

**Summary Minutes of the
U.S. Environmental Protection Agency (EPA)
Clean Air Scientific Advisory Committee (CASAC)
Lead Review Panel
Public Meeting
April 8, 2022**

Date and Time: Friday, April 8, 2022, 11:00 AM – 3:00 PM, Eastern Time

Location: Virtual meeting over Zoom; streamed live to the public over telephone and YouTube.

Purpose: To provide a consultation on EPA's *Integrated Review Plan for the National Ambient Air Quality Standards for Lead. Volume 2: Planning for the Review and the Integrated Science Assessment (March 2022)*.

Participants:

CASAC Lead Panel Members

Dr. Lianne Sheppard, Chair
Mr. George A. Allen
Dr. James Boylan
Dr. Judy Chow
Dr. Phillip Goodrum
Mr. Perry Gottesfeld
Dr. Daven Henze
Dr. Howard Hu
Dr. Chris Johnson

Dr. Susan Korrick
Dr. Bruce Lanphear
Dr. Joel Pounds
Dr. Brisa Sánchez
Dr. Brian Schwartz
Dr. William Stubblefield
Dr. Kathleen Vork
Dr. Marc Weisskopf

Please see roster for a full listing the CASAC Lead Review Panel Members¹

Mr. Aaron Yeow, Designated Federal Officer (DFO)
Mr. Tom Brennan, EPA Science Advisory Board Staff Office

Dr. Erika Sasser, EPA Office of Air and Radiation (OAR), Office of Air Quality Planning and Standards (OAQPS)
Dr. Steven Dutton, EPA Office of Research and Development (ORD), Center for Public Health and Environmental Assessment (CPHEA)
Dr. Deirdre Murphy, EPA OAQPS
Dr. Evan Coffman, EPA CPHEA
Dr. Meredith Lassiter, EPA CPHEA
Ms. Karen Wesson, EPA OAQPS

Other Attendees (See Attachment A)

Convene Meeting

Mr. Aaron Yeow, DFO, opened the meeting. He noted that, as required under the Federal Advisory Committee Act (FACA), CASAC meetings are held in public, with advance notice given in the Federal Register.² He stated that FACA required that public meetings allow for public comment. He indicated that written public comments have been received and were distributed to the panel and posted on the CASAC meeting webpage. He stated that no members of the public requested to give oral comments. He noted that the meeting minutes would be made publicly available after the meeting. He stated that the SAB Staff Office determined that there were no financial conflicts of interest or appearance of a loss of impartiality for any of the CASAC panel members. He announced that the meeting was being streamed live over YouTube and the link was on the CASAC meeting webpage. He then turned the meeting over to Dr. Lianne Sheppard, Chair of the CASAC.

Introductory Remarks, Panel Introductions, and Review of Agenda

Dr. Sheppard welcomed everyone and stated that the purpose for the meeting was to provide a consultation on EPA's *Integrated Review Plan (IRP) for the National Ambient Air Quality Standards for Lead. Volume 2: Planning for the Review and the Integrated Science Assessment (March 2022)*.³ She asked the panel to introduce themselves, went through the agenda,⁴ and with there not being any registered public commenters, she asked EPA to introduce themselves and to give their presentation.

EPA Presentation

Dr. Erika Sasser, Director of the Health and Environmental Impacts Division in EPA's OAR OAQPS, thanked the panel members for their public service and began the EPA presentation.⁵ She presented the outline of the EPA presentation, statutory requirements, National Ambient Air Quality Standards (NAAQS) process, assessments for a review, regulatory steps in a review, improvements to the NAAQS process, and current timeline for the review. Dr. Lanphear asked whether there was a certain point when new studies would not be included in the assessments. Dr. Dutton indicated that there would be a cutoff date, but that has not been established yet. Dr. Sheppard asked whether it was realistic to have the consultation on the risk and exposure analyses (IRP Volume 3) in early 2023 and have the draft Policy Assessment (PA) ready for review in Fall 2023. Dr. Sasser responded that it was ambitious, but that was their goal, and that the timeline could change as a result of CASAC advice on the Integrated Science Assessment (ISA) and IRP Volume 3. Mr. Allen asked whether the schedule allowed for 2nd drafts of documents. Dr. Sasser responded that if the CASAC found fundamental deficiencies in the documents that could not be rectified without additional drafts of the documents, then they would be open for additional drafts of the documents.

Dr. Deirde Murphy, OAR, OAQPS, continued the presentation and covered the lead NAAQS history, key policy aspects, national trend of lead in ambient air, current standards, and planning for the review. Dr. Lanphear asked whether monitoring was still based on Total Suspended Particles (TSP). Dr. Murphy responded that the indicator was still TSP.

