PERSPECTIVES

Healthy Cities, local environmental action and climate change

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SUMMARY

This paper reports results of a study that explored the relationship between the local environmental actions of Healthy Cities programs and the adverse health impacts of climate change. The analysis is primarily based on a limited literature review of climate change and health, with particular attention to the relationships between Healthy Cities and climate change, and on documentary analysis of information from organization reports and website content associated with Healthy Cities programs in Europe and Australia. Four semi-structured interviews with key people in two Healthy Cities programs in Europe and Australia were conducted to provide information to supplement and complement the published information and to verify theme identification. The main findings of this study are that, although there is no explicit connection between the local activities of Healthy Cities programs and the potential (or actual) adverse health impacts of climate change, Healthy Cities programs are involved in many local environmental actions and some of these actions, for example, those relating to improving air quality and reducing pollution, are linked implicitly to the health impacts of climate change. Through their local relationships and their participation in regional networks, Healthy Cities are able to make connections between local environmental actions and the health impacts of climate change. Furthermore, expanding Healthy Cities to include eco-social sustainability as a central aim not only has the potential to strengthen the links between local environmental actions and climate change, but also presents a relevant health development setting for exploring the social and environmental sustainability of cities.

Key words: healthy cities; climate change; sustainability; local action

INTRODUCTION

Climate change is one of the 'global physical threats to the environment and public health' [(Baum, 2002), p. 258], which suggests a need for a new understanding of public health and environmental management. Baum proposes that, in contrast to the old public health whose primary focus was on the prevention of infectious diseases and epidemics, the new public health is more encompassing all threats to health as well as 'growing concern with sustainability and viability of the physical environment'

[(Baum, 2002), p. 36]. The World Health Organization's Healthy Cities initiative—an approach to engaging local government in health development—has become 'the spearhead of a new public health approach—the settings approach—that is now universally recognised' [(Kickbusch, 1999), p. 451] as a means of achieving health through an 'integrated holistic approach' [(Baum, 2002), p. 503]. This paper explores the relationship between the local environmental actions of Healthy Cities and reducing the adverse health impacts of climate change.

'Climate change is a reality' [(Adger *et al.*, 2005), p. 77]. There is now international consensus that the term 'climate change' has come to include the anthropogenic influences on climate in addition to natural climate variability. In its recent report, the Intergovernmental Panel on Climate Change (IPCC)—an organization set up in 1988 by the United Nations Environment Programme and the World Meteorological Organization—states that '[m]ost of the observed increase in globally averaged temperatures since the mid-20th century is *very likely* due to the observed increase in anthropogenic greenhouse gas concentrations' [(IPCC, 2007), p. 10]. Although climate change may be seen as a global issue, the IPCC notes that the 'adverse impacts of climate change are expected to fall disproportionately upon developing countries and the poor persons within countries' [(IPCC, 2001), p. 32]. For instance, in Oceania, '[r]emote Aboriginal communities, people on low incomes, the elderly and many Pacific Island countries will be most vulnerable' [(McMichael *et al.*, 2002), p. 4].

Patz *et al.* [(Patz *et al.*, 2005), p. 310] state that '[e]vidence is mounting that … changes in the broad-scale climate system may already be affecting human health', and regional analyses (Kovats *et al.*, 1999; Patz *et al.*, 2005) agree on two main areas of health impact, namely, direct heat effects and indirect effects from infectious diseases. Although some risk assessment has been conducted in Oceania (McMichael *et al.*, 2002), '[f]ew countries in Europe have undertaken national or subnational assessments on the impacts of climate change on human health' [(Kovats *et al.*, 1999), p. 1685]. For instance, Davies [(Davies, 2005), pp. 37–38] notes 'the lack of resonance climate change has in Ireland' despite the evidence that 'the Irish climate is following similar trajectories to those predicted by global climate models' [(McElwain and Sweeney, 2003), p. 97].

Research into the actual and projected impacts of climate change on human health in cities (Kalkstein, 1993; Guest *et al.*, 1999) points to the need to anticipate, assess and reduce the adverse health impacts of climate change for urban dwellers. Guest *et al.* (Guest *et al.*, 1999) acknowledge that people of low socio-economic status and older people are more vulnerable to heat stress and Kalkstein's analysis of heat-mortality research in cities worldwide suggests that there will be an increase (from 2020 to 2050) in 'heat-related deaths during the summer because of lack of air conditioning and substandard housing conditions' [(Kalkstein, 1993), p. 342].

