



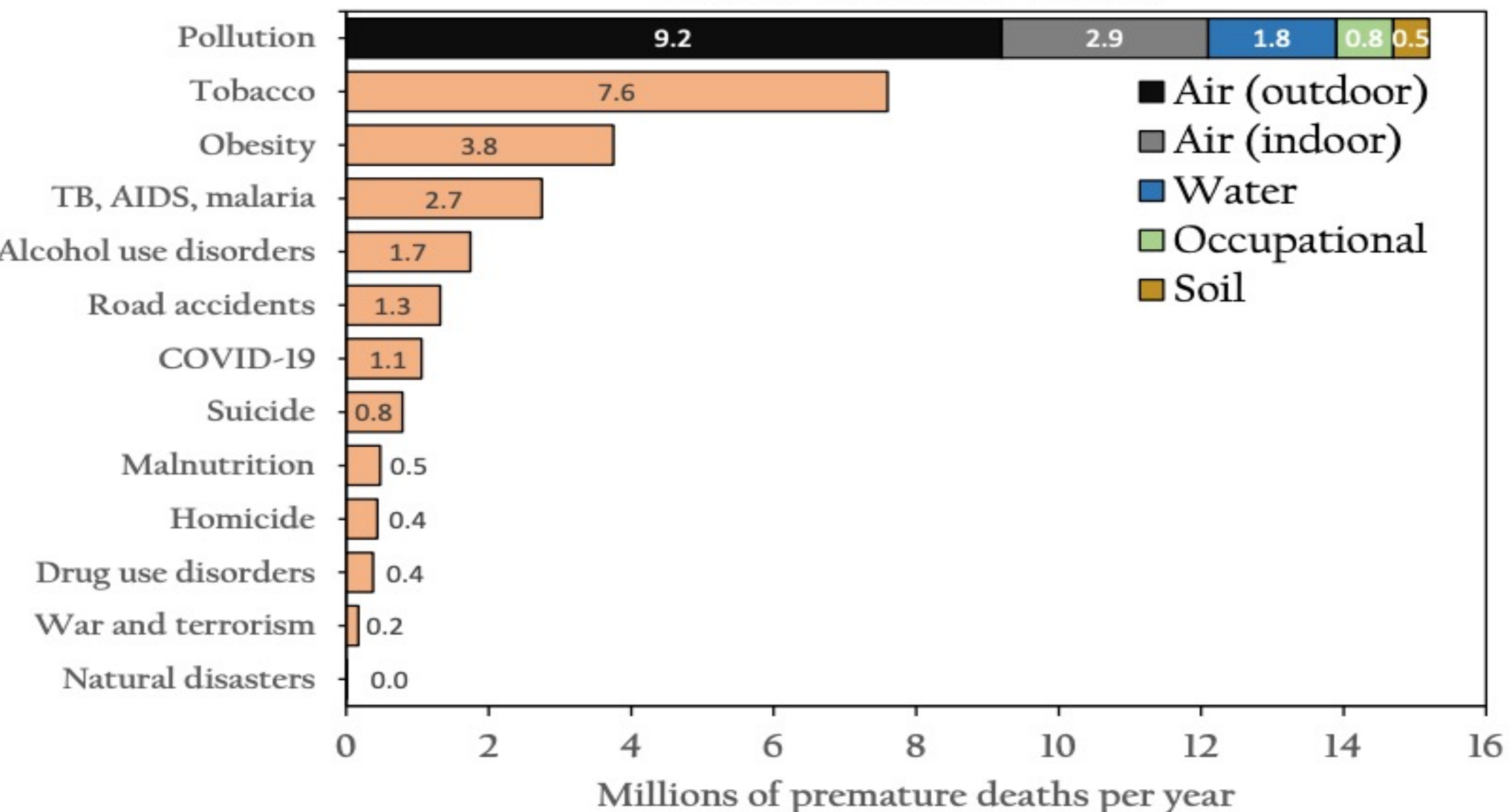
Human Health and Economic Costs of Air Pollution in Utah: An Expert Assessment