Dr. Steven Dutton, Director of the Health and Environmental Effects Division in EPA's ORD CPHEA, continued the presentation and covered the Integrated Science Assessment, example for health criteria, framework for causality determinations in ISAs, the characterization of key policy-relevant issues for consideration in the current review, and the scope, focus, and identification of specific issues to be considered in the ISA. Dr. Hu asked how the GRADE process used in the IRIS program was related to the causality framework used in the NAAQS reviews. Dr. Dutton responded that the two offices worked

closely together, but that the causality framework was specifically developed to determine causality and tying together different scientific disciplines such as epidemiology, controlled human exposure, and toxicology.

Panel Discussion of Lead IRP Volume 2

The panel had discussion on Chapter 2 – Key Policy-Relevant Issues for the Current Review. Panel members identified additional policy relevant issues to include for the primary standard such as: how the NAAQS review takes into account other EPA activities to address lead in air; whether there are indicators or tests of cognitive function that are better than IQ; how to measure airborne lead, particularly from aircraft; whether there are disproportionate exposure or risk to marginalized communities; legacy exposures; long latency between exposure and effect; violence as an effect of lead exposure; the cumulative effect over the life course of lead exposure that integrates prenatal exposures; and understanding more about susceptibility. For the secondary standard, panel members identified additional policy-relevant issues to include such as: how much airborne lead contributes to ecosystem distribution of lead; incorporating multi-pathway analysis; and whether critical loads assessment approaches would be useful.

For Chapter 3 – Development of the ISA, panel members had discussion on specific science topics including: how mixtures impact the exposure-response relationship for lead; whether inhalational exposures are enhanced by virtue of particle size; whether air emissions differ based on race and ethnicity; how high intermittent exposures (e.g. lead paint removal from bridges) are addressed; being more explicit on issues of disparities in vulnerable populations; importance of the human microbiome. Regarding causal determinations, the panel mentioned looking at preterm births, preeclampsia, externalizing behavior, such as violence. There was some discussion about the lowering of the blood level of concern by the Centers for Disease Control and Prevention (CDC). Dr. Lanphear indicated that the CDC blood lead level of concern was based on economic considerations and not based upon the science. For standard setting, Dr. Lanphear indicated that CDC’s guidance that there is no safe blood lead level is more relevant than the CDC action level. Dr. Lanphear stated that there has been quite a bit of evidence since the last ISA about lead and coronary heart disease. He stated that lead may have played a much more dominant role in the epidemic of coronary heart disease over the past century than most recognize and that the decline in lead during the 1980s might have been the central reason for the decline in hypertension. Regarding at-risk populations, panel members indicated that race and ethnicity are not risk factors per se. They suggested that other correlates of race and ethnicity need to be addressed in a more appropriate way than in the past, including experiences of discrimination and structural racism.

Dr. Sheppard asked the panel members to send in any revisions that they had to their individual comments.

The meeting adjourned at 2:30 PM ET.

Respectfully Submitted:

Certified as Accurate:

/s/

/s/

May 3, 2022

Mr. Aaron Yeow
Designated Federal Officer
EPA SAB Staff Office

Dr. Lianne Sheppard
Chair
CASAC

Date

NOTE AND DISCLAIMER: The minutes of this public meeting reflect diverse ideas and suggestions offered by Committee members during the course of deliberations within the meeting. Such ideas, suggestions and deliberations do not necessarily reflect consensus advice from the Committee members. The reader is cautioned to not rely on the minutes to represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, commentaries, letters or reports prepared and transmitted to the EPA Administrator following the public meetings.

Materials Cited

The following meeting materials are available on the CASAC April 8, 2022, meeting webpage:
https://casac.epa.gov/ords/sab/f?p=113:19:5127801974098::RP,19:P19_ID:969

¹ CASAC Lead Review Panel Roster

² Federal Register Notice Announcing the Meeting

³ Integrated Review Plan for the National Ambient Air Quality Standards for Lead. Volume 2: Planning for the Review and the Integrated Science Assessment (March 2022)

⁴ Agenda

⁵ EPA Presentation - Integrated Review Plan for Review of the National Ambient Air Quality Standards for Lead Volume 2: Planning for the Review and the Integrated Science Assessment

ATTACHMENT A – Other Attendees

Members of the public who requested the call-in number or indicated they were watching the live video stream:

Name	Affiliation
Allen, Rasha	Kansas Department of Health and Environment
Babu, Sainath	Texas Commission on Environmental Quality
Bonsteel, Michael	National Aeronautics and Space Administration (NASA)
Champlin, Anna	EPA
Igoe, Sheila	EPA
James, Ashley	EPA
Krajewski, Alison	EPA
Le Doux, Erica	EPA
Lorenz, Alyson	EPA
Owen, Russell D.	EPA
Park, Nathan	Earthjustice
Reilly, Sean	E&E News
Romano, Laura	EPA
Sharp, Kathy	Chevron
Williams, Cris	International Lead Association (ILA)