

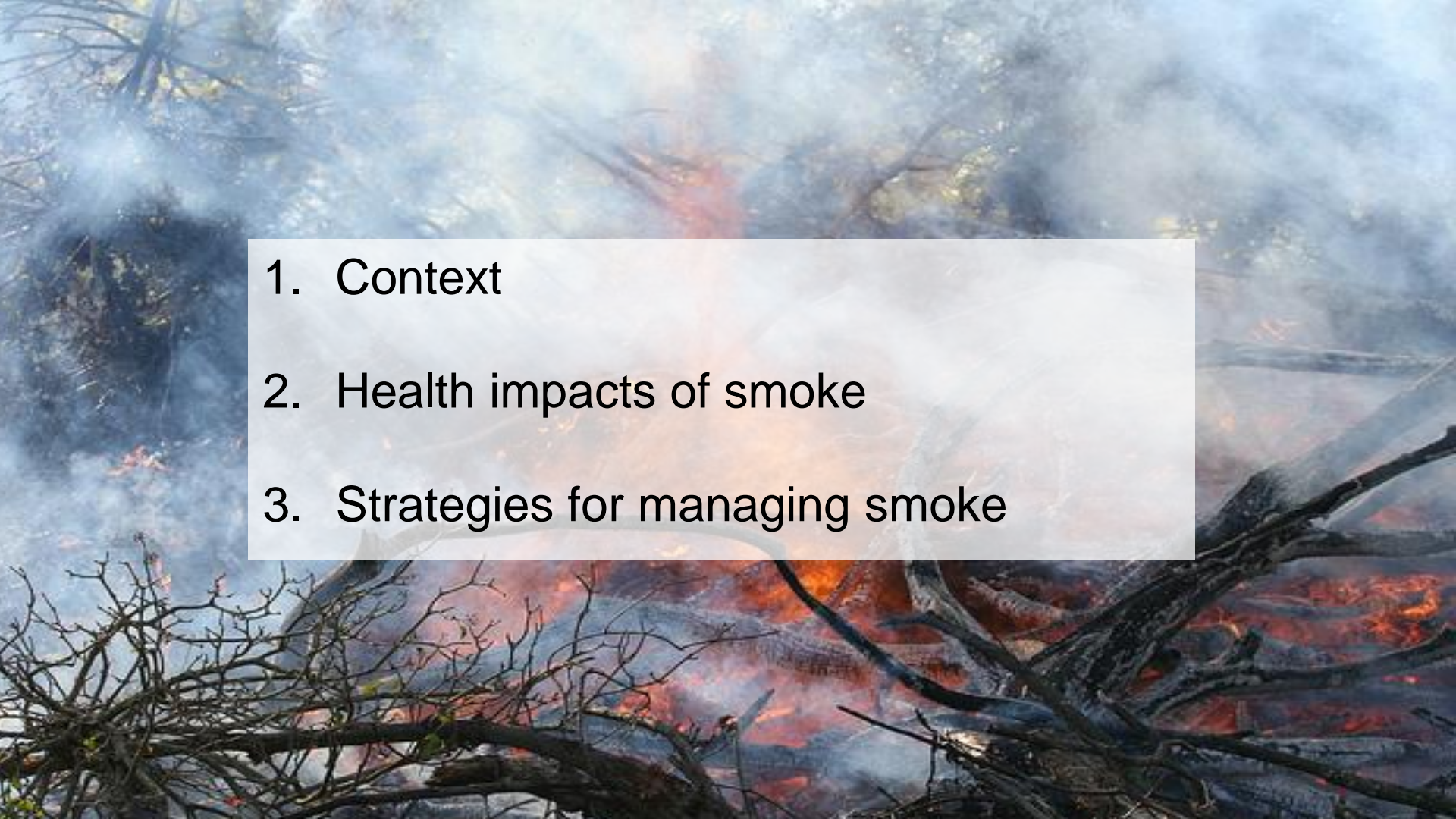
Clean Air Summit

Hazard Reduction Burning

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1. Context
 2. Health impacts of smoke
 3. Strategies for managing smoke

