

**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL AND PREVENTION
National Center for Environmental Health/
Agency for Toxic Substances and Disease Registry**



**Virtual Meeting of the Lead Poisoning Prevention Subcommittee of the
NCEH/ATSDR Board of Scientific Counselors
February 23, 2016**

Record of the Proceedings

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**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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National Center for Environmental Health/
Agency for Toxic Substances and Disease Registry**

**LEAD POISONING PREVENTION SUBCOMMITTEE OF THE
NCEH/ATSDR BOARD OF SCIENTIFIC COUNSELORS
February 23, 2016**

Minutes of the Virtual Meeting

The U.S. Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) National Center for Environmental Health/Agency for Toxic Substances and Disease Registry (NCEH/ATSDR) convened a virtual meeting of the Lead Poisoning Prevention Subcommittee (LPPS) of the NCEH/ATSDR Board of Scientific Counselors (BSC). The proceedings were held on February 23, 2016 beginning at 12:00 p.m. EST.

Information for the public to attend the virtual LPPS meeting via teleconference was published in the *Federal Register* in accordance with Federal Advisory Committee Act regulations. All sessions of the meeting were open to the public (*Attachment 1: Participants' Directory*).

**Opening Session: Welcome, Introductions,
Confirmation of Quorum and Conflict of Interest**

William Cibulas, Jr., PhD, MS

Deputy Associate Director for Science, NCEH/ATSDR
LPPS Designated Federal Official (DFO)

Dr. Cibulas conducted a roll call and confirmed that the seven members in attendance constituted a quorum for the LPPS to conduct its business on February 23, 2016. He called the proceedings to order at 12:00 p.m. EST and welcomed the participants to the second virtual LPPS meeting.

Dr. Cibulas announced that LPPS meetings are open to the public and all comments made during the proceedings are a matter of public record. He reminded the LPPS members of their responsibility to disclose any potential individual and/or institutional conflicts of interest for the public record and recuse themselves from voting or participating in these matters. None of the LPPS members publicly disclosed conflicts of interest for any of the items on the February 23, 2016 published agenda.

Update by NCEH/ATSDR Leadership

Donna Knutson, PhD

Acting Deputy Director, NCEH/ATSDR
Centers for Disease Control and Prevention

Dr. Knutson presented an update on developments that have occurred since the first virtual LPPS meeting was held on February 9, 2016. Site-specific activities that the Federal Unified Coordination Group (UCG) has conducted in Flint, Michigan over the past six weeks are in direct response to requests from the city of Flint and the state of Michigan. HHS, CDC, the U.S. Environmental Protection Agency (EPA), and other federal partners on the UCG are conducting these activities at the highest level of coordination and collaboration. The UCG also has engaged a strong group of state and local partners, including the Michigan Department of Health and Human Services (MDHHS), Michigan Department of Environmental Quality (MDEQ), Genesee County Health Department, local healthcare providers (HCPs) and community stakeholders.

The UCG recently conducted a recent site visit to Flint and met with six Congressional staff on February 22, 2016 to provide an update on its activities. Dr. Nicole Lurie, HHS Assistant Secretary for Preparedness and Response, highlighted UCG's progress to date and described long-term wraparound services that will be provided to Flint residents and covered by Medicaid. The UCG also informed Congressional staff of its ongoing discussions with the healthcare and scientific communities to develop a long-term lead registry for Flint residents, clearly define specific terminology (e.g., "clean water"), and respond to other community interests or concerns.

CDC is taking the lead on several activities for the UCG.

- Hair loss and rashes were the most significant complaints reported by Flint residents during the UCG's most recent site visit in February 2016. CDC will form an exposure team to link health data to these issues. During its four-week deployment to Flint, the exposure

team will partner with local dermatologists to determine a potential link between the concerns expressed by Flint residents and lead in the water system. In addition to lead, testing also will be conducted on other chemicals in the full panel established by EPA, including thallium.

