The Fires: Air Quality, Public Health and What to Do Next Webinar Summary

Hosted by the Coalition for Clean Air

Wednesday, January 15, 2025

Panelists:

- **Dr. John Balmes**, Professor of Medicine, University of California at San Francisco, member of the California Air Resources Board, author of >200 papers or chapters on occupational and environmental respiratory disease-related topics
- **Ed Avol**, Professor Emeritus, USC School of Medicine, co-author of the USC Children's Health Study, author or co-author of >150 articles on air pollution chemistry and health effects
- **Prof. Gina Solomon**, Chief, Division of Occupational, Environmental & Climate Medicine, University of California at San Francisco, former Deputy Secretary for Health and Science, California Environmental Protection Agency
- **Dr. Rania Sabty**, Independent Contractor, Kleinerman and Associates, occupational health and safety expert
- **Tim Dye and Story Schwantes**, TD Environmental Services, air quality monitoring experts
- **Jane Williams**, Executive Director, California Communities Against Toxics, award-winning environmental health and justice expert
- **Dr. Joseph Lyou**, President & CEO, Coalition for Clean Air, 12-year member of the South Coast AQMD Governing Board

Introduction and Acknowledgments *0:00*

- Dr. Joe Lyou thanks participants for joining the Clean Air Conversations webinar on the LA fires, emphasizing the importance of protecting against toxic smoke, soot, and ash.
- Acknowledgment of first responders, including firefighters, pilots, and emergency personnel, and dedication of the event to them.
- Joe Lyou outlines the structure of the event, including housekeeping items, presentations from experts, and a Q&A session. The Agenda will go as follows:
    - **Air Quality with Tim Dye and Story Schwantes from TD Environmental Services:** Where to find the most reliable & timely information about air quality.
    - **Toxics with Jane Williams from California Communities Against Toxics:** Smoke, soot & ash contain many toxic chemicals. What are they?
    - **Public Health Impacts with Professor Emeritus Ed Avol and John Balmes and Professor Gina Solomon:** What impact can these chemicals have on my friends, my family, and me?
    - **Personal Protective Equipment with Dr. Rania Sabty:** How do I best protect myself and my family?

    - **Lessons Learned From Lāhainā with Jane Williams**
    - **Questions & Answers**
- The event aims to provide reliable information on air quality and public health, despite the complexity of the information.

Air Quality Data Sources *5:50*

- Tim Dye from TD Environmental Services introduces the first two slides on air quality data sources, emphasizing the importance of criteria pollutants like PM 2.5 and PM 10.
- Story Schwantes, an Air Quality scientist, explains the AirNow.gov website, which provides real-time AQI data for PM 2.5, PM 10, and ozone.
- The EPA's Fire and Smoke Map is introduced, showing PM 2.5 data from government monitors and air quality sensors.
- The South Coast Air Quality Management District's website is highlighted for its current and forecasted air quality maps, including PM 2.5, PM 10, and ozone.

Health Impacts of Air Pollution *16:16*

- Jane Williams discusses the health impacts of air toxics, emphasizing that the AQI does not measure these pollutants, which are expensive to measure.
- Jane highlights the importance of public health interventions to prevent further damage, citing the example of the Twin Towers and the Paradise fire.
- The discussion includes the presence of hydrogen cyanide, hydrogen fluoride, hydrogen chloride, isocyanates, polyamide character, dioxins, furans, VOCs, and metals in the air.
- Jane warns about the risks of returning to homes without proper protective equipment and the potential long-term health impacts of exposure to these pollutants.

Health Effects of Wildfire Smoke *25:28*

- Dr. John Balmes discusses the health effects of wildfire smoke, including exacerbations of asthma, COPD, and respiratory infections.
- Dr. Balmes mentions a study showing that fire smoke fine particulate matter is more toxic than non-smoke PM 2.5.
- The discussion includes the increased risk of COVID-19 infections during wildfire events and the acute cardiovascular effects of fire smoke.
- Dr. Balmes highlights the health risks to firefighters, including acute effects on lung function and evidence of exposure to toxic materials.
- Dr. Ed Avol emphasizes that regulatory sizes (PM2.5, PM10) represent only part of the picture, with ultrafine particles posing unique risks by infiltrating the bloodstream and reaching organs, including the brain.

- Health outcomes extend beyond respiratory and cardiovascular effects to cognitive issues (e.g., attention deficits, dementia), metabolic disruptions, and mental health impacts, including anxiety and asthma triggers.
- Dr. Avol underscores that clear air is not always safe, as invisible fine particles can still cause harm. Sensory cues, like the smell of smoke, indicate potential hazards.
- Practical risk-reduction strategies include staying indoors, using air filtration systems, reducing physical activity, and safely cleaning ash by wetting it before removal and wearing masks.

Drinking Water Contamination *33:38*

- Dr. Gina Solomon, discusses the potential contamination of drinking water due to fires, citing examples from the Tubbs fire and the Paradise fire.
- Dr. Solomon explains the mechanisms of contamination, including excessive sediment and volatile organic compounds (VOCs) in the water system.
- The discussion includes the testing process for drinking water contamination and the types of VOCs that can be found in the water.
- Dr. Solomon emphasizes the importance of boil water advisories and avoiding contact with contaminated water until it is cleared.

Personal Protective Equipment and Indoor Air Filtration *44:12*

- Dr. Rania Sabty discusses the importance of personal protective equipment (PPE) for those handling debris and cleaning up homes.
- Rania highlights the need for N95 respirators, protective clothing, gloves, safety glasses, ear protection, and sturdy footwear.
- The discussion includes the limitations of N95 respirators and the need for more advanced respirators for certain situations.
- Rania provides guidance on using HEPA vacuum filters and avoiding aggressive dry sweeping to minimize resuspending ash and dust.

Lessons Learned from Previous Fires *1:07:21*

- Jane Williams, discusses the lessons learned from previous urban fires, including the politicization of air quality and the importance of public health messaging.
- Jane highlights the long-term health impacts of exposure to ash and dust, including traumatic injuries, airway and digestive disorders, cancer, and mental health conditions.
- The discussion includes the importance of intercepting exposures and the challenges of returning to normalcy while minimizing health risks.
- Jane emphasizes the need for public health interventions and the importance of being informed and cautious in the aftermath of a disaster.

Key Questions and Answers *1:15:31*

- Dr. Joe Lyou introduces the key questions from the audience, including when it is safe to return to homes, send children to school, and how far to be from fire, smoke, and ash.
- Dr. Sabty and Dr. Solomon provide guidance on using PPE and ensuring schools have adequate HVAC systems with MERV 13 filters.
- Dr. Avol emphasizes the importance of checking wind direction and using available resources to monitor air quality.
- The discussion highlights the need for informed decisions and the importance of taking precautions to minimize health risks.