

# NSW PUBLIC HEALTH BULLETIN

## Cities, sustainability and health

### Creating healthy, just and eco-sensitive cities

#### GUEST EDITORS

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This issue introduces the first of two special issues of the *NSW Public Health Bulletin* that examine health and cities. This issue introduces the topic and identifies the challenges for public health workers and their counterparts in urban management (urban, transport and social planners, environmental engineers and auditors, sustainability officers and others) and the land development and infrastructure sectors of industry. The second issue will focus on ways to move forward by describing urban planning and design approaches to enhance population health.

#### Cities: the dominant human habitat

Cities can be great places in which to live. Currently, 90% of the Australian population chooses to live in urban settlements. People are attracted to cities for many reasons, including the availability of employment, education, social and cultural opportunities, and access to shops, food outlets, health care and other services.

The United Nations has estimated that during 2007 the human species will become a predominantly urban species; for the first time in human history more than half of all people will live in cities.<sup>1</sup> Consequently, the governance of cities is increasingly important for human futures. Those responsible should manage our cities in the interests of both human health and the health of the environment.

#### Cities, sustainability and health

The way people live in cities affects their health by influencing levels of physical activity, food choices, safety, social connection and participation, and exposure to pollutants. These influences are determinants of common, contemporary health problems such as obesity, diabetes, heart disease, some cancers, depression, injury and asthma. The way

people live in cities also affects the health of the environment through loss of biodiversity, changes to ecosystems, carbon dioxide emissions and the production of other pollutants. These environmental changes, in turn, have feedback impacts on human health.

Within cities there is inequity in access to infrastructure and other resources.<sup>2</sup> This applies to transport (mass transit, in particular), healthy food outlets, other shops, parks, libraries and health and community services, and creates barriers to good health and environmental outcomes in both large cities and smaller urban settlements.

These are the challenges we will explore in two special issues of the *Bulletin*. While health workers have a discourse on 'urban health',<sup>3</sup> urbanists have a discourse on 'sustainable cities'.<sup>4</sup> Here we seek an integrated perspective on cities, sustainability and health, and present emerging ecological approaches and systems thinking.

#### Paradigm shift

Concerns about urban sustainability and population health are not new. For example, the Australian National University established the Hong Kong Human Ecology Program in the early 1970s. This was supported by the United Nations Educational, Cultural and Scientific Organization and was the first attempt to understand the ecology of a city and its human population in a holistic and integrated way.<sup>5</sup> This program demonstrated that the actions necessary to protect the biosphere correspond substantially with those required to maintain and improve the quality of human life experience.

In the 1980s, the World Health Organization established the

Healthy Cities initiative.<sup>6</sup> The goal of Healthy Cities projects is the integration of health in decision-making in cities, through partnerships between public and private sectors and community participation. Several Australian cities have become Healthy Cities, including Illawarra and Blacktown in New South Wales and Noarlunga in South Australia.

In recent years, there has been a paradigm shift in the way public health workers think about health and the urban environment.<sup>7</sup> This shift reflects an improved understanding of the importance of environmental determinants of health and has been enabled by new approaches to research.<sup>8</sup> During 2004, the Year of the Built Environment in Australia, there were many activities and events designed to raise awareness about urban environmental issues. The NSW Government Architect initiated a healthy environments project and published a booklet on the topic.<sup>9</sup> The booklet contains 11 essays about health and the environment by researchers and practitioners in the field.

The Standing Committee on Environment and Heritage in the Australian House of Representatives reported on the sustainability of cities in 2005. The Committee is now inquiring into a charter and commission for sustainability in Australia. The response to these inquiries has the potential to shape the future of Australian cities. It is important that population health is a central consideration in the response as cities cannot be sustainable unless they are healthy places in which to live.<sup>10</sup>

### 2006 Fenner Conference on the Environment

The Australian Academy of Science hosted a Fenner Conference on the topic *Urbanism, Environment and Health* in Canberra in May 2006. The conference examined ways of living in cities and the consequences for our health and for the environment. It was delivered through a partnership between those interested in population health and urban environments, and included perspectives from research, policy, the private sector and the community. More information, including abstracts and audio recordings, is available on the conference website.<sup>11</sup>

Following the Fenner Conference, *The Sydney Morning Herald* published a series of articles on *Sick Cities* in August 2006, including case studies reviewed by Dr Chris Rissel, director of health promotion with Sydney South West Area Health Service. The *Herald* maintains a multimedia website on this topic, with the articles and additional audio and video material.<sup>12</sup>

The papers in this issue have been developed from presentations at the 2006 Fenner Conference. McMichael provides a concise history of cities and public health from the industrial era to the present, with a focus on Australia and England. He highlights major urban health penalties and responses to them. He emphasises the importance of

ensuring human health is a central consideration in the sustainability discourse, for both policy and practice.

Howe argues for a renewed focus on urban policy in Australia. She is persuasive about the need for effective governance to enable the three levels of government in Australia to work with the community and the private sector to develop healthy and sustainable cities. Kearns, Beaty and Barnett from CSIRO Sustainable Ecosystems present an extended urban metabolism model as a framework for linking urban resource inputs to the spatial patterns and organisational processes of urban consumption. They identify important relationships between urban metabolism and human health.

Capon and Blakely propose a checklist for healthy and sustainable communities. The checklist identifies attributes of urban environments that affect the health of residents and the health of the environment. It is intended to stimulate debate and could be developed as a tool for government and industry.