Australia's biota is shaped by fire





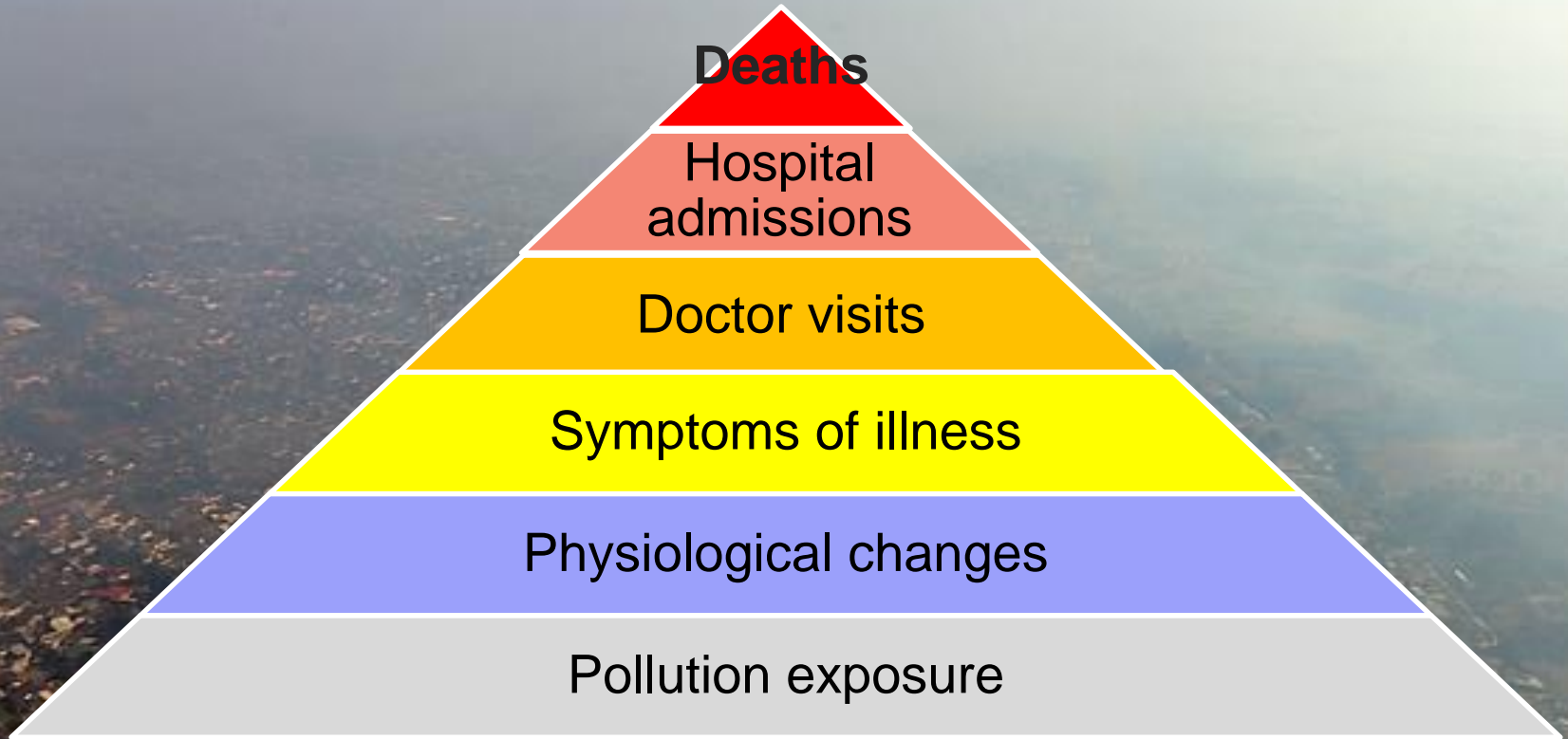
Individual health impacts of smoke

Small changes in:

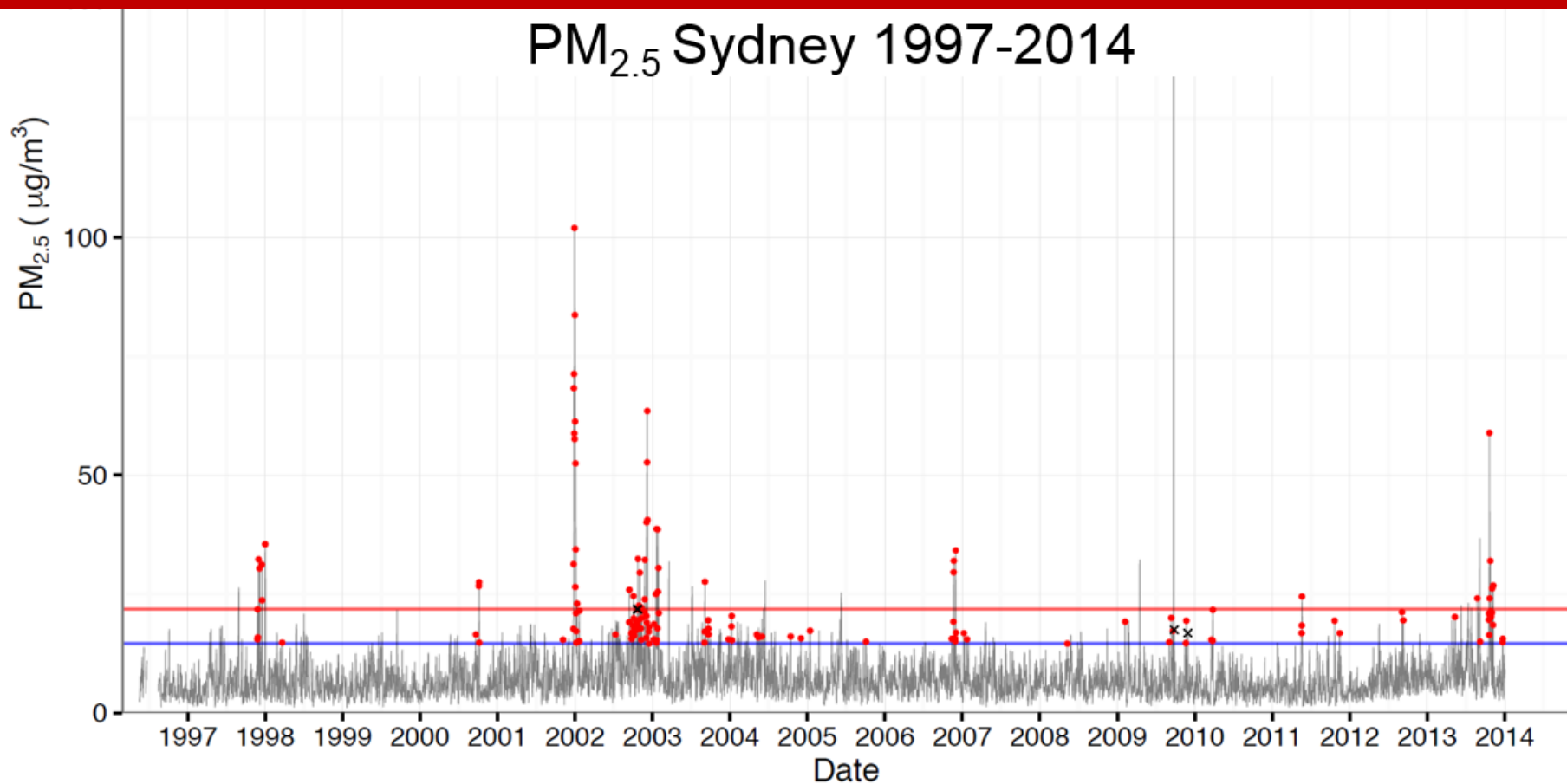
- Lungs - inflammation
- Blood - inflammation and clotting
- Heart – electrical rhythms
- Blood vessels - function



Population health impacts of smoke



Landscape fire smoke episodes in Sydney



What might we expect in a moderate one day smoke event affecting one million people? (ave increase in PM_{2.5} ~30)

Outcome	Likely order of magnitude of impacts
Deaths	none/units
Admissions to hospital	tens
ED presentations	tens
Ambulance call outs	tens
GP visits	hundreds
Puffer sales (salbutamol)	hundreds
Symptoms	thousands



Strategies for harm minimisation



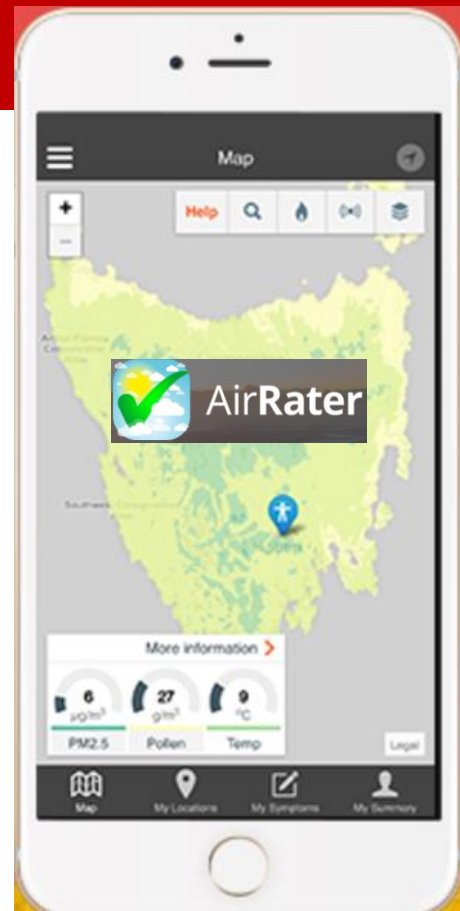
Specific actions


- **Prevention** – before the event
 - Sealing a house
 - Taking preventive medication
 - Planning activities
 - Seeking clean air environments for higher risk people
- Mitigating an established smoke event
 - **Portable air cleaners**, clean air shelters,
 - Follow a health management plan
 - **Pause ignitions**
 - especially if AQ exceedance present or likely
 - especially in highly populated areas