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Killer without a cause

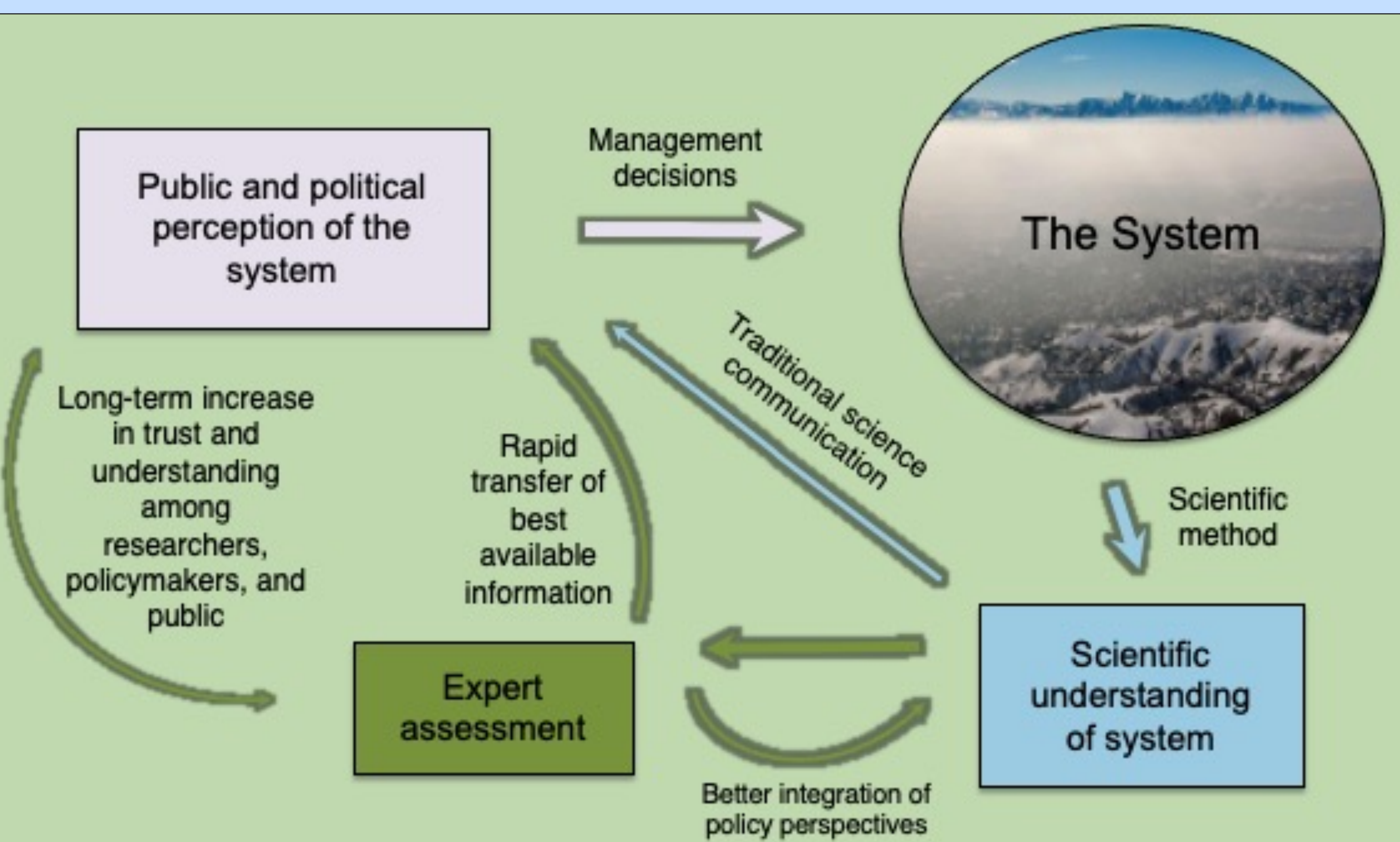
Environmental pollution kills 15 million people every year. Mitigation measures are highly effective (fiscally and health-wise), but implementation remains poor. We addressed this disconnect with an expert assessment study in Utah.

Global causes of death



What is an expert assessment?

When management decisions are pressing but uncertainty is high, expert judgements have long informed possible system response. While expert assessment cannot definitively answer questions of future system response, it complements modeling and empirical approaches by allowing the synthesis of formal and informal knowledge.