- CDC is continuing to provide technical assistance and guidance to MDHHS and MDEQ on linking their health and environmental datasets at the state level. This approach will allow CDC and the state of Michigan to more accurately identify Flint residents who have and have not been screened.
- CDC deployed four staff to Flint to aid in ongoing efforts in the field to enroll residents with elevated blood lead levels (EBLLs) in case management services.
- CDC proposed site-specific recommendations in five key areas that were considered by health departments in the city of Flint and the state of Michigan and are at various levels of implementation in the field at this time.
 1. BLL testing should be available to all Flint residents ≤ 21 years of age.
 2. Screening should be targeted to children ≤ 6 years of age in Flint as quickly as possible to obtain the current baseline BLLs of this cohort. To accelerate this effort, several groups initiated mass screening in Flint to rapidly provide parents and HCPs of children ≤ 6 years of age with screening results. Technical guidance also was developed for HCPs in terms of screening methodologies (e.g., capillary or venous blood lead testing) and a flowchart of next steps (e.g., follow-up, case management and communication of screening results). Moreover, BLLs of children ≤ 6 years of age beginning on October 1, 2014 initially were identified as the cohort for targeted screening. However, the timeline has been modified to reflect a more current cohort of BLLs of children ≤ 6 years of age from October 1, 2015 to April 1, 2016.
 3. A systematic process should be developed to enroll Flint residents in long-term wraparound services that will be covered by Medicaid.
 4. Water and BLL data should be gathered as the major sources of CDC's modeling of the actual period of exposure to lead in the Flint water system. In terms of water data, MDEQ is implementing several approaches for data collection and using an EPA-certified laboratory for data analyses. One, MDEQ is providing Flint residents with containers, collection instructions and directions to centralized locations to leave the containers. MDEQ will test the samples and report their findings to the residents and EPA. Two, EPA is conducting a series of water tests to ensure that corrosive and protective substances are well integrated into the water system. Three, EPA is conducting sequential water testing to identify worst-case scenarios of the water

system in a designated number of households. Four, EPA is collecting water samples from the households of Flint residents who report rashes or other complaints to a telephone helpline. In terms of BLL data, CDC and MDHHS are closely collaborating to resolve issues related to limited access to data in some geographic areas. CDC and MDHHS leadership will finalize and sign a data sharing agreement over the next few days that will provide CDC statisticians and epidemiologists with access to personally identified BLL data collected by MDHHS at the state level.

5. A uniform communications plan should be implemented to ensure that federal, state and local partners deliver consistent, evidence-based and accurate messaging to the Flint community. The communications plan will play a critical role in reassuring the community that the prevalence of BLLs at this time is a result of current rather than past exposure to lead in the Flint water system. The communications plan also will be particularly important in providing consistent messaging to the community on usage of the Flint water system for drinking, showering/bathing, breastfeeding and other purposes.

Dr. Knutson pointed out that the focus of the UCG is now shifting to long-term solutions for the Flint community. CDC will engage the state of Michigan in a thorough review of experiences and lessons learned to date to implement effective solutions for Flint from a programmatic perspective. She concluded her update by thanking the participants for taking time from their busy schedules to attend the second virtual LPPS meeting.

Recommendations by the Lead Poisoning Prevention Subcommittee

Matthew Strickland, PhD, MPH, MA, LPPS Chair

Associate Professor, University of Nevada, Reno
School of Community Health Sciences

Dr. Strickland announced that the remainder of the meeting would be devoted to the LPPS's ongoing efforts to fulfill its charge of proposing recommendations to the BSC. Because lead in the Flint water system has been designated as a public health emergency, he emphasized that time is of the essence for LPPS's recommendations. Although the LPPS members have engaged in extensive e-mail communications over the past two weeks to suggest potential guidance, his position was that CDC's site-specific recommendations to state and local health departments in Flint, Michigan would be the best starting point for the current meeting.

Dr. Kosnett made several overarching comments before his LPPS colleagues provided input on CDC's five site-specific recommendations to the city of Flint and the state of Michigan. In terms of screening, CDC did not provide the LPPS with background information to justify its guidance.

