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(<https://www.cdc.gov/lead-prevention/php/lead-advisory-committee/lepac-meetings.html>)

Department of Health and Human Services

Lead Exposure and Prevention Advisory Committee (LEPAC) meeting

**National Center for Environmental Health (NCEH)
Centers for Disease Control and Prevention (CDC)**

October 30, 2020

9:00 a.m. ET to 3:30 p.m. ET

Meeting Summary

The Lead Exposure and Prevention Advisory Committee (LEPAC) convened on October 30, 2020. Remote participation through virtual ZOOM meeting was used to hold the meeting. Approximately 53 public participants attended the meeting or a portion of the meeting. Approximately 65 Federal employees attended the meeting or a portion of the meeting. The meeting was open to the public.

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)†
- Jeanne Briskin, M.S., Director, Office of Children’s Health Protection, U.S. Environmental Protection Agency (EPA)†
- Wallace Chambers, Jr., M.P.H., Deputy Director, Environmental Public Health, Cuyahoga County Board of Health
- Tiffany DeFoe, M.S., Director, Office of Chemical Hazards-Metals, Occupational Safety & Health Administration (OSHA), U.S. Department of Labor†
- Nathan Graber, M.D., M.P.H., Pediatrician, St. Peter’s Pediatrics, St. Peter’s Health Partner Medical Associates
- Karla Johnson, M.P.H., Administrator, Healthy Homes Environmental Consumer Management and Senior Care Department, Marion County Public Health Department
- Donna Johnson-Bailey, M.P.H., R.D., Senior Nutrition Advisor, Office of Policy Support, Food and Nutrition Service, U.S. Department of Agriculture (USDA)†
- Erika Marquez, Ph.D., M.P.H., Assistant Professor, School of Public Health, University of Nevada at Las Vegas
- 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

Absent LEPAC Members:

- Tammy Barnhill-Proctor, Acting Director, Office of Early Learning, Office of Elementary and Secondary Education, U.S. Department of Education (DOE)†
- Dr. Michael Focazio, PhD., Program Coordinator, Environmental Health Mission Area, U.S. Geological Survey (USGS)†
- Dr. Monique Fountain-Hanna, M.D., M.P.H., Senior Regional Medical Consultant, Maternal and Child Health Bureau, Division of Home Visiting and Early Childhood Systems, Region III, Health Resources and Services Administration (HRSA)†

Speakers (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)†
- Sharunda Buchanan, Ph.D., M.S., Director, Office of Priority Projects and Innovation, NCEH/ATSDR, CDC*
- Kathryn Egan, Ph.D., M.P.H., M.Phil., Epidemiologist, Lead Poisoning Prevention and Surveillance Branch (proposed), NCEH, CDC*
- Robert Jones, Ph.D., Chief, Inorganic and Radiation Analytical Toxicology Branch, NCEH, CDC*

Public Commenters (in alphabetical order):

- David Jacobs, Ph.D., C.I.H., Chief Scientist at the National Center for Healthy Housing (NCHH)
- Paul Moyer, M.S., Chair of the Association of Public Health Laboratories' (APHL) Environmental Health Committee
- Tom Neltner, J.D., Chemicals Policy Director of the Environmental Defense Fund (EDF)

CDC Attendees with Active LEPAC Meeting Participation During (in alphabetical order):

- Patrick N. Breyse, Ph.D., C.I.H., Director, National Center for Environmental Health (NCEH)/Agency for Toxic Substances and Disease Registry (ATSDR), Centers for Disease Control and Prevention (CDC)
- CDR Monica Leonard, M.P.H., R.E.H.S., Acting Branch Chief, Lead Poisoning Prevention and Surveillance Branch (proposed), NCEH, CDC
- Perri Ruckart, M.P.H., LEPAC Designated Federal Officer (DFO), Lead Health Scientist, Program Development, Communications, and Evaluation Team, Lead Poisoning Prevention and Surveillance Branch (proposed), NCEH, CDC
- Jana Telfer, M.A., LEPAC Meeting Facilitator, Strategic Projects Officer, NCEH/ATSDR CDC

