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## Urban Planning, Development and Non-communicable Diseases

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## COMMENT

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# Urban Planning, Development and Non-communicable Diseases

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### Abstract

*September 2011 will see heads of state and government from around the world gathering at a United Nations high-level meeting to discuss the problem of non-communicable diseases (NCDs) for the first time. The decision to hold such a meeting demonstrates both that NCDs have finally been recognized as a global health threat and that national leaders are willing to take action to prevent, or at least mitigate, the burden of chronic diseases. In light of the upcoming high-level meeting, this paper focuses on the specific and unique, but under-used and under-appreciated, role of spatial planning as a means of tackling NCDs and the need for reconnecting with public health.*

### Introduction

In April 2010 at its 64th Session the United Nations (UN) General Assembly resolved to convene a high-level meeting on the prevention and control of non-communicable disease (NCD) in September 2011; the first to address this issue. The high-level meeting will focus on the ‘four most prominent non-communicable diseases, namely, cardiovascular diseases, cancers, chronic respiratory diseases and diabetes’, and the ‘common risk factors of tobacco use, alcohol abuse, unhealthy diet, physical inactivity and environmental carcinogens’ (World Health Organisation [WHO], 2010a). This important step reflects a growing worldwide concern over the impact that NCDs are having across the whole spectrum of lower-income, middle-income and high-income countries. There is recognition that it is seriously misleading to see NCDs solely as diseases of affluence; in low-income countries chronic diseases are increasingly affecting economic performance, in some cases exacerbating susceptibility to communicable disease and undermining progress towards the Millennium Development Goals (MDGs).

The resolution initiating the high-level meeting notes:

The conditions in which people live...influence their health...and quality of life and that the most prominent non-communicable diseases

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are linked to common risk factors... [that] have economic, social gender, behavioural and environmental determinants and in this regard stress the need for a multi-sectoral response to combat non-communicable disease. (WHO, 2010a)

Until now the social and environmental determinants of health have been somewhat overlooked in the global development and health agenda. The impact of urbanization on health has been particularly neglected in discussions so far. In light of the upcoming UN high-level meeting, this paper will examine the link between NCDs and the process of urbanization. It will argue that certain urban typologies may exacerbate the growth of NCDs directly and indirectly and that it is both necessary and possible to intervene to counteract these tendencies. It will suggest that more effective planning and management of urban change by political, technical and democratic means is an essential component of intersectoral action to tackle NCDs. Such interventions have relevance at all urban scales and in all countries.

### **NCDs as a Leading Cause of Mortality and Morbidity**

Common modifiable risk factors underlie the prominent NCDs, such as heart disease, stroke, cancer, chronic respiratory diseases and diabetes, and can explain the vast majority of deaths due to these diseases at all ages, in both sexes and in all parts of the world (WHO and Public Health Agency of Canada, 2005). These include unhealthy diet, physical inactivity and tobacco use (WHO & Public Health Agency of Canada 2005). However, there is now a considerable body of evidence which demonstrates that individual behaviour is influenced by the 'causes of the causes'—the underlying macro-level economic, social and cultural determinants—which are driving lifestyle choices and the subsequent rise in NCDs. These determinants of health are complex and interconnected; they include individual poverty and wealth, national demographic and socioeconomic status (food security, availability of resources, population growth and ageing), community culture, activities, globalization, power asymmetries, rapid urbanization and the very environment in which we live—both built and natural.

So these 'lifestyle' and 'life context' diseases, once far more common in the affluent countries than in the less developed nations, are now afflicting developing and developed world in more or less equal measures. Heart disease and stroke are leading causes of death in both high-income and low-middle-income countries, accounting for 27% and 21%, respectively, of total deaths in each group in 2001 (Magnusson, 2007). Cancers, too, are responsible for high levels of death universally; currently in developed countries cancer is the second biggest cause of death, and epidemiological trends suggest that the same will soon be true for developing countries (WHO, 2008a). There are disparities, however. For example, stroke mortality in urban East Africa is more than five times higher than in England (Walker, 1994). In low-income and middle-income countries, the prevalence of hypertension is increasing, especially in urban areas (Addo *et al.*, 2007). In addition, deaths from chronic diseases in developing countries tend to occur at a younger age than in high-income countries—a factor that further exacerbates the total disease burden (Abegunde *et al.*, 2007). NCDs are also not

only responsible for high levels of mortality; NCDs also cause disability, leading to loss of substantial years of healthy life as measured by disability-adjusted life-years. There is also, of course, a complex and interconnected relationship between physical and mental well-being too: insecurity, stress, and anxiety can lead to NCDs, and *vice versa* (Coelho *et al.*, 2009). As a consequence, NCDs decrease economic productivity and impose a long-term burden of costs and care on the families of affected people (WHO & Public Health Agency of Canada, 2005). Without action to address their causes it is estimated that deaths from chronic diseases will increase by 17% between 2005 and 2015 and that NCDs will be the cause of over three-quarters of all deaths in 2030 (WHO & Public Health Agency of Canada, 2005; WHO, 2008c).