Can Healthy Cities initiatives help to reduce the adverse health impacts of climate change? The Healthy Cities project arose as a World Health Organization (WHO) initiative in Europe in 1987 and has since expanded into a global network spanning six regions (WHO, 2006). The WHO describes its Healthy Cities program as one that:

engages local governments in health development through a process of political commitment, institutional change, capacity building, partnership-based planning and innovative projects. It promotes comprehensive and systematic policy and planning with a special emphasis on health inequalities and urban poverty, the needs of vulnerable groups, participatory governance and the social, economic and environmental determinants of health (WHO, 2006).

In the early days of Healthy Cities, 'there was limited appreciation of the social and environmental determinants of health' [(von Schirnding, 1997), p. 224]. An early review of European Healthy Cities projects with some reference to the USA and Canada (Flynn, 1996) was optimistic for Healthy Cities, concluding that although '[m]uch remains unexplained about Healthy Cities'… [the] broad involvement of different segments of the community remains a promising approach to dealing with urban problems' [(Flynn, 1996), p. 307].

Subsequent research and evaluations have supported this optimism (Baum, 2002). However, Healthy Cities have some limitations. From their research on 10 European Healthy Cities, Goumans and Springett [(Goumans and Springett, 1997), p. 311] concluded that 'Healthy Cities initiatives were still projects' that have not influenced the policy agenda on health, which was one of the original aims of Healthy Cities. Dooris [(Dooris, 1999), p. 369] makes a similar observation about the UK where Healthy Cities (and Local Agenda 21) initiatives have struggled to 'move from the margins to the mainstream'. (Local Agenda 21 arose from the 1992 United Nations Rio Earth Summit on Environment and Development as 'a programme of action for sustainable development and addresses environmental, social and economic aspects of development' [(Dooris, 1999), p. 367].) Similar results

were obtained in an Australian study, which concluded:

Healthy Cities should steer away from being a 'project', and place greater emphasis on providing a philosophy for the way in which organisations, groups and individuals conduct their work [(Cooke, 1995), p. 103].

One of the strengths of Healthy Cities is in its 'practical knowledge in respect to strategies and structures that could be useful in bringing about more integrated approaches to health and development at the local level' [(von Schirnding, 1997), p. 225]. At the International Healthy Cities Conference [International Healthy Cities Conference (2003), p. 1] in Belfast in 2003, a declaration by mayors and senior politicians from cities in Europe asserted the 'power of local action'. This may be important for climate change, as Wilbanks and Kates (Wilbanks and Kates, 1999) note that, although climate change (in terms of temperature and precipitation) is occurring at a regional level, the consequences (in terms of impacts on health) will be felt at a local level. Assessing local vulnerability to climate change and adapting to its adverse effects are topical (Adger *et al.*, 2005; Allen Consulting Group, 2005). In its report to the Australian Government, the Allen Consulting Group [(Allen Consulting Group, 2005), p. ix] describes vulnerability as 'a function of exposure to climate factors, sensitivity to change and capacity to adapt to that change'. Menne and Bertollini [(Menne and Bertollini, 2005), p. 1284] claim that:

Identifying ways to … help populations and systems deal with the risks and threats posed by climate change (adaptation) could lead to a greater sense of security and control and result in improved population health.

For Healthy Cities, this can involve 'building adaptive capacity … of individuals, groups, or organisations to adapt to changes, [thus] transforming that capacity into action' [(Adger *et al.*, 2005), p. 78]. Healthy Cities programs are potentially well placed to address health and environment issues at a local level. Local actions that focus on vulnerability and adaptation may contribute to reducing the adverse health impacts of climate change and play a role in raising awareness of global change at a local level. This paper seeks to explore that proposition.

METHODS

This study is primarily based on a limited literature review of climate change and health, with particular attention to the relationships between Healthy Cities and climate change, and on documentary analysis of information from organization reports and website content associated with two Healthy Cities programs, one selected from Europe and one from Australia. The cities, although different, share some common characteristics. Both are modest size cities, by world standards, with urban area populations of around 300 000 to 500 000 people. They are traditionally industrial cities, although the decline of manufacturing has led to diversification of employment into service areas such as tourism, retail trade, health and education. The Healthy Cities programs in each city employ a small core staff of around six people.