For example, no substantive details were given to demonstrate the pattern of blood lead testing prior to and after the event in Flint (e.g., specific populations that were tested, the implementation of screening through targeted testing or other methods, or the use of certain clinics for screening more than others). In terms of exposure, CDC did not identify specific geographic locations in Flint with the greatest exposure to lead in water or describe the relationship between exposure and other confounding factors.

Dr. Kosnett asked CDC to provide the LPPS with articles, reports or other data to support its five site-specific recommendations to Flint, Michigan. He pointed out that he was uncertain of his ability to provide the BSC with the best, most informed and evidence-based guidance without reviewing strong justification for the five recommendations. He agreed with Dr. Strickland that the LPPS's recommendations to the BSC are time-sensitive, but he raised the possibility of CDC convening a one-day, in-person meeting in the near future. During the meeting, for example, CDC could provide the LPPS with its rationale for the biological and environmental monitoring described in recommendation 2.

Other LPPS members provided additional comments and suggestions in response to two of CDC's five site-specific recommendations to state and local health departments in Flint, Michigan.

Recommendation 2: Targeted Screening of Children <6 Years of Age

- Part 1 of the charge calls for the LPPS to provide input on whether a prevalence study of current BLLs among children ≤ 6 years of age from the time period of October 1, 2015 to the present would provide useful public health information. Based on recommendation 2, CDC already has provided site-specific guidance to state and local health departments in Flint, Michigan and is conducting activities in this regard. However, several LPPS members expressed concern with these efforts in terms of the validity and certainty of screening results. Most notably, the approach of using multiple laboratories and various blood lead testing methodologies will not allow the results to be compared. CDC should designate a specific laboratory to perform blood lead screening with a standardized testing protocol. For example, the MDHHS laboratory is designated as a Level 2 laboratory in the Laboratory Response Network for Chemical Threats and has proficiency in conducting blood lead testing with mass spectrometry. This strategy would improve CDC's ability to statistically estimate population-level exposure to lead in water among children ≤ 6 years of age in Flint.

Recommendation 4: Modeling of Lead Exposure

- CDC should design its modeling of the actual period of exposure to lead in the Flint water system to demonstrate an association between the water and various endpoints, including BLLs. This strategy will be important in categorizing and identifying an interaction between different approaches that were taken to gather water data. For example, the impact of certain water data collection methods will be more significant than others on CDC's modeling.

- CDC should conduct a study to determine the prevalence of lead-based paint in the pre-1978 housing stock in Flint. In addition to water, lead-based paint also is a major source of EBLLs among children in Flint.
- CDC should consult with international experts to inform its modeling on the nature of the lead poisoning problem in Flint. Laboratories outside of the United States have performed sophisticated testing with highly precise mass spectrometry techniques to determine the isotope ratio of lead in a particular source.

Dr. Mary Jean Brown, an epidemiologist in the CDC Childhood Lead Poisoning Prevention Program, provided several remarks in follow-up to Dr. Kosnett's comments and the suggestions proposed by other LPPS members.

- *Screening patterns.* Of all children ≤ 6 years of age in Flint, 94% are Medicaid recipients and should receive blood lead testing in accordance with existing Medicaid requirements. Federally Qualified Health Centers are more likely than pediatricians in private practices to test young children for blood lead. However, CDC data show that 30%-40% of this population is not tested each year. CDC and the state epidemiologist in Michigan recently discussed potential factors that cause a significant proportion of Medicaid-enrolled children ≤ 6 years of age to not receive blood lead testing each year.
- *Lead sources for children other than water.* All housing in Flint was built before 1978. The old housing stock is now deteriorated and still contains high concentrations of lead paint. CDC has issued clear statements to clarify that although the focus is on the Flint water system at this time, children are capable of absorbing lead from any other available source, particularly lead-based paint. CDC would welcome technical assistance from the American Academy of Pediatrics (AAP) in delivering clear messaging to parents and HCPs of young children in Flint that a child's low BLL at this time should not be interpreted as "no harm" to the child.
- *Rationale for the five site-specific recommendations to Flint, Michigan.* CDC is not in a position at this time to release its preliminary analyses. However, Dr. Brown agreed with Dr. Kosnett that a one-day, in-person meeting would be extremely beneficial for CDC to present its methodologies for data collection and analysis and obtain feedback from the LPPS on these approaches. She encouraged the LPPS members to visit the MDHHS website (www.michigan.gov/mdhhs) to review three publications that are relevant to the site-specific activities in Flint. Dr. Mona Hanna-Attisha, Assistant Professor of Pediatrics in the Michigan State University College of Human Medicine and Director of the Pediatric Residency Program at Hurley Medical Center, is the author of the three papers. The articles could assist the LPPS in its decision-making in the interim of CDC convening an in-person meeting.