Box 1<sup>13-17</sup> contains a glossary of the terms used in these two special issues that may be unfamiliar to the usual readership of the *Bulletin*.

### Meeting the challenge

Boyden has proposed a conceptual framework to represent the biophysical and cultural components of systems.<sup>18</sup> This framework can help us to understand the urban system and the impact of changes to variables within the system. The framework has utility as a tool for the planning and evaluation of interventions.

Health impact assessment is another tool for applying public health analysis to the built environment.<sup>8</sup> The Centre for Health Equity Training, Research and Evaluation at University of New South Wales is currently funded by NSW Health to promote the use of equity-focused health impact assessment as a policy, planning and evaluation tool.<sup>19</sup> An example of one project under this initiative is the health impact assessment of the Sydney Metropolitan Strategy. A brief report of this follows this editorial.

To achieve healthy, equitable and sustainable cities, it will be necessary to strengthen professional relationships between urbanists and public health workers. Partnerships can be fostered through collaborative projects (both research and intervention), joint workforce development and advocacy. There is also a need for further innovation in scientific method. The science supporting sustainability is an emerging science that seeks to understand the interactions between nature and society.<sup>20</sup> Only through such work, across and between traditional disciplines, will we develop the knowledge and approaches necessary to address the challenge of health and cities.

## Box 1. Glossary

Biodiversity <sup>13</sup>	The variability among living organisms from all sources, including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part. Biodiversity includes diversity within species, between species and between ecosystems.
Bioregion <sup>14</sup>	A region with borders that are naturally defined by topographical systems (such as mountains, rivers and oceans) and ecological systems (such as deserts, rainforests and tundra).
Biosphere <sup>15</sup>	The part of the Earth's environment in which living organisms are found and with which they interact to produce a steady-state system.
Ecological footprint <sup>13</sup>	An index of the area of productive land and aquatic ecosystems required to produce the resources used and to assimilate the wastes produced by a defined population at a specified material standard of living, wherever on Earth that land may be located.
Ecology <sup>15</sup>	The scientific study of the inter-relationships among organisms and between organisms, and between them and all aspects, living and non-living, of their environment.
Ecosphere <sup>15</sup>	Similar to biosphere. The term ecosphere is used to emphasise the interconnection of the living and non-living components.
Ecosystem <sup>13</sup>	A dynamic complex of plant, animal and microorganism communities, and their non-living environment, interacting as a functional unit.
Health <sup>16</sup>	A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.
Sustainability <sup>13</sup>	A characteristic or state whereby the needs of the present and local population can be met without compromising the ability of future generations or populations in other locations to meet their needs.
Urban systems <sup>13</sup>	Built environments with a high human population density. Operationally defined as human settlements with a minimum population density commonly in the range of 400 to 1000 persons per square kilometre, minimum size of typically between 1000 and 5000 people, maximum agricultural employment usually in the vicinity of 50–75%.
Urbanisation <sup>13</sup>	An increase in the proportion of a population living in urban areas.
Urbanism <sup>17</sup>	Urban way of life.

More than 15 years ago, Ashton argued for a new approach to environmental health, a shift from sanitarian to ecologist.<sup>21</sup> NSW public health workers should now embrace this challenge. It is through everyday activities that, as citizens, we all experience the highs and lows of city life. For this reason, we should also encourage vigorous debate in the wider community about this important topic.

### Acknowledgements

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## Report on the health impact assessment of the Sydney Metropolitan Strategy in greater western Sydney

In 2006, the NSW Department of Planning finalised its Sydney Metropolitan Strategy, a strategic framework for managing the city over the next 25 years. The Strategy's intent is to enable the NSW Government and the market to confidently respond to economic growth and housing and infrastructure need, to strengthen and secure Sydney's economic competitiveness, and to make Sydney a better place to live.<sup>1</sup>

For more than 5 years, regional government and non-government organisations in western Sydney have been advocating for change in urban development across greater western Sydney to improve the health of residents. These organisations – which include the Western Sydney Regional Organisation of Councils (which represents 11 local councils), the area health services, and the Centre for Health Equity Training, Research and Evaluation – are currently collaborating on a health impact assessment (HIA) of the Sydney Metropolitan Strategy within this region.

The premise of the HIA was that the success of policies for the management of a city should be measured in terms of the environment and the health of its residents, rather than measures of transport movements and economic development.

The objectives of the HIA were to:

- raise awareness of health and well-being as important criteria for urban development policy;
- gather and analyse the best available data on urban development decisions and health and well-being relevant to Sydney;
- make recommendations about the strengths and weaknesses of the Sydney Metropolitan Strategy which can also inform future planning instruments in NSW; and
- facilitate an on-going dialogue between development stakeholders about health and well-being issues.

To achieve these goals it was essential to engage decision-makers in urban development. This was achieved through the formation of a reference group of 40 stakeholders drawn from industry, government, academia and community. The reference group, supported by consultants, identified dimensions of the urban environment (including urban form, transport and economy) and determinants of health (including physical activity, food access and social capital) for Sydney. The approach aligned with the World Health Organization's 'The Solid Facts: Social Determinants of Health'.<sup>2</sup> The reference group has been crucial in identifying specific issues for Sydney's future development. These include location of employment, the need for timely delivery of transport and social infrastructure, access to shops and services at a local level, and the value of preserving agricultural lands.

The HIA was funded by NSW Health. The final report will be available in mid-2007. Further information is available from Colin Berryman, Western Sydney Regional Organisation of Councils, Blacktown.

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