A Systems Approach to Understanding Unhealthy Urban Places

PROJECT SUMMARY

This project takes a systematic approach to understand what factors make our urban areas unhealthy. We consulted a range of stakeholders across government, NGOs, education, and the private sector, focussing on Sydney as our case study.
We developed a systems map that highlight factors in urban contexts that promote 'unhealthiness' and how these impact people's health. These factors include:

- Processes that influence unhealthy urban environments (e.g. governance, politics)
- Risk factors for human health within the urban environment at the local level (e.g. buildings, technology)
- Risk factors for poor health and wellbeing outcomes (e.g. social and environmental determinants, unhealthy behaviours)
- Pre-clinical health and wellbeing impacts (e.g. psychological vulnerabilities, physical vulnerabilities)
- Clinical health effects (e.g. diabetes, heart disease)

The problem

Many factors influence the level of health people who live and work in urban environments. These factors include:

- biochemical (e.g. pathogens, pollutants),
- physical (e.g. noise, dilapidation, accessibility),
- social (e.g. isolation, violence), and
- economic (e.g. poverty, disadvantage)

While integrating these diverse factors is known to affect human health and wellbeing, less is known about how different combinations of these factors lead to specific health outcomes.

A systems approach is often used within health-related disciplines to manage specific health issues (e.g. national pandemic strategies). It is, however, not commonly used in addressing urban health. This project fills this knowledge and practice gap, especially from a multidisciplinary perspective.

A multidisciplinary perspective is critical in understanding urban health because evidence-based knowledge is often not transferred and translated across disciplines, resulting in evidence of health impacts being fragmented and best-practice to deal with multi-factorial issues missing.

For example, planning typically focuses on constructing urban environments by adding elements – such as green spaces, meeting places, and playing fields – designed explicitly for activities known to promote human health and wellbeing. Much less consideration, however, is given to attributes of unhealthiness that may emerge after the development of the built environment is complete.

These attributes may include light (e.g. neon signage outside bedrooms, disrupting sleep) and air and noise pollution (e.g. traffic passing by a sporting field), as well as place-specific coincidental factors such as the lack of local amenities and services, which discourages walking trips, or local topography that contribute extreme heat events. These all can have profound consequences for people's health.

Our research

We consulted 4 stakeholder groups through a modified Delphi method to get their expert opinions and consensus on what contributes to unhealthiness in urban places. This method is an iterative process that seeks to arrive at an agreed opinion amongst a group of stakeholders with diverse expertise. They include:

- *Health* (public health, environmental health, health promotion, data linkage & health impact assessment)
- *Built Environment* (planning, architecture, design, geography)
- *Culture and Equity* (Indigenous research, equity)

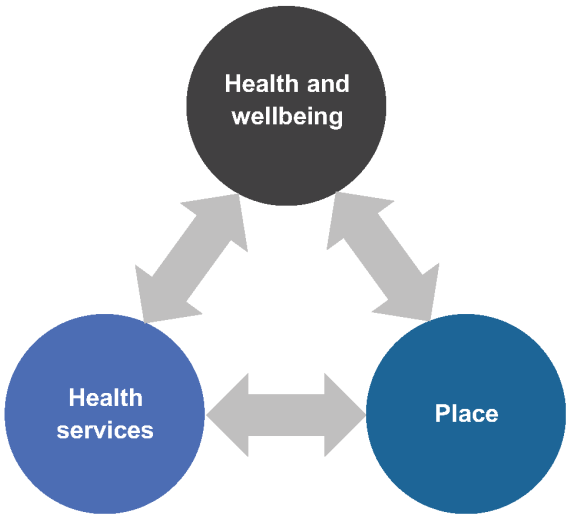
Three rounds of questionnaires were conducted online between September 2019 and August 2020. Our expert participants provided their responses anonymously, and each round of responses were analysed with findings incorporated into the subsequent rounds of questionnaire for further expert commentary. This allowed contributions from different areas of expertise to be included, with place-based evidence introduced to support the development of the systems map and identify knowledge gaps.

Translational impacts targeting health practices and policies

This project represents an intersection of public health and urban planning expertise to provide novel public health translation. It addresses a significant gap in our knowledge and practice by linking health evidence and the planning of urban development to highlight

attributes that contribute to unhealthiness in humans. While the discussion was centred around Sydney, this project's findings can have broader, translational impacts, particularly across these four fronts:

1) **Policy:** A more complex understanding of the relationships between urban environments and health will inform future public health policy decisions and debates about how built environment features can contribute to unhealthiness in humans through changes in policy direction and implementation.
2) **Capacity:** This project represents a knowledge base that can facilitate capacity building among clinicians and built environment practitioners for potential interventions that address unhealthy built environment features systematically.
3) **Health:** Policy changes and interventions can improve health and wellbeing outcomes by reducing risk factors and introducing preventative measures. Together, these will reduce the cost of managing poor health and improve people's quality of life.
4) **Environment:** In adopting a broader notion of health that links human health with the health of the natural and built urban environments on which it depends, a key beneficiary of this project will be human health and the health of urban ecosystems. This approach will help address climate change-related impacts on human health.



Future agenda

Working with local health districts, state and local governments, and researchers, we will be starting a follow-up project to develop a set of interventions that promote positive health outcomes in urban development through spatial analytics. If you would like more information, or to participate, please contact:

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Project partners

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- South Western Sydney Local Health District
- University of Technology Sydney
- Western Sydney University
- University of New South Wales
- NSW Department of Environment, Planning and Infrastructure
- The Georges Institute for Global Health
- Waverly Council (NSW)
- Sydney City Council (NSW)

Project team

University of Technology, Sydney

- Professor **Jason Prior** (Institute for Sustainable Futures)
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- Distinguished Professor **Jon Adams** (School of Public Health)

NSW Government

- **Julie Dixon** (South Eastern Sydney Local Health District)

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- Professor **Andrew Gorman-Murray**

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- Dr **Fiona Haigh**

The Healthy Urban Environments (HUE) Collaboratory

The HUE Collaboratory exists to improve the health of Australians living in urban environments
We achieve this by facilitating partnerships between those who shape and have an impact on cities.
These partnerships undertake research and activities to build our understanding of how urban environments can deliver better, more equitable health outcomes.
We'll use this understanding to inform government policy and practice in the planning and development of urban areas.