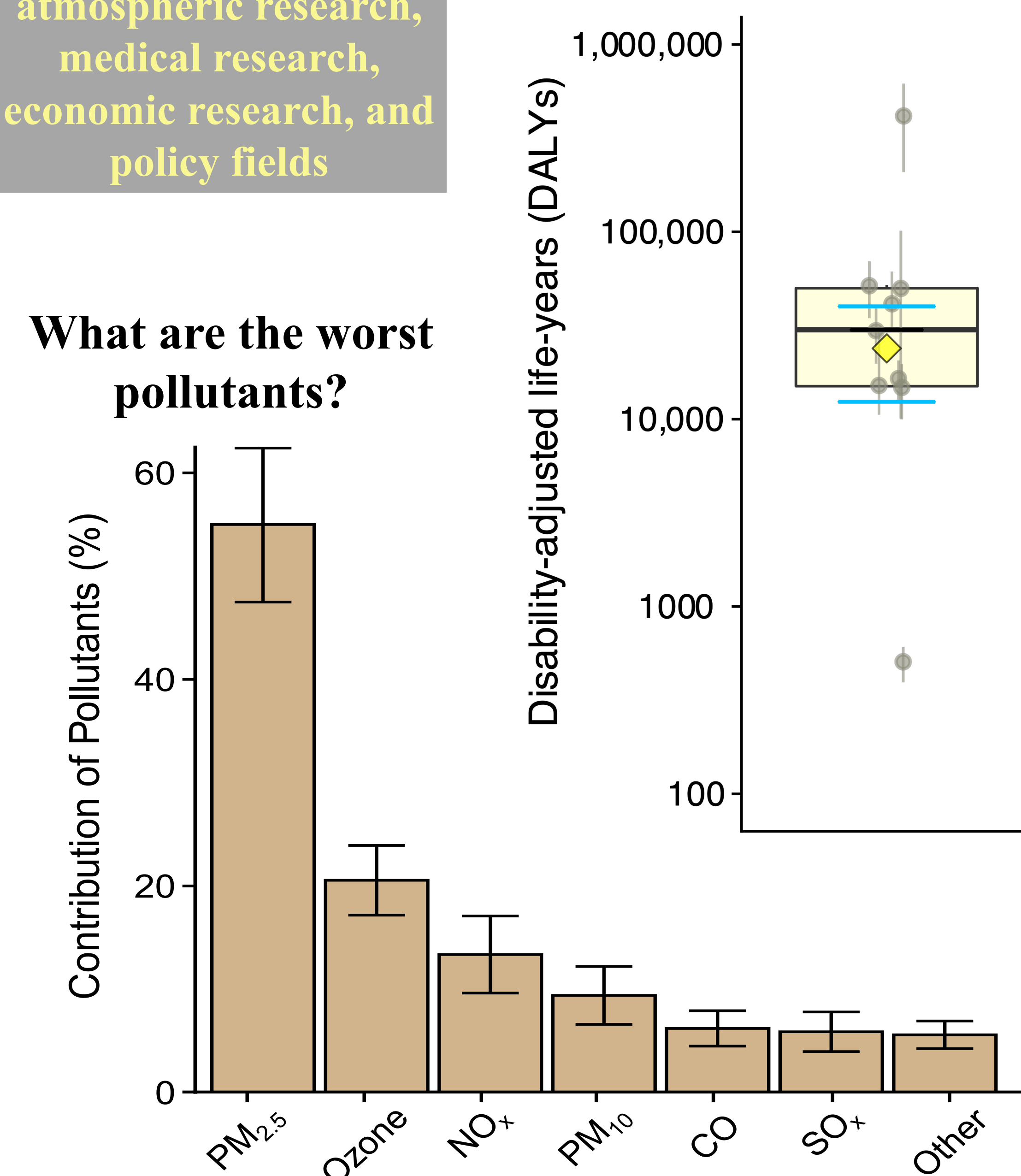


Though the costs of air pollution are well constrained at a global scale, those numbers mean little to local legislators and regulatory organizations.