Four semi-structured interviews were conducted through telephone with managers and board members in the two Healthy Cities programs. The interviews covered themes derived from the published information—including environmental activities of Healthy Cities, local relationships and regional networks, climate change and sustainability, impact of climate change on human health and links to local action—and were conducted to provide information to supplement and complement the published information and to verify theme identification. Ethics approval was obtained from the Social and Behavioural Research Ethics Committee of Flinders University. Participant-checking of the interview summaries and interpretations was used to verify the relevance and validity of the findings. The study was exploratory in nature, so an interpretive synthesis of the information was conducted (Jensen and Allen, 1996).

FINDINGS

This study did not find an explicit connection between the activities of local Healthy Cities programs and the adverse health impacts of climate change. However, Healthy Cities

programs are involved in many local environmental actions and some of these actions, such as those intended to improve air quality and reduce pollution, are linked implicitly to climate change. Through their local relationships and their participation in regional networks, Healthy Cities are able to make connections between local environmental action and the health impacts of climate change. Furthermore, Healthy Cities are a relevant health development setting for exploring the social and environmental sustainability of cities. These findings are discussed in more detail below.

Healthy Cities and climate change

Although documentary analysis of information from organization reports and website content did not find an explicit connection between the activities of local Healthy Cities programs and the potential (or actual) adverse health impacts of climate change, climate change is still a cause for concern for the programs. A European participant observed that 'climate change is not explicit in environmental concerns in Healthy Cities. However, implicitly, it's there all the time'.

The lack of an explicit connection to climate change is not surprising. In their Canadian study, Pruneau *et al.* [(Pruneau *et al.*, 2001), p. 121] ascertained that one of the obstacles to increasing the awareness of climate change is 'the global nature of the phenomenon [which makes] it difficult to observe on the local level'. Although Lindseth [(Lindseth, 2004), p. 334] proposes that 'constructing climate change as a local issue might pose a problem because it creates the impression that climate change matters can be solved locally', local action can still be important. 'Climate change has been discussed in Healthy Cities', an Australian participant remarked, 'but is not where the conversation starts ... we tend to chip away at the local and regional [environmental] issues. Any broader benefits are great but they are not primary to us'.

Local actions and links to climate change

A review of documents and website content of the Healthy Cities programs—both programs in this study work on four main priority areas, one of which is specifically focussed on the environment—revealed that some of the local environmental actions in the Healthy Cities programs are linked implicitly to climate change. Issues of transport, pollution, air quality, housing and urban planning are on the agendas of both programs.

The Healthy Cities programs in this study are independently incorporated organizations. Although their boards include area health service and local government representatives, Healthy Cities' position outside a health service allows other sectors to engage with the Healthy Cities program. Participants in the Healthy Cities programs are unequivocal in locating human health at the center of their activities—'issues need to be linked back to human health' (Australian participant). However, although 'the focus [for instance, of action to reduce air pollution] is on quality of life', the same action can also impact on climate change, 'it's just *framed* differently' (European participant, emphasis added).

According to Lindseth [(Lindseth, 2004), p. 327], a 'frame' is 'an idea through which collective actions take place' and thus 'framing translates climate change into understandable categories ... showing how cities can work with this issue'. Lindseth [(Lindseth, 2004), p. 333] claims that 'integrating climate concerns in other sectors of local policy, such as traffic,...urban and land-use planning, [and] housing' means that 'local problems, like air quality and related health problems [can] generate concern about climate change, because people actually feel in their bodies its local effects' (2004, p. 329).

For Healthy Cities, this is where the conversation on climate change starts. An Australian participant noted that '[t]here are connections between physical health and environmental programs—industrial pollution is a clear one'. A European participant agrees that 'healthy urban planning strategies coincide with climate change strategies, for example, [building] construction, air pollution and the incidence of asthma'. The framing of climate change in other sectors also raises issues of environmental justice [(Baum, 2002), pp. 450–453], which participants in the study recognized:

Environmental justice is another issue in that many of the world's population that have contributed least to the problem of climate change will suffer the most and the earliest. (Australian participant)

Transport, one of the main contributors to greenhouse gas emissions, has an environmental justice dimension. European participants noted:

Often the most deprived areas have the highest air pollution from transport, which raises an issue of environmental justice.

The people who live along [major arterial roads] are the poorest and most vulnerable to the impacts of poor air quality.

