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| **Hot in the City: A systems approach to thermal stress, energy and health in urban environments** |
| **Problem**Heat waves are an increasing planetary health issue. In Australia heat waves are responsible for more deaths than all other natural disasters combined. Climate change is now amplifying the frequency, intensity and duration of these events, and the associated thermal stress. As urban populations grow, these effects will continue to be exacerbated by phenomena such as urban heat-island (UHI) effects. As a result urban dwellers must endure hotter conditions than exist in surrounding landscapes. The complexity of urban systems makes it difficult to manage UHI and other climate-related phenomena.How we cool cities and protect health in a changing climate requires a systems approach. **Intervention**In July 2018 we held a one-day collaborative concept-mapping workshop with a diverse group of stakeholders from State and Local Government, advocacy groups, and academia in New South Wales. Participants’ expertise covered areas of environmental health, disease prevention, human physiology, health policy, urban planning, building design, environmental ecology, transport, sport and recreation, material flows, energy use, and human culture. **Outcomes**We developed causal loop diagrams, which represented participants’ assumptions about causation in the urban-health system. The diagrams drew attention to key feedback interactions between heat index, urban design, energy use, and health. For example, the causal loop linking climate change, thermal stress, building design and energy use makes clear the need to rethink building design and cooling methods. A literature review is now in progress to explore the insights derived from the diagrams. The findings will be used to identify key leverage points for health promotion.**Implications**A collaborative systems approach allows us to investigate important cross-sector influences. This is a critical step towards a better understanding of the factors that influence urban health in a changing climate. It supports a more effective examination of the potential effects of policy interventions including unintended outcomes. It provides the multi-dimensional perspective that is necessary to establish effective governance in the complex climate-urban-health system. This can reduce the chance that policy ‘fixes’ will generate negative health consequences. **Preferred format**Oral |