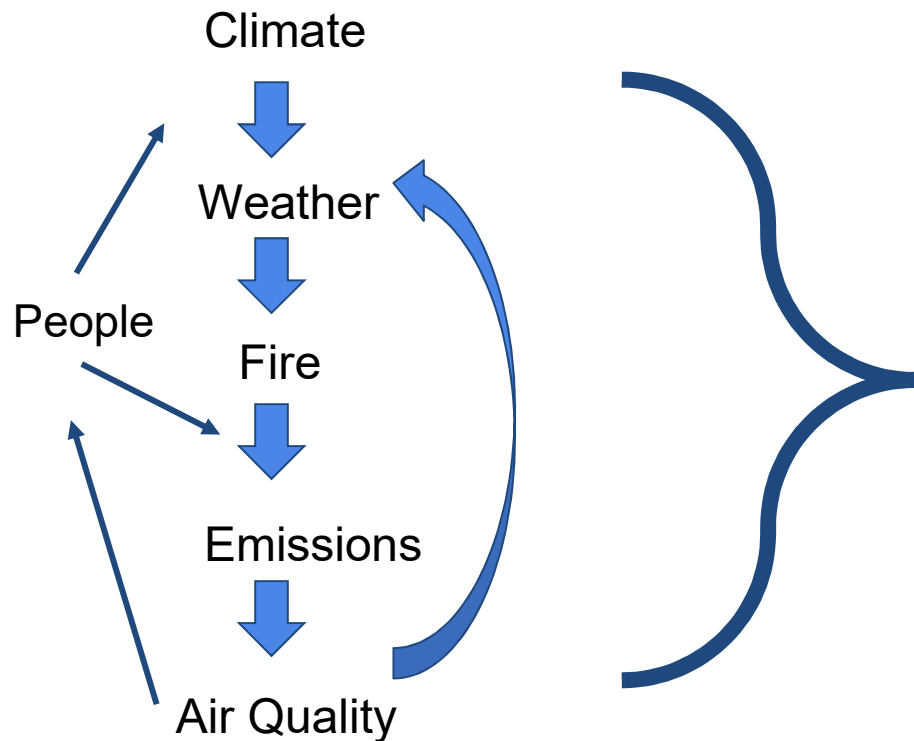# Wildland Fires: Towards Improved Understanding and Forecasting of Air Quality Impacts
Summary of Day 2

Christine Wiedinmyer
on behalf of the planning committee

Where do we want to be?

Climate

Weather

People

Fire

Emissions

Air Quality

- *Public Health*

- *Health Studies*

- *Mitigation - Controlled Burning*

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Key takeaways

Public Health - "We know smoke is bad for you"

- *Need Actionable Information*
  - *effective communication: "Can the preschool kids play outside?"*
  - *effective and sustainable interventions*
  - *Long-term: Data-driven policies*
  - *Smoke and transport models, satellite obs, monitoring data are valuable - but could do better*
  - *Need more AQ sensors (and <u>indoor</u> too)*

Key takeaways

Fire smoke and health

- *Epi/Tox studies focus a lot on processes; but can they be designed to answer questions needed by public health experts: "Should we play baseball today?"*
- *Consider health outcomes other than respiratory/cardiovascular (i.e., kidney health)*
  - *And on specific stressors (age, sex, mental health)*
- *Consider multi-pollutant effects and changes in chemistry and longer time scales*
  - *Still need more AQ data (particle size, composition, HAPs, …)*
- *Repeated exposures, multiple seasons*

Key takeaways

Fire smoke and health

- *Need to consider vulnerable populations (workers, fire fighters, unhoused populations, children …)*
  - *Expand considerations for mitigation and health outcomes to those who can't shelter in place*
  - *Here Rx and Wildfire do not make a difference (?)*

- *Is the AQI enough? Simple vs. Need for more*

- *Respiratory viral infections + Smoke → potential for interactions*
  - *Biological and behavioral*

Key takeaways

- *Mitigation: Controlled Burning*
  - *Thinning and controlled burning needs to happen regularly*
  - *Political and social barriers*
  - *Challenge to scale up*
  - *Communication key*
    - *Forecasting tools necessary - still room for improvement*

Key themes

- *It's all connected - climate, weather, fire, emissions, air quality, health…*
  - *And we need to understand these all to protect public health*

- *We know a lot -- and there's still a lot more to learn*
  - *Tools are not perfect…. But we can't wait for perfection*

Key themes

- *"If there is vegetation, it will burn." It's just a question of when, how often, and how severe*
  - *We need to best understand the connections to adapt and mitigate the effects*

- *Smoke impacts -- not only where but who? (Social Justice Issues)*
  - *How to we get what we need?*

- *Funding and mechanisms needed*
  - *Support cross-disciplinary and longer-term studies*
  - *Communication efforts*
  - *Data*