There is further injustice when people in disadvantaged areas also experience fuel poverty (a household experiences fuel poverty when it spends more than 10% of its income on energy [(Bulkeley and Betsill, 2003), p. 71]). The 'inability to afford adequate warmth because of energy inefficiency in the home' [(Bulkeley and Betsill, 2003), p. 110] can be exacerbated by, and exacerbate, climate change. As a European participant observed:

In Northern Europe, many older people live on benefits in big houses, which are expensive to heat. They either don't heat them—and expose themselves to a health risk—or use a lot of energy to heat them, which contributes to greenhouse gas emissions.

Fuel poverty can also apply to the ability to afford the necessary energy to cool the house in times of heat stress. In the increasingly hot summers in Australia (Hennessy, 2004), increasing electricity prices have put pressure on many low-income households.

The Belfast Declaration from the 2003 International Healthy Cities Conference [(International Healthy Cities Conference, 2003), p. 1] includes a commitment to '[r]educing inequalities and addressing poverty' and to 'building safe and supportive cities sensitive to the needs of all citizens'. This commitment may be an important feature of the adaptive capacity of Healthy Cities programs to 'change to support the environment and public health' [(Baum, 2002), p. 425] in response to climate change, particularly as poor people within countries are most vulnerable to the adverse effects of climate change (IPCC, 2001).

Networks and relationships

Through their local relationships and their participation in regional networks, Healthy Cities are able to connect local concerns with broader regional and global issues. Both Healthy Cities programs in this study participate in regional Healthy Cities networks. The 'Healthy Cities Programme in Europe has evolved over 5-year phases, each giving special attention to a number of priority themes' (WHO, 2006). The Phase IV Network comprises 67 cities, which are 'working on three core themes: healthy aging, healthy urban planning and health impact assessment (HIA)' (WHO, 2006). Local concerns remain important, for instance, 'health concerns around access to health services and the cost of transport' (European participant).

There are fewer Healthy Cities programs, even on a per capita basis, in Australia than in Europe. As one Australian participant noted, '[we have] struggled within Australia to develop links with other similar programs; many are often short-lived'. However, Australian Healthy Cities programs do participate in the Alliance for Healthy Cities, set up in 2003 by the World Health Organization's Western Pacific Office.

There is some similarity between Healthy Cities' networks and international networks of cities for climate protection (Bulkeley and Betsill, 2003; Lindseth, 2004). To join the Cities for Climate Protection Campaign, which aims to reduce greenhouse gas emissions at a local level, a city must commit to work towards milestones that help 'local governments... understand how municipal decisions affect energy use, and how reductions in energy can mitigate global climate change while improving the quality of life' [(Lindseth, 2004), p. 326]. Similarly, to join the WHO Healthy Cities programme, a city undertakes 'a commitment to health and a process and structure to achieve it ... [and] ... seeks to put health high on the political and social agenda of cities and to build a strong movement for public health at the local level' (WHO, 2006).

Although there is value in being part of international networks (Baum *et al.*, 2006), it does not necessarily increase the power of Healthy Cities at the local level. One European participant expressed this as 'we have influence, but not authority'. For instance, European Healthy Cities participate in the HIA process, which provides a mechanism for a formal response to action plans on air quality and transport, but, as a European participant said, 'the HIAs don't have legislative teeth'. In Australia, Healthy Cities programs tackle similar issues through involvement in relevant taskforces, for example,

on sustainable transport or through advocacy and submission writing.

At the local level, the Healthy Cities programs in this study operate in partnership with a number of government and community organizations. One European participant noted that 'there is added value to various partnerships in having a Healthy Cities program'. An Australian participant observed how the partnership of Healthy Cities with local government led the Council to 'being open to a broader role' in health planning.

Participants in both programs stated the importance of their independent organization status and their credibility as apolitical organizations:

When we comment on plans etc., it registers that we are objective. We do not offend but still have our two cents worth (Manager).

Healthy Cities is a bit more careful and stays more politically neutral (Board member).

These views are consistent with the findings of a study on Healthy City partnerships (Stern and Green, 2005), which found that to avoid some of the 'tensions at the interface between flexible, collaborative partnerships and the organizational structures of statutory partners' (2005, p. 270) necessitated the program positioning itself on a boundary that does not 'threaten the main agenda of the authorities' (2005, p. 269). Baum *et al.* (Baum *et al.*, 2006) note that the neutrality of Healthy Cities has been important for attracting broad political support and thus making Healthy Cities programs easier for government departments to work with.