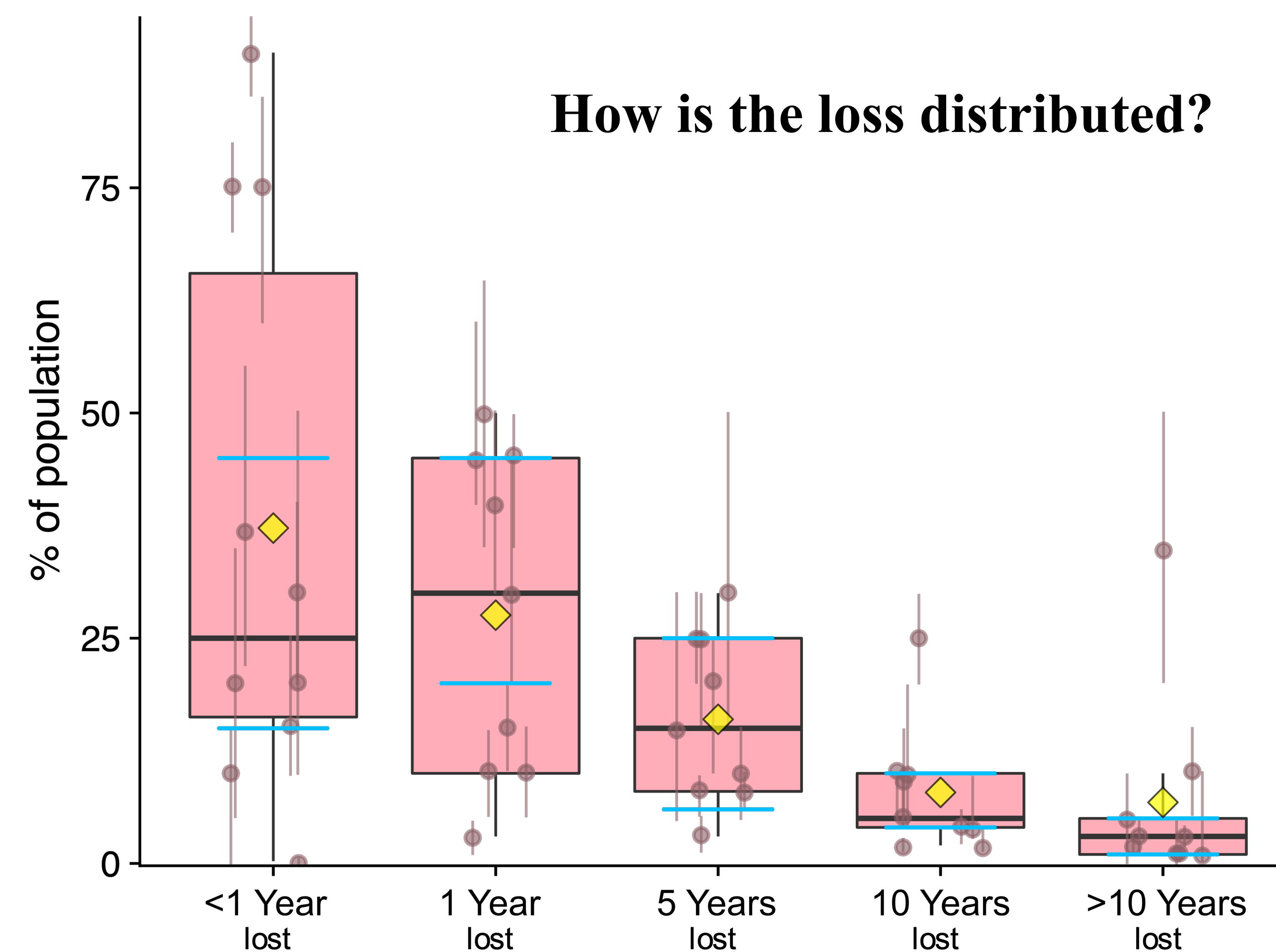
Could matching the spatial scale of estimates to the scale of decision making accelerate air pollution cleanup?