Federal Attendees (in alphabetical order):

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|--------------------|------------------|------------------|
| • Peter Ashley† | • Katie Boaggio† | • Anna Champlin† |
| • Laura Bellinger* | • Peter Byrley† | • Ginger Chew* |
| • Ben Bina* | • Yulia Carroll* | • Stella Chuke* |

- Amy Cordero*
- Joseph Courtney*
- Kimball Credle*
- Rebecca Dalton†
- Sheryl Driskell*
- Kelly Dyke*
- LaShaundra Everhart*
- Qaiyim Harris*
- Alfie Fededert†
- Warren Friedman†
- Andrew Geller†
- Chris Goldson†
- Kristina Hatlelid†
- Ryan Jackson*
- Mica Jamison*
- Jeffery Jarrett*
- Deanna Jones*
- Madeline Jones*
- Mateusz Karwowski*
- Amanda Kaspert†
- Brian Kennedy*
- Tanya LeBlanc*
- Carolina Lecours*
- Alicia Macler*
- Scott Matust†
- Anna Mercert†
- Halie Obrien*
- Youlanda Outin*
- Russell Owen†
- Celeste Phillip*
- Pamela Protzel Berman*
- Alexis Pullia*
- Cynthia Ward*
- Hope Roobol*
- Rio Schondelmeyer*
- Rieza Soelaeman*
- Erik Svendsen*
- Noor Teebit†
- Leanna Thompson*
- Nancy Tourk*
- Rogelio Tornero-Velez†
- Rebecca Tsai*
- Taka Wiley*
- Sheree Wilkerson
- Valerie Zartarian

*Attendees from CDC

†Attendees from other federal agencies

Public Attendees (in alphabetical order):

- Lucas Allen
- Paul Allwood
- Mitchell Berge
- Eric Bind
- Miranda Brannon
- Peter Butkovich
- Nathalie Cardona
- Doris Cellarius
- Gabby Chamdal
- Rochelle Coleman
- Krista Davis
- Olivia Demotts
- Adrienne Ettinger
- Kelcie Evans
- Chris Freedman
- Lauren Gray
- Shenita-Ann Grymes
- Paul Gillooly
- Chelsea Gridley-Smith
- Honorata Hansen
- Cheryl Harris
- James Harris
- Amy Hayes
- Maria Hegstad
- Rebecca Henseler
- Thomas Hogan
- GerriAnne Huey
- David Jacobs
- Emile Jorgensen
- Audrey Keenan
- Barbara Kero
- Jennifer Liebreich
- Christopher Lindsay
- Camille MacLean
- Lindsay McCormick
- Roger Miksad
- Paul Moyer
- Julianne Nassif
- Lien Nguyen
- Patrick Parsons
- Alan Philippi
- Sudha Rajagopalan
- Amanda Reddy
- Elaine Rubb
- Jill Samuels
- Andrew Steffens
- Rachael Stough
- Amber Sturdivant
- Rodney Washington
- Tess Wendel
- Christopher Werth
- Cris Williams
- Walda Yon

Public comment: Held from 1:30–2:00 pm. Commenters included Tom Neltner, J.D., Chemicals Policy Director of the Environmental Defense Fund (EDF); Paul Moyer, M.S., Chair of the Association of Public Health Laboratories' (APHL) Environmental Health Committee; and David Jacobs, Ph.D., C.I.H., Chief Scientist at the National Center for Healthy Housing (NCHH).

Common Themes: Impacts of coronavirus disease 2019 (COVID-19) on lead testing rates, lead elimination, primary and secondary prevention, case management and follow-up, screening, blood lead reference value (BLRV), environmental lead in soil, housing and health, laboratory considerations, partnerships, and community engagement.