- *Prevalence of lead-based paint in the pre-1978 housing stock in Flint.* Ongoing studies and other activities conducted by CDC and its federal, state and local partners are not population-based. As of December 2015, risk assessments were only performed in Flint households with children who had BLLs ≥ 10 $\mu\text{g/dL}$. As a potential solution to collecting population-based data, CDC could use Geographic Information System (GIS) mapping to gather data at the census tract level or smaller geographic areas in Flint. The data could be used to quantify the age of housing and determine whether properties are owner occupied or rentals. However, a prevalence study to determine lead sources at the level of an individual household or child is virtually impossible.
- *Isotope ratio of lead.* This type of testing has been conducted in the United States to determine environmental sources of blood lead. However, the results of these studies have been disappointing. The NCEH laboratory has the capacity to perform testing on the ratio of isotopes in blood lead, but not in environmental samples. The NCEH laboratory would need to submit environmental samples to EPA or a commercial laboratory for testing.
- *Designation of a specific laboratory to perform blood lead screening.* The MDHHS laboratory and nearly all public health laboratories in other states no longer test blood lead samples. However, the MDHHS laboratory is continuing to test water samples in Flint. At this time, 238 commercial laboratories are reporting blood lead test results to MDHHS. The capacity of these laboratories ranges from clinical laboratories with a high level of proficiency in using graphite furnace atomic absorption spectrometry to laboratories that primarily process blood lead screening results submitted by portable LeadCare® II devices in the field. In addition to wide variability in laboratory proficiency, CDC also is currently addressing issues related to detection limits with LeadCare® II devices.

Review of the Lead Poisoning Prevention Subcommittee Charge

Matthew Strickland, PhD, MPH, MA, LPPS Chair

Associate Professor, University of Nevada, Reno
School of Community Health Sciences

Dr. Strickland reminded the members that during the first virtual meeting on February 9, 2016, the LPPS reviewed parts 1-3 of its charge. He continued the current review beginning with part 4 of the LPPS charge.

LPPS Charge Part 4: What would be the best approach to evaluate whether switching back to the Detroit water system from the Flint River around October 1, 2015 resulted in a significant decrease in BLLs among children 6 months to 6 years of age? What approach should be taken to assess confounding exposures to lead?

- The evaluation should be conducted by repeatedly measuring children's BLLs in Flint and analyzing neighborhood-specific BLLs to identify changes in Flint children over time. Based on Dr. Hanna-Attisha's papers, water lead levels differed among specific wards in Flint. The evaluation should be designed to determine whether the magnitude of changes between the Flint and Detroit water systems was associated with changes in children's BLLs in certain wards. If new sources of lead have not been detected in Flint, confounding factors related to environmental sources of lead should not significantly vary among different time periods.
- The EPA Integrated Exposure Uptake Biokinetic Model for Lead in Children should be used for the evaluation. The model has been reasonably well validated in translating environmental and multimedia lead exposures into predicted BLLs. The contribution of the water system to children's BLLs could be calculated based on specific factors input into the model, such as water levels in both the Flint and Detroit systems and assumptions on the level of water ingested by children.
- Several Midwestern communities also have experienced a crisis of high levels of lead in their water systems. Similar to Flint, these communities are mature with older housing stocks. The Midwestern communities remediated their water systems to reduce lead exposure to children, but the BLLs of children remained elevated because no efforts were made to remove lead-based paint from old housing stocks. The LPPS's guidance to solely focus on remediating the water system as the source of lead will not have an impact on dramatically decreasing BLLs of children in Flint, particularly with the current cutoff of 15 ppb. The LPPS's recommendations should include a public health value for a "safe" level of lead in water.
- The evaluation should be conducted by using reference methods to analyze venous blood lead on a subset of children's blood lead samples in Flint. This approach would eliminate blood lead screening results by LeadCare® II devices and reduce uncertainty or variability in the data.

NCEH/ATSDR provided several remarks in follow-up to the LPPS's recommendations on part 4 of its charge. Dr. Brown clarified that establishing a public health value for a "safe" level of lead in water is beyond the LPPS's charge. EPA's current revision of the Lead and Copper Rule will include an updated health value. The LPPS can submit feedback after EPA releases the draft rule for public comment in the near future.

Dr. Cibulas reminded the LPPS of the commitment made by Dr. Patrick Breysee, Director of NCEH/ATSDR, for CDC to provide input to EPA on the draft Lead and Copper Rule. He added that EPA has ultimate authority and responsibility for declaring the Flint water system as safe.

Dr. Brown fully supported the LPPS's recommendation for CDC to analyze venous blood lead on a subset of children's blood lead samples in Flint. However, she was uncertain at this time whether a sufficient number of samples would meet the criteria for venous blood lead testing.

Dr. Brown reminded the LPPS that the CDC/MDHHS data sharing agreement will provide CDC with access to addresses and other specific data on children in Flint. The data sharing agreement also will allow CDC to perform more sophisticated analyses, but the evaluation likely will not be restricted to children who were tested for blood lead during the time periods of interest in Flint. CDC expects to take a broader cohort approach in this regard.

Dr. Brown also was in favor of the LPPS's recommendation to determine a potential association between the magnitude of changes in the Flint and Detroit water systems and changes in children's BLLs in specific wards. Because Virginia Tech collected the water data referenced in Dr. Hanna-Attisha's papers, however, she was uncertain of CDC's ability to access addresses of these children.

Dr. Brown encouraged the members to provide the LPPS Chair (mstrickland@unr.edu) and DFO (wic1@cdc.gov) with additional guidance on data analyses and evaluation methods to respond to part 4 of the charge. If an in-person meeting is held, she reiterated that CDC could present its key methods of collecting and analyzing blood lead data and explore strategies to implement additional evaluation methods recommended by the LPPS members.

LPPS Charge Part 5: What actions should CDC take to improve its Blood Lead Surveillance Program with better capacity to detect events such as those that occurred in Flint?

- CDC has not yet addressed the geographic limitations of blood lead data collected from Flint. The focus on data collection at state or county levels has restricted CDC's ability to gather data from a larger group of partners. CDC should provide guidelines to Michigan and other states on collecting and analyzing data from small geographic areas (e.g., cities, counties and census tracts) to better identify BLL trends over time. CDC's guidelines on a uniform approach to collecting, analyzing and reporting blood lead data would provide states with a standardized surveillance methodology at the national level.
- CDC should take the necessary steps to establish children's blood lead testing as a Healthcare Effectiveness Data and Information Set (HEDIS) measure. Reimbursement

should be contingent on the performance of healthcare programs and HCPs in complying with the HEDIS measure to screen children for blood lead.

- CDC should advise Michigan to adopt the Ohio model of linking blood lead and water lead datasets. The Ohio EPA monitors the water districts of its local municipalities and issues alerts if elevated water lead levels are detected. These alerts trigger the Ohio Department of Health to review blood lead surveillance data of children in jurisdictions with elevated water lead levels. The Ohio EPA also maintains up-to-date information on its website of water advisories for lead, arsenic and other contaminants throughout the state. All states should participate in national reporting to CDC on elevated lead levels in their water systems because water testing is critical in detecting events similar to those that occurred in Flint. Moreover, biological monitoring should be used as secondary rather than primary prevention to detect events.

NCEH/ATSDR provided several remarks in follow-up to the LPPS's recommendations on part 5 of its charge. Dr. Sharunda Buchanan, Director of the NCEH Division of Emergency and Environmental Health Services, raised the possibility of CDC inviting a few state representatives to attend an in-person LPPS meeting to describe their various data collection methods. The discussion likely will highlight differences among the states and aid the LPPS in recommending a national approach to blood lead surveillance.

Dr. Brown informed the LPPS of several programmatic issues. Dr. Buchanan's suggestion is timely because CDC will develop and release the new Childhood LPP Program funding opportunity announcement (FOA) in FY2017. At this time, 29 states, the District of Columbia, five large cities and one non-funded state report blood lead data to CDC. If the BSC formally approves the LPPS's recommendation on a national approach to blood lead surveillance, CDC will include this language in the FY2017 FOA.

Dr. Brown noted that NCEH's presentation on the National Environmental Public Health Tracking Network would be another important topic to include on the agenda for an in-person LPPS meeting. In this presentation, NCEH could provide the LPPS with extensive details on Michigan's activities as a Tracking Network grantee in terms of collecting blood lead and water lead data.

Dr. Brown clarified that blood lead testing currently is a HEDIS measure for Medicaid-enrolled children, but CDC has no authority in this regard. The contingency for reimbursement is a complex issue that is under the purview of the Centers for Medicare & Medicaid Services.

LPPS Charge Part 6: What is the most practical and efficient manner for CDC to advise health officials on preventing lead leaching in aging pipes?

- Educational materials should be distributed to public health professionals that describe current arrangements at local water treatment plants to treat drinking water. For example, an article was published in *Chemical & Engineering News* that provided extensive details on the water chemistry, such as the limited use of orthophosphates to treat municipal water systems.
- Strategies should be developed and implemented to fill an existing communication gap between health officials and local residents. The disruption of lead service lines or a change in the water chemistry or source can cause a short-term increase in the lead content of water. However, all municipalities are not required to inform communities of this potential hazard.
- Health officials in each state should launch a multi-level communications plan to deliver messaging regarding the prevention of lead leaching in aging pipes. The primary audiences should include state and local public health, state EPAs, local water districts and community residents. At this time, state and local public health officials are not required to be notified if lead concentrations exceed the Lead and Copper Rule action level.
- Health officials should review the 2011 report issued by the EPA Science Advisory Board that recommended full rather than partial lead service line replacements. The report includes a comprehensive description of various factors that influence lead in tap water.
- Health officials should communicate more accurate and careful messaging to the public in terms of the lead reference value. For example, the current message of “no safe level of lead exposure” should be replaced with “no level of lead exposure exists without a deleterious impact.” The terminology of “safe” is used for risk management rather than hazard identification.

Dr. Brown provided clarifying remarks in response to one of LPPS’s recommendations on part 6 of its charge. The District of Columbia passed a local ordinance requiring water authorities to report lead concentrations that exceed the Lead and Copper Rule action level and the addresses of these events to the health department.

Public Comment Session

Mona Hanna-Attisha, MD, MPH

Assistant Professor of Pediatrics, Michigan State University College of Human Medicine
 Director, Pediatric Residency Program at Hurley Medical Center

Dr. Hanna-Attisha provided the following comments for the LPPS to consider. The Michigan State University (MSU)/MDHHS data sharing agreement provides MSU with access to addresses of all children in Flint with EBLs. As part of its pediatric public health initiative, MSU is conducting real-time reporting and ongoing monitoring by collecting EBLs of children from MDHHS every

two weeks and geocoding these data. Access to address-specific data will allow MSU to identify blood lead trends among children in Flint in small geographic areas over time.

Dr. Hanna-Attisha briefly responded to several comments the LPPS members made over the course of the meeting. MSU's research on the isotope ratio of lead was unable to detect water lead exposure. MSU verified this finding in consultation with external experts. The Hurley Medical Center laboratory processed ~60%-70% of blood lead test results of children in Flint for the state of Michigan. MSU is continuing its focus on primary prevention rather than secondary prevention by closely collaborating with EPA in the field to test water lead levels.

Dr. Hanna-Attisha announced that many of the LPPS's outstanding recommendations already are underway in Flint. She confirmed that MSU looks forward to its continued partnership with CDC and the LPPS in conducting site-specific activities in Flint.

Eden Wells, MD, MPH, FACPM

Chief Medical Executive

Michigan Department of Health and Human Services

Dr. Wells provided the following comments for the LPPS to consider. Address-specific water data collected by EPA are available for review on the MDHHS website. GIS mapping has been used to overlay the water data with several outcome measures, including BLLs. MDHHS currently is collaborating with CDC epidemiologists to develop more descriptive analyses of its blood lead testing dataset in the Michigan Childhood Lead Poisoning Prevention Program.

Dr. Wells confirmed that in the ongoing site-specific activities in Flint, MDHHS will continue its solid partnerships with CDC and other federal agencies, MSU and other state institutions, and the Greater Flint Health Coalition and other community-based organizations.

LPPS Business Session: Action Items, Next Steps and Summary

Matthew Strickland, PhD, MPH, MA, LPPS Chair

Associate Professor, University of Nevada, Reno

School of Community Health Sciences

Dr. Strickland led the LPPS members in a review of the business items that were raised over the course of the meeting.

ITEM 1-LPPS ENDORSEMENT: Dr. Strickland reminded the members that during the previous meeting, CDC asked the LPPS to endorse its proposal to conduct a period prevalence study. During the current meeting, Dr. Knutson informed the LPPS of activities that already have been

initiated in Flint to support the study: mass screening to ensure the availability of BLL testing to all Flint residents ≤ 21 years of age; targeted blood lead screening to children ≤ 6 years of age in Flint; and deployment of CDC staff to assist in blood lead screening efforts in the field.

CDC will initiate the study after current blood lead test results of children ≤ 6 years of age in Flint have been collected from the time period of October 1, 2015 to April 1, 2016. Peak exposures that occurred prior to October 1, 2015 will not be included in the study. **The LPPS endorsed CDC's proposed period prevalence study.**

ITEM 2-ACTION ITEMS: Dr. Strickland moderated a session for the LPPS members and CDC staff to review their individual action items.

Responsibility	Action Step
Dr. Donna Knutson	Provide the LPPS with the full panel of chemicals that EPA will test in Flint.
Dr. Mary Jean Brown Dr. Jennifer Lowry	Engage in an offline discussion regarding AAP's technical assistance to CDC in delivering appropriate messaging to parents and HCPs of young children in Flint.
Dr. William Cibulas	Facilitate an e-mail vote for the LPPS members to formally approve the minutes of the February 9, 2016 virtual meeting.
Dr. Patrick Parsons	Provide the Committee Management Specialist with the <i>Chemical & Engineering News</i> article for circulation to the LPPS members and CDC staff. [Completed during the meeting]
Mr. John Belt	Provide the DFO with the link to the Ohio EPA website that maintains up-to-date information on water advisories for lead, arsenic and other contaminants throughout the state for circulation to the LPPS members and CDC staff.
Dr. Michael Kosnett	Provide the DFO with the link to the 2011 report by the EPA Science Advisory Board for circulation to the LPPS members and CDC staff.
Dr. William Cibulas	Schedule regular updates on each LPPS agenda regarding the ongoing activities in Flint that are leading up to the period prevalence study.

ITEM 3-NEXT STEPS: Dr. Strickland noted that his next steps will be to draft language on LPPS's formal endorsement of CDC's period prevalence study and submit the recommendation to Dr. Melissa Perry, Chair of the BSC.

Dr. Brown explained that one of CDC's next steps will be to prepare its preliminary assessment of the new reference value for lead, including tables and specific terminology. CDC expects to present the preliminary assessment of the lead reference value during the BSC meeting in March 2016 and obtain additional input from the LPPS at a later time.

ITEM 4-SUMMARY: Dr. Strickland summarized the key outcomes of the second virtual LPPS meeting.

- The LPPS formally endorsed CDC's proposed point prevalence study.
- The LPPS supported CDC's development and dissemination of guidelines to assist states in data collection and analysis of blood lead data with a standardized protocol at the national level. Dr. Strickland will draft a recommendation to the BSC in response to part 5 of the LPPS charge.
- The LPPS members and CDC staff expressed strong support for a one-day in-person meeting. Dr. Strickland will engage CDC staff in discussions to determine the feasibility and potential timeline of this suggestion.

Closing Session

Dr. Cibulas thanked the LPPS members for continuing to contribute their time, effort and expertise to assist CDC and its partners in addressing the public health emergency in Flint. He also thanked staff in the Office of Science, NCEH/ATSDR divisions and other parts of CDC for their outstanding support in planning and organizing an extremely productive LPPS meeting.

Dr. Perry commended the LPPS members for their tremendous progress in addressing multiple complex and technical issues during the meeting. As the BSC Chair, she confirmed that the BSC would consider the LPPS's recommendations and comments by members of the public with the utmost seriousness and appreciation.

With no further discussion or business brought before the LPPS, Dr. Strickland adjourned the virtual meeting at 1:49 p.m. EST on February 23, 2016.

I hereby certify that to the best of my knowledge, the foregoing Minutes of the proceedings are accurate and complete.

Date

Matthew Strickland, PhD, MPH, MA
Chair, Lead Poisoning Prevention
Subcommittee



Attachment 1: Participants' Directory

Lead Poisoning Prevention Subcommittee Members

Dr. Matthew Strickland, Chair
University of Nevada, Reno

Mr. John G. Belt
Ohio Department of Health

Ms. Elizabeth A. Colón
Community Outreach Specialist &
Parent Educator

Dr. Michael J. Kosnett
University of Colorado School of Medicine &
Colorado School of Public Health

Dr. Jennifer A. Lowry
Children's Mercy Hospital

Dr. Mark A. Maddaloni
U.S. Environmental Protection Agency

Dr. Patrick Parsons
New York State Department of Health

Board of Scientific Counselors Chair

Dr. Melissa Perry
George Washington University, School of
Public Health and Health Services

NCEH/ATSDR Designated Federal Official

Dr. William Cibulas, Jr., PhD, MS
Deputy Associate Director for Science

CDC/NCEH/ATSDR Representatives

Dr. Mary Jean Brown
Dr. Sharunda Buchanan
Dr. John Decker
Dr. Chinaro Kennedy
Dr. Donna Knutson
Ms. Shirley Little
Ms. Sandra Malcom
Dr. Helen Rogers

Members of the Public

Dr. Mona Hanna-Attisha
Michigan State University College of Human
Medicine & Hurley Medical Center

Dr. Lawrence Reynolds
Mott Children's Health Center

Ms. Christine Rygiel
Genesee County Health Department

Mr. Kirk Smith
Greater Flint Health Coalition

Dr. Eden Wells
Michigan Department of Health and Human
Services



Attachment 2: Glossary of Acronyms

AAP	American Academy of Pediatrics
BLLs; EBLLS	Blood Lead Levels; Elevated Blood Lead Levels
CDC	Centers for Disease Control and Prevention
DFO	Designated Federal Official
EPA	U.S. Environmental Protection Agency
FOA	Funding Opportunity Announcement
GIS	Geographic Information System
HCPs	Healthcare Providers
HEDIS	Healthcare Effectiveness Data and Information Set
HHS	U.S. Department of Health and Human Services
LPPS	Lead Poisoning Prevention Subcommittee
MDEQ	Michigan Department of Environmental Quality
MDHHS	Michigan Department of Health and Human Services
MSU	Michigan State University
NCEH/ATSDR	National Center for Environmental Health/Agency for Toxic Substances and Disease Registry
UCG	Unified Coordination Group