14 respondents from atmospheric research, medical research, economic research, and policy fields

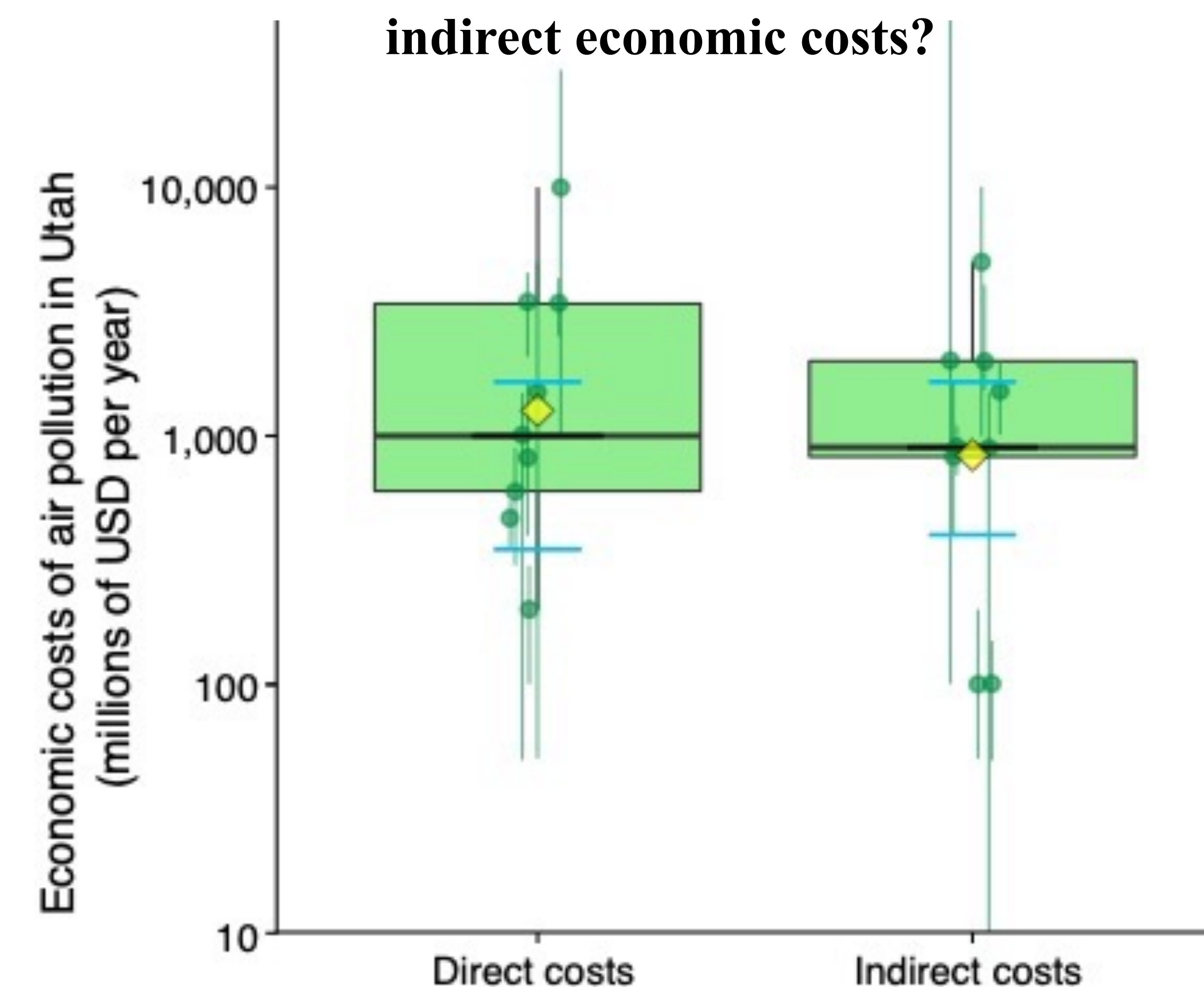
How much life is lost?



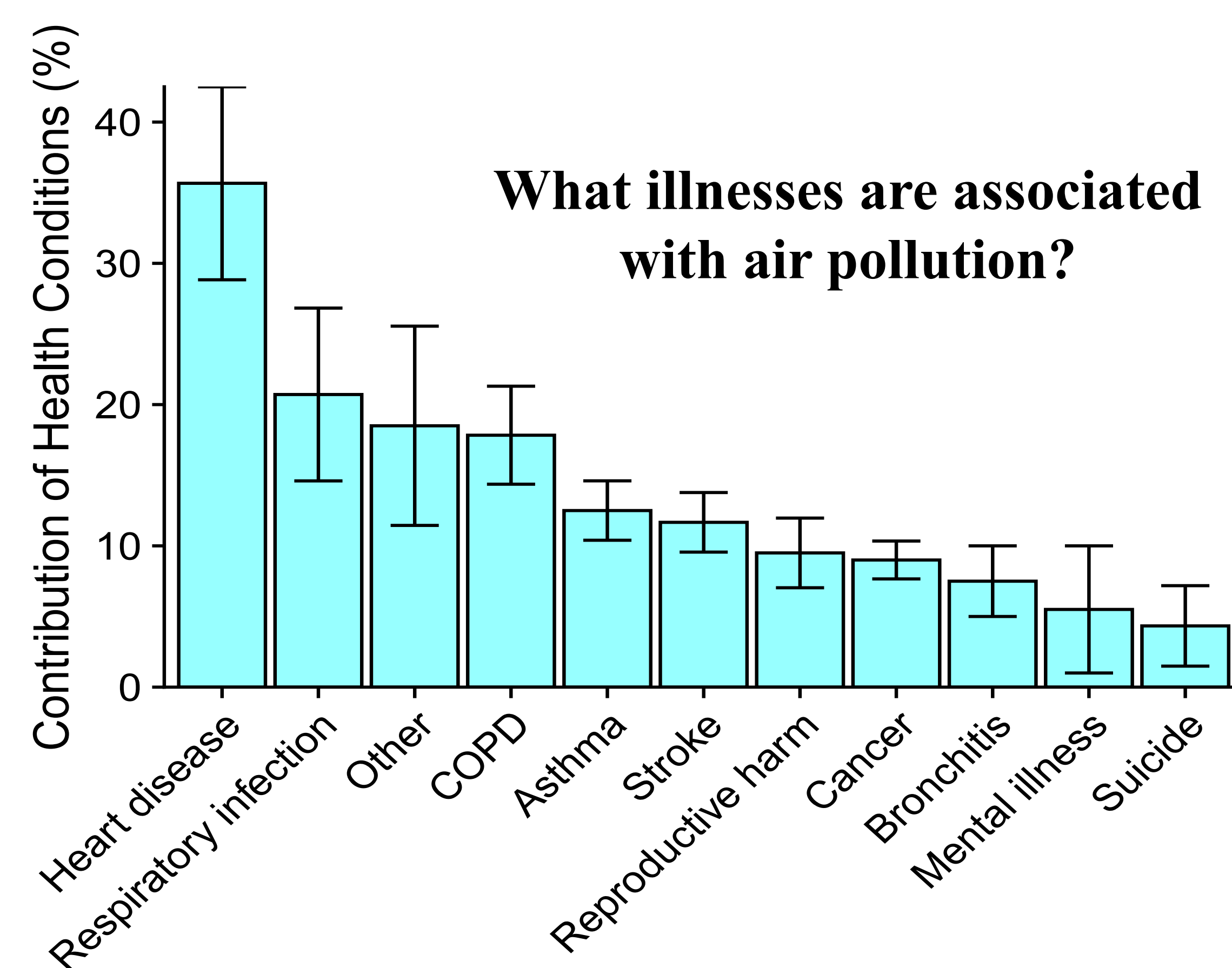
How is the loss distributed?



What are the direct and indirect economic costs?



What illnesses are associated with air pollution?



Connecting knowledge with action

1. Not just “sensitive groups”: the average Utahn loses ~2 years off their life
2. Air pollution is estimated to cost Utah’s citizens ~1.9 billion USD
3. There are many state-level actions identified to reduce pollution while benefiting the economy
4. Economic studies demonstrate that reducing air pollution could have rapid and substantial health and economic benefits
5. Why doesn’t the intensity of the solution match the severity of the problem?



Expert suggestions

1. Implement a Carbon Tax
2. Increase Electric Vehicle Use
3. Reduce Building Emissions
4. Increase Use of Renewable Energy
5. Reduce Vehicle Emissions
6. Utilize Policy, Education, Activism, and Research
7. Reduce Burning of Fossil Fuels
8. Reduce Burning of Solid Fuels
9. Improve Public Transit
10. Industry Relocation
11. Penalties for Non-Compliance/High Emissions
12. Increased Use of Scrubber Technology to Clean Emissions