening supplies to minimize contamination. APHL plans to publish an updated C40 document with the updated BLRV and a new background contamination limit within the next 18 months.
- CSTE is updating their blood lead position statement to change the condition from “elevated blood lead level” to “lead in blood” and update the criteria for reporting the case definition and case classification.
- GHHI recently launched a hospital benefit fund with the University of Pennsylvania, advancing the model of a hospital running a lead reduction program for a county. GHHI will soon launch a whole house intervention model in New Jersey, which includes lead reduction, asthma, falls, and climate measures.
- AAP’s Pediatric Environmental Health Specialty Units (PEHSUs) are collaborating to provide guidance to pediatricians in communicating with families about low-level lead exposure. AAP is also working with pediatricians to address issues surrounding point-of-care (POC) testing recalls and shortages.

Lead in Air, Soil, and Blood

Howard Mielke, Ph.D., M.S., Professor, Tulane University School of Medicine

- The lead in soil cycle is related to automobile and industrial air emissions. The cycle includes lead going from soil to the air and back into the soil.
- Children can be exposed to lead in soil by many pathways of exposure.
- Banning leaded gasoline curtailed the accumulation of lead dust. According to NHANES data, children’s BLLs declined following the phase-out of leaded gasoline in 1986.
- Quantities of soil lead are associated with city size. Soil in larger U.S. cities is more likely to contain higher levels of lead.
- Soil samples collected closer to building foundations are more likely to contain higher levels of lead.
- Data reveal childhood lead exposure correlated to soil lead is more common among children from racial/ethnic minority groups and families with lower household incomes.
- Landscaping urban public lands with clean soil is a feasible and cost-effective method to address soil lead hazards for children, as evidenced by projects at playgrounds in New Orleans.
- Current policies do not address legacy soil lead, especially in lead contaminated cities.

Navigating Multiple Funding Streams at the Local Level

Carin Speidel, Manager, Lead Services Section, Michigan Department of Health and Human Services.

Sonya Frick, Manager, Lead Safe Home Unit, Michigan Department of Health and Human Services

Courtney Wisinski, MPH, Manager, Local Lead Services Development Unit, Michigan Department of Health and Human Services

Nicole Wyse, Associate Director, Community Development, City of Detroit Housing and Revitalization Department

- Michigan's Lead Services Section (LSS) is made up of the following units: Childhood Lead Poisoning Prevention, Local Lead Services Development, Lead Safe Home Principal Unit, and Lead Safe Home Flint Response Unit.
- LSS promotes safe and healthy environments through multifaceted child, health, and home-based intervention programs, which include public education, community outreach, and collaborations with state and national partners
- LSS currently focuses on providing environmental investigations and abatement services that focus on finding lead hazards, fixing lead hazards, and family support services.
- In the future, LSS will shift its focus to increasing child blood lead testing, workforce development programs, expanding lead inspection services, developing an online module for home visitors, developing quality assurance tools for programs and professionals, and adopting EPA's Lead Renovation, Repair and Painting Program (RRP) rule.
- LSS programs are funded by government agencies (HUD, EPA, CDC, CMS), Michigan Children's Health Insurance Program (CHIP), and private grants.
- Funding supports several programs and projects including the Community Development Program, Lead in Water Program, Lead Safe Home Program, Critical Engagement Outreach Project, Lead Safe Home Daycare Program, Lead Poisoning Prevention Fund, Workforce Initiatives, and the Childhood Lead Poisoning Prevention Program.
- LSS staff share best practices for planning, implementing, and evaluating programs using multiple funding sources.
- Aligning federal programs would provide an ease in the administrative burden for grantees and would attract more potential applicants by reducing paperwork. LSS provides recommendations to help streamline several processes.

Discussion on Policy Approaches to Improve Childhood Blood Lead Testing Rates

Perri Ruckart, Dr.P.H., Team Lead/Health Scientist, M.P.H., Lead Poisoning Prevention and Surveillance Branch (proposed), NCEH/ATSDR, CDC

- Implementation of childhood blood lead testing policies is inconsistent across the states and not closely monitored. Due to the varied state approaches and resulting testing rates, there is a need to determine which policies are more effective at increasing testing rates.
- One study found that children with BLLs at or above 4 µg/dL before age 3 who were provided with early learning interventions had higher standardized test scores in math and English in 3rd

grade compared with similar children who did not receive the intervention. This underscores the importance of identifying lead exposed children and connecting them to appropriate services.

- Dr. Ruckart’s research assessed the association between childhood blood lead testing rates and seven childhood lead poisoning testing policies. The study found that policies that require proof of blood lead testing for school enrollment, metrics, and other managed care organization (MCO) guidance are associated with higher child blood lead testing rates.
- Upcoming CDC efforts to improve testing rates include
 - Posting a feed of BLL surveillance data on the Environmental Public Health Tracking portal.
 - Assessing the impact of the pandemic and POC test recalls on testing rates.
 - Expanding communication and outreach via a new online training program, case vignettes based on real-world inquiries received, and Medscape ads.
 - Partnering with Medicaid directors, PEHSUs, poison control centers, school health associations, and others.
 - Launching the LERI later this year, which will help identify community lead exposure risk.

Workgroup Discussion

- LEPAC members discussed ideas for a new work group. LEPAC members proposed the following work group topics:
 - Advancing the understanding of the air-soil lead cycle and childhood lead exposure
 - Non-housing exposures with a focus on immigrant and refugee communities
 - Impact of long-term educational interventions and outreach to families of lead poisoned children
 - Communication and outreach strategies for lead poisoning prevention and screening
 - Occupational lead exposure
 - Lead exposure in schools and childcare centers

¹ An update from USGS was provided to the LEPAC DFO after the meeting occurred. This update is not reflected in the meeting transcript.