Communication

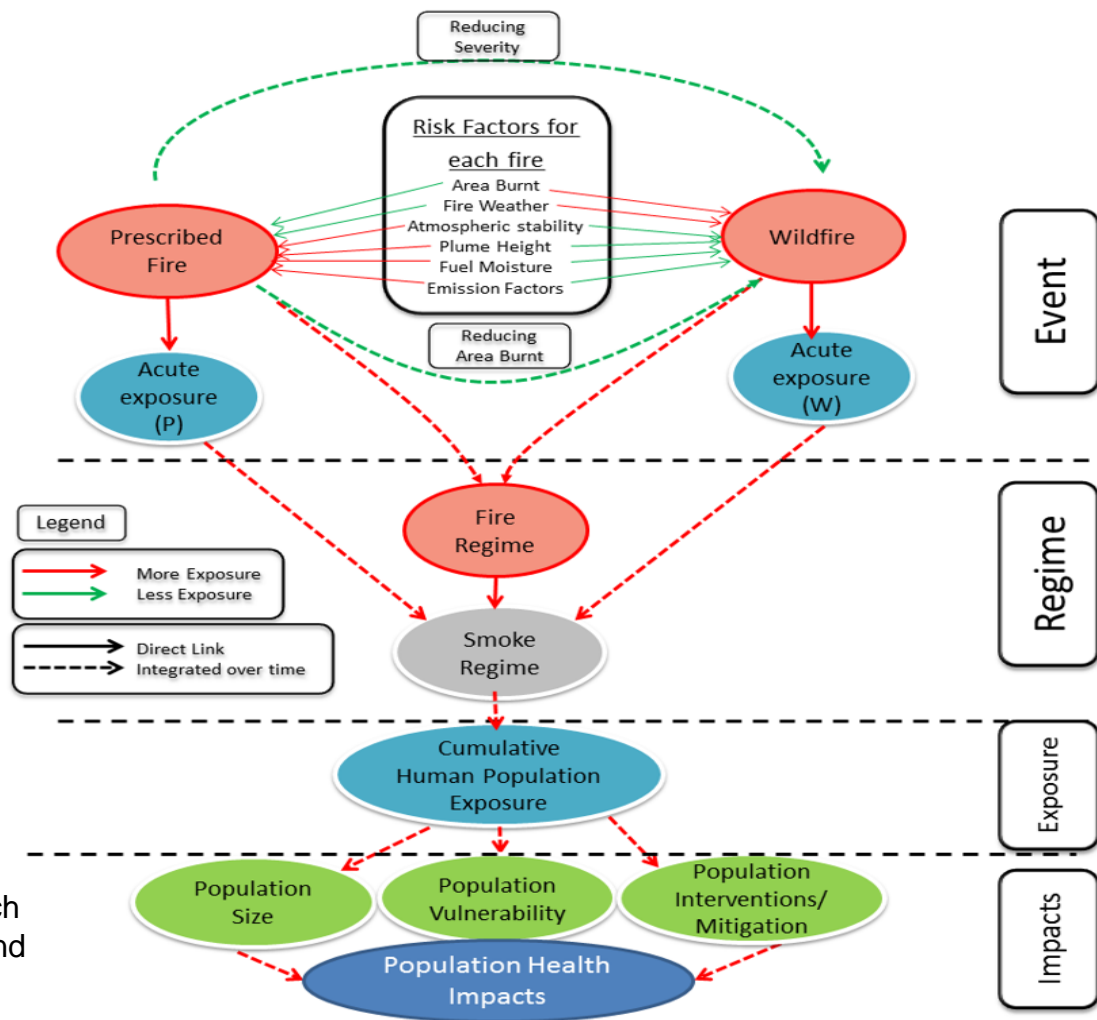
- With each burn: around 24 hours prior to ignition and real-time updates
 - Reducing health impacts requires preventive action
- Ongoing: community
 - education, developing health management plans with GP
- Ongoing: between agencies and disciplinary experts
 - Keep adverse impacts at the bottom of the pyramid



The background image depicts a large, intense fire, likely a wildfire or a controlled burn. Thick, billowing white and grey smoke rises from the flames, filling the upper portion of the frame. In the foreground and middle ground, several dark, charred, and twisted tree branches are visible, some of which are partially engulfed in the fire. The fire itself is a mix of bright orange and yellow flames, with some darker, smoldering areas. The overall scene conveys a sense of destruction and the overwhelming power of fire.

To find the balance we need to genuinely engage
with every facet of the problem

Factors contributing to the health impacts of smoke



Williamson GJ et al. A transdisciplinary approach to understanding the health effects of wildfire and prescribed fire smoke regimes. Environmental Research Letters. 2016 Dec 6;11(12):125009.

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