Relationships with academic institutions form an important link for the local activity of a Healthy Cities program (Baum *et al.*, 2006). Both the Healthy Cities programs in this study have formal links with local universities. These links allow Healthy Cities programs to engage different academic disciplines in local issues. The Healthy Cities programs have involved students and staff from diverse disciplines such as medicine, urban planning, engineering and environmental health in projects such as health impact assessment and sustainable development. These academic links are consistent with the findings of Srinivasan *et al.* [(Srinivasan *et al.*, 2003), p. 1446], who, in reviewing the evidence, call for a 'community-based, multilevel, interdisciplinary research approach' to the research on the built environment and health.

DISCUSSION

Much of the literature reviewed as part of this study is located in the discourse of sustainability. Dryzek [(Dryzek, 2005), p. 9] refers to discourses as 'a shared way of apprehending the world' and quotes Torgerson who claims 'public discussion concerning the environment has become primarily a discourse of sustainability' [(Dryzek, 2005), p. 145]. One board member also observed that the 'health agenda sits increasingly within the sustainability agenda'. Sustainability came to international attention with the Brundtland report for the World Commission on Environment and Development in 1987. The specific focus was on making development sustainable—'to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs' (World Commission on Environment and Development, 1987, p. 8, quoted in Dryzek, 2005, p. 145). Sustainability is complex; there are no simple relationships or links between people, health and environmental issues (Baum, 2002). Sustainability is, as one participant put it, 'widely accepted [but] it can be used to mean everything'. Marcuse [(Marcuse, 1998), p. 106] contends that sustainability, although necessary, is not sufficient, saying:

changes within the present system may be targeted at problems of environmental degradation, global warming, etc., while leaving other key undesirable aspects, such as social injustice, intact. Presumably, good planning calls for social justice as well as environmental sustainability, not just the one or the other.

As 'most environmental pollution and degradation is caused by the actions of the more affluent' [(Agyeman and Evans, 2004), p. 160] and the adverse health impacts of climate change will be felt most by the poor (IPCC, 2001), environmentally healthy cities must also be socially just (Agyeman and Evans, 2004). Thus, if Healthy Cities are to be sustainable cities, eco-social sustainability should be a central aim.

At a practice level, Healthy Cities programs are a potential setting in which to focus

on environmental sustainability and health (von Schirnding, 1997). Parkes *et al.* [(Parkes *et al.*, 2003), p. 673] comment that 'the foundation for health and sustainability' is the 'linking of ecosystems and social systems' and that:

[r]ecent trends in environmental health, ecology and health, and human ecology all suggest that the interface between sustainability, ecosystems, social systems, and health is fertile ground for optimizing environmental health interventions and maximizing public health gain [(Parkes *et al.*, 2003), p. 674].

Brown *et al.* [(Brown *et al.*, 2001), p. 5] identify a range of environmental health stakeholders in 're-establishing human-environment sustainability'. These include, in addition to the public health and environmental management professions, 'agencies responsible for global conventions on climate change [and] community activists for locally sustainable development' (2001, p. 5). The local relationships and activities of Healthy Cities in this study, according to a Board member, 'demonstrate in a practical way what we mean by sustainability and that human activity and environmental systems are intimately connected'. With urban sustainability now linked to the politics of climate change (Bulkeley and Betsill, 2003), there may be opportunities for Healthy Cities to collaborate with the Cities for Climate Protection Campaign. One of the challenges for cities committed to health and sustainability is 'co-ordinating and integrating Healthy Cities and Local Agenda 21' [(Dooris, 1999), p. 370] at the local level. The similar ways in which Healthy Cities and Local Agenda 21 work, namely, 'the focus on local government and the use of intersectoral approaches' [(Baum, 2002), p. 506] mean that a focus on vulnerability and adaptation to climate change would use both models.

CONCLUSION

This study has explored the relationship between the local environmental actions of Healthy Cities programs and the adverse health impacts of climate change. There are a number of implications of the findings. First, although there is not an explicit connection between environmental action by Healthy Cities and climate change, actions such as those intended to improve air quality and reduce pollution can be linked implicitly to the health impacts of climate change. Secondly, through their local relationships and their participation in regional networks, Healthy Cities are able to make connections between environmental action and the health impacts of climate change. Thirdly, expanding Healthy Cities to include eco-social sustainability as a central aim not only has the potential to strengthen the links between local environmental actions and climate change, but also presents a relevant health development setting for exploring the social and environmental sustainability of cities.

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