### **The Growth of Urbanization and its Health Implications**

In 2008 an extraordinary milestone was reached when urban areas across the world became home to more than one-half of humanity for the first time since the dawn of human civilization (Martine, 2007). The 21st century has been referred to as the Century of the City, with the projection that most regions of the developing world, which is witnessing the highest urban growth rates, will be predominantly urban by the middle of the century (United Nations Human Settlement Programme, 2008). It is anticipated that by 2050 the urban population of the developing world will be 5.3 billion, with Asia hosting 63% and Africa 25% of the urban population (United Nations Human Settlement Programme, 2008). The share of older people in urban communities is also set to rise. In lower-income and middle-income countries, this population is projected to increase 16 times from about 56 million in 1998 to over 908 million in 2050 (WHO, 2007).

As cities grow it is becoming increasingly clear that urban environments, and in particular informal settlements, are often not healthy environments. Rapid urbanization is occurring against a background of increasing personal wealth, information and knowledge but also, by contrast, weakened global economies resulting in increasing levels of urban poverty, insecurity, unemployment, homelessness, crime and health inequities. Violence is on the rise in urban areas, with 1.6 million violence-related deaths worldwide every year (Krug *et al.*, 2002).

In addition, almost one-half of all urban dwellers in developing regions live in life-threatening conditions in slums and informal settlements. Even in the developed world, where the urban population is expected to remain unchanged, 6% of urban dwellers live in slums (WHO, 2008b). In the developing world, environmental degradation associated with rapid urbanization is exacerbating inadequate access to basic services such as water, sanitation, garbage collection, storm drainage, paved footpaths and lighted streets, and is posing significant health risks to people (United Nations Human Settlement Programme, 2009). The challenges of water scarcity and environmental degradation are not confined to the developing world, however, and cities everywhere are highly vulnerable to environmental disasters by virtue of their location (Castro & Heller, 2009; Griffiths & Stewart, 2008; Department for the Environment, Food and Rural affairs & National Statistics 2007). Eight of the 10 most populous cities are located on earthquake faults, while 90% of these cities are in regions vulnerable to

destructive storms and other extreme weather events (United Nations Human Settlement Programme, 2008). On top of this, climate change is bringing in its wake new risks from urban flooding and heat waves.

The overall consequence is a scenario of epidemiological polarization in which disease patterns typical of poor living conditions and human insecurity coexist with, and exacerbate, chronic diseases more typical of developed urbanized societies—those associated with diet, lifestyle, occupational hazards, stress and air pollution—and with high mortality from accidents and violence magnifying the persistence of significant health gaps (Global Health Council, n.d.).

## **Risk Factors for NCDs in Urban Populations**

### *Obesity*

Of all the health impacts of urbanization, obesity has emerged as one of the most important public health challenges, particularly in the socially disadvantaged urban populations of the world (WHO, 2008b). Urbanization has created conditions in which people adopt a less physically active lifestyle and are at higher risk of obesity, which is itself a risk factor for NCDs. Such conditions include the mechanization of work and daily tasks, increased sedentary work, labour-saving devices, an increase in inactive leisure pursuits, such as watching television and using computers, and lack of access to public spaces (Wilkinson *et al.*, 2002). Unsustainable urban development is often accompanied by industrially intensive and subsidized agriculture, degradation of natural resources such as water and air, and a sprawling urban growth pattern supported by a wasteful use of energy and city planning primarily oriented to accommodate cars. As roads and cars continue to dominate the urban landscape, the number of public and green spaces has declined, leading to a diminished sense of community and decreased opportunities for physical activity and social interaction. The impact of these changes on health have been assessed in Sydney, where urban sprawl has been found to lead to higher stress levels and decreased physical activity due to lack of public spaces and unsafe roads, which combine to create obstacles to walking and cycling (Garden & Jalaludin, 2009).

The industrialization of food chains, necessary to support increased urban populations, has led to greater consumption of energy-dense and highly processed foods, all of which are easily available, accessible and widely advertised in urban areas. This has led to a loss of cultural food traditions, especially in cities. The rapidity of these changes has made the 'nutrition transition' in low-income and middle-income countries distinct from the transition that took place at a slower rate in the high-income western world, and has resulted in a rapid rise in the prevalence of NCDs due to increased consumption of fats. It has been estimated that a shift from 25% to 75% urban population in very low-income countries would be associated with increased energy intake from fat and from sweeteners, of 4% and 12%, respectively (Popkin, 1998). There is evidence that the consumption of food sweeteners, sodas, meat and processed foods has increased in poor countries and emerging market economies (Hawkes & Thow, 2009).

### *Air Pollution and Temperature*

Urban air pollution—of which a significant proportion is generated by vehicles, as well as industry and energy production—is estimated to kill some 800, 000 people annually (Kenworthy & Laube, 2002). Today, many developing world cities face very severe levels of urban air pollution—higher than developed world counterparts (Health Effects Institute International Scientific Oversight Committee, 2004). In India, 25% of total energy is consumed by the transport sector only, which is reported to be contributing more than 50% of the air pollution problem in most of the metro cities, and in some cases it was even up to 80% (Goyal *et al.*, 2006). Similarly, in Beijing and Guangzhou the automobile pollution contribution is estimated to be more than 80% and 40%, respectively (Fu *et al.*, 2001). Adverse health outcomes of urban air pollution include increased mortality due to cardiorespiratory diseases and cancer (Chuang *et al.*, 2010). An additional health impact of increased vehicles is increased mortality and morbidity due to road traffic accidents (Peden *et al.*, 2004).

Extreme temperatures in cities