Identified Research Gaps: Occupational/recreational take-home exposure; surveillance integration; lead-risk models; soil lead mitigation; non-paint sources of lead; impacts of COVID-19; consumer understanding of lead exposure; identifying high-risk communities; impact of lead poisoning prevention on housing stability, violence, and crime; lead in food; infrastructure.

Meeting Notes:

CDC's Lead-Free Communities Initiative

Presented by Sharunda Buchanan, Ph.D., M.S., Director, CDC's NCEH/ATSDR Office of Priority Projects and Innovation

* CDC's Lead-Free Communities Initiative Presentation

- It is a CDC initiative led by NCEH Office of Priority Projects, Innovation, and Environmental Justice that is currently in the development stage.
- The initiative represents a starting place, based on a multisectoral collaborative agenda, that will aid in reaching the goal of eliminating children's exposure to lead.
- NCEH is currently working to select three communities to pilot test a Lead-Free Communities model. The communities for the pilot project will be selected based on intention and plans in place to achieve this concept. Communities are expected to collaborate with multisectoral partners. The initiative will focus on eliminating lead from multiple sources, such as paint, soil, and air.
- NCEH plans to engage other federal agencies and other partners outside the federal government in this initiative and is determining which subject matter experts (SMEs) and partners are best suited to assist in developing the model.
- NCEH is still refining a working definition of what it considers to be a "lead-free community," and developing a definition of "lead free."
- Some LEPAC members expressed concerns over the reality of the term "lead-free."
 - There's so much lead in the environment, it's a mistake to talk about lead-free. "Lead safe" is easier to understand and more achievable.
 - A focus on achieving a "lead-free" community may abandon secondary prevention efforts and services for children who have already been poisoned.
 - Eliminating exposure is important, but often mitigating those exposures depends on secondary information (e.g., elevated blood lead levels, follow-up).

- LEPAC members discussed that full engagement and unison in this initiative will require partners to share a common set of goals and objectives within each of their budgets.
- LEPAC members discussed potential challenges to consider, including access to homes and limitations on working with local elected officials and local regulatory agencies, when developing statutes and regulations to follow through on identified lead hazards in homes.

CDC's Lead Surveillance Data on Decline in Testing Rates during COVID-19

Presented by Kathryn Egan, Ph.D., M.P.H., M.Phil., Epidemiologist, Lead Poisoning Prevention and Surveillance Branch (proposed), NCEH, CDC

* CDC's Lead Surveillance Data on Decline in Testing Rates during COVID-19 Presentation

- Nationally, blood lead testing rates declined dramatically in April and May 2020. All 34 CDC-funded jurisdictions reporting data had at least a 40% decline. The greatest declines were in Delaware, DC, Maryland, Missouri, New York City, Rhode Island, and Wisconsin.
- Declines in testing are due to children missing their routine pediatric visits. The pandemic also has had consequences for health departments, such as staffing shortages, the need for alternate methods for testing children and investigating under pandemic conditions, and trouble locating displaced families.
- Health departments are having challenges conducting lead poisoning case management and environmental investigations. Catching up to previous volume will be very challenging.
- Data presented highlight the importance of assuring that children who missed their scheduled screening test, or who required follow up on a prior high level, be tested as soon as possible. Healthcare providers should identify children who have missed well-child visits or recommended vaccinations and contact them to schedule in-person appointments, prioritizing infants age <24 months.
- CDC is currently working on a Morbidity and Mortality Weekly Report (MMWR) publication of these research findings. Note: since the meeting, the MMWR has been published, Courtney JG, Chuke SO, Dyke K, et al. Decreases in Young Children Who Received Blood Lead Level Testing During COVID-19 — 34 Jurisdictions, January–May 2020. MMWR Morb Mortal Wkly Rep 2021;70:155–161. DOI: <http://dx.doi.org/10.15585/mmwr.mm7005a2>
- CDC is continuing to work with health departments to develop and implement strategies for lead poisoning prevention during the pandemic.
- LEPAC members discussed how the high death rate due to COVID-19 among African Americans could be contributed to by the long-term effects of lead exposure, as it impacts the lymph and endocrine systems.
- LEPAC members suggested partnering with other federal programs like Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and Medicaid to evaluate the impact of COVID-19.
- According to LEPAC members who work as healthcare providers, medical providers are making a concerted effort to get children back in the office for their missed well-child visits.

- LEPAC members believe medical providers are more likely to complete blood lead screening when they use a point-of-care device (such as LeadCare II).
- LEPAC members suggested it is important to continue analyzing surveillance data as the increased time spent at home and indoors may have impacts on future blood lead levels (BLLs).
- LEPAC members suggested CDC work with USDA and the U.S. Food and Drug Administration (FDA) to include heritage and culturally sensitive diets in market baskets and total dietary surveys to assess exposure to lead through food.

NCEH Lab Activities

Presented by Robert Jones, Ph.D., Chief, Inorganic and Radiation Analytical Toxicology Branch, NCEH, CDC

[* NCEH Lab Activities Presentation](#)

- Improving precision of testing methods and devices continues to be important for NCEH.
- The most common testing devices include LeadCare II, LeadCare Ultra & Plus, Graphite Furnace Atomic Absorption Spectrometer (GFAAS), and inductively coupled plasma mass spectrometry (ICP-MS).
- Different blood lead collection devices have different limits of detection – the lowest concentration of lead that can be consistently detected (typically, in $\geq 95\%$ of samples tested under routine clinical laboratory condition).
- Levels of detection and lower reporting limits vary depending on the method used to analyze the BLLs.
- According to National Health and Nutrition Examination Survey (NHANES) data, the 97.5th percentile has dropped from approximately 5 $\mu\text{g}/\text{dL}$ to 3.48 $\mu\text{g}/\text{dL}$ for 2011–2014 data and to 3.44 $\mu\text{g}/\text{dL}$ for 2015–2018 data.
- Precision estimates between 3 and 4.1 $\mu\text{g}/\text{dL}$ are similar to precision estimates in 2016 for 4–6 $\mu\text{g}/\text{dL}$.
- For lower BLLs, LEPAC members questioned if the existing testing methods are accurate enough for a healthcare provider to recommend a clinical intervention.
- LEPAC members mentioned that the analytical precision and accuracy of existing testing devices need to be considered when deciding whether to lower the BLRV.
- LEPAC members expressed concerns over the lack of point-of-care equipment available to accurately identify lower BLLs.
- Given that there is no identified safe level of lead, LEPAC members felt messaging related to lowering the BLRV should continue to reiterate that any lead exposure should be taken seriously, despite potential testing error at lower levels.

HUD's Role in Lead Poisoning Prevention

Presented by Matthew Ammon, Chair, LEPAC and Director, HUD Office of Healthy Homes and Lead Hazard Control

[* HUD's Role in Lead Poisoning Prevention Presentation Part 1](#)

[* HUD's Role in Lead Poisoning Prevention Presentation Part 2](#)

- HUD objectives are focused on supporting and listening to communities and focusing on success, which allows HUD flexibility in developing programs.
- Feedback from communities is essential to improving policies.
- At the time of this meeting, available lead poisoning prevention funding included \$139M for Lead Hazard Control, \$95M for Lead Hazard Control (\$64M is focused on seven communities), \$45M for Healthy Homes Initiative and Tribal Asthma/Healthy Homes Demo for Disasters.
- Lead Hazard Control funds pay for lead remediation inside and outside of a housing unit. Healthy Homes funds pay for safety needs such as radon testing and remediation, fire safety equipment, indoor structure repairs, HVAC repair, carbon dioxide testing and monitoring, mold remediation, plumbing, ventilation, rodent and insect treatments, asthma interventions, mattress covers, and electrical safety. Partner funds pay for roof replacement, demolition of external structures, correction of code violations, appliance updating, weatherization, and foundation repair.
- Improving housing conditions can help children and vulnerable populations reach their full potential by preventing injuries, lowering healthcare costs, increasing school and work performance, and decreasing the number of school and workdays missed due to injury and disease.
- Return on investment in healthy housing exceeds initial investment.
- HUD Technical Studies grants are available for institutional projects that demonstrate the long-term value of lead hazard control work and cost-effectiveness.
- HUD has a robust enforcement program. They distribute the Guidelines for Evaluation and Control of Lead-Based Paint Hazards in Housing and Healthy Homes Guidance Manual to jurisdictions to provide guidance and performance criteria.
- Holding HUD-funded neighborhood events in local grantee communities is one key community outreach strategy. These events bring together the community at-large and show the value of the work being done to elevate the community.
- Additional community engagement strategies facilitated by HUD include community listening sessions.
- In the future, the LEPAC should consider exploring the idea of joint funding of lead and healthy homes programs that would allow for flexibility of funds and prevent the need to apply for separate grants.

BLRV Workgroup Update

Presented by Jill Ryer-Powder, Ph.D., MNSP, DABT, Chair of the BLRV Workgroup

[* BLRV Workgroup Update Presentation](#)

- BLRV is a population-based screening tool to identify children with blood lead levels that are much higher than most children's levels.

- The BLRV is currently set at 5 µg/dL to identify children with elevated BLLs. It is not a clinical value, but rather a reference value to identify children with BLLs that are much higher than most children's levels.
- BLRV is currently recommended to be reassessed every 4 years based on NHANES data.
- The current BLRV is based on the 97.5th percentile of the NHANES's blood lead distribution in U.S. children ages 1–5, using data during 2007-2010. The 97.5th percentile from 2015–2018 NHANES data is 3.44 µg/dL.
- During the meeting, it was noted that the BLRV workgroup planned to draft a report with recommendations beginning in November.
- In this report, the workgroup will emphasize that there is no safe level of lead exposure, but the BLRV indicates a level where action should be taken. This value enables healthcare providers and public health professionals to identify the most exposed children for follow-up.
- Other federal agencies' have adopted and utilized CDC's BLRV when developing and implementing policies and would be affected by changing the BLRV.
- States are not mandated to adopt the BLRV; it's only a recommendation. The current use of the BLRV varies between jurisdictions. Some have adopted the current BLRV recommendation of 5 µg/dL, and some have not.

LEPAC Members Discussion on Best Practices for Screening and Prevention

- The importance of community engagement and outreach. Strategies include using community health organizations as a resource, increasing funds and resources to local health departments, engaging community partners who engage community members on an ongoing basis (e.g., social workers), and using print and social media to reach community members.
- The need for increased provider education on how to interpret the results of lead screening, how to follow-up properly, various sources of lead exposure, and how to screen at wellness checks. Also, emphasis should be placed on the fact that no safe blood lead level exists.
 - There is a lack of educational resources for new pediatricians on children's environmental health, although Pediatric Environmental Health Specialty Units (PEHSU) provide continuing education opportunities.
 - Improved communication between health departments and providers could encourage improved follow-up.
- The importance of addressing social determinants of health and racial and ethnic inequities when conducting lead screening and prevention activities. Strategies include culturally sensitive communication, using screening as a tool to identify neighborhoods that need more resources for healthy housing and lead exposure prevention services, and monitoring the impact of COVID-19 on lead poisoning prevention, as it affects communities of color.
- Practices to reduce occupational and take-home exposure.
- The importance of having proper infrastructure in place when communities implement lead poisoning prevention programs. Facilitating, collecting, and sharing examples of successful programs can help communities adopt successful programs.

- Methods to address non-paint lead exposure, including assessing the child’s environment for non-paint lead sources and expanding HUD’s lead poisoning prevention mission to include sources beyond lead paint.
- The need for more accurate testing devices with lower levels of detection as well as a standard protocol for accurately collecting capillary specimens.
- Increased funding for states was recommended to maintain surveillance programs and integrate Adult Blood Lead Epidemiology and Surveillance (ABLES) and Childhood Blood Lead Surveillance (CBLs) systems to identify children at risk of take-home exposure.
- The importance of offering services for poisoned children through middle school, high school, and adulthood.
- Monitoring the impact of COVID-19 on screening and BLLs.
- Incorporating lead abatement services into healthy homes services and focusing on primary prevention.
- It is important to recognize and build on the relationships that WIC maintains with limited-income families with young children and the associated communities, by potentially using elevated BLLs as a risk factor for WIC program participation.

LEPAC Members Discussion on Research Gaps and Additional Research Needs

- Gaps were identified in the following research areas:
 - Developing models to identify high-risk areas for elevated BLLs.
 - Continued development of methods to sequester lead in place that are inexpensive and reduce its bioavailability.
 - Multi-media lead exposure studies.
 - Lead in drinking water, including corrosion control methods, premise plumbing mapping, and point-of-use filters.
 - Assessing lead bioavailability.
 - Occupational and recreational take-home lead and workplace interventions.
 - Soil lead mitigation.
 - Non-paint sources of lead (e.g. aviation gasoline, food, soil, bullets) and source apportionment to quantify exposure from different sources. Assessing patient and provider knowledge of lead exposure; identifying gaps in communication.
 - Best practices for lowering BLLs in communities.
 - Combined surveillance programs.
 - Impact of partnerships.
 - Risk factor questionnaires to identify children who need a blood lead test.
 - Correlation between demographic factors and testing, screening, and prevention activities (e.g. outreach in low-income neighborhoods vs. affluent areas).
 - Impact of the creation of lead-free initiatives on housing stability in communities that implemented the approach.
 - Impact of a potentially lowered BLRV on violent crime in low-income communities of color.

Public Comment

- Tom Neltner emphasized the need to be grounded in the scientific evidence and aware of the most common sources of lead by age group when conducting primary and secondary prevention activities (e.g. paint for children under age 2, drinking water for children under 6 months of age, food for older children). Mr. Neltner also expressed concern about the term “lead-free,” feeling it sets high expectations and over-promises. He also commented on the implications of lowering the BLRV for other federal agency policies, specifically the FDA’s interim reference level and EPA’s Renovation, Repair, and Painting rule. Mr. Neltner cautioned against using laboratory business decisions as a basis for deciding how to set the BLRV.
- Paul Moyer expressed concerns over potential harms caused by lowering the BLRV. Mr. Moyer recommended evaluating the clinical impact, as many tests in rural and under-resourced neighborhoods use devices with a higher margin of error. Mr. Moyer also expressed concerns about false positives causing more unnecessary costs, tests, and stress for families. If the BLRV is lowered, APHL would like to see the creation of new messaging and publications to parents, funding to increase the capacity of public health laboratories, and research and development of more accurate testing devices.
- David Jacobs emphasized the need to deliberate on the meaning of the BLRV and whether it should be synonymous with a case definition.

Next Steps

- Full meeting transcript and summary notes will be posted on the CDC LEPAC website.
 - Note: since the meeting, the transcript has been posted - <https://www.cdc.gov/lead-prevention/php/lead-advisory-committee/meeting-10-30-2020.html>
- The time frame for the next meeting is Spring 2021.

I hereby certify that, to the best of my knowledge, the minutes of the October 30, 2020 meeting of the Lead Exposure and Prevention Advisory Committee (LEPAC) are accurate and complete.

Date

Matthew Ammon, Chair, Lead Exposure and
Prevention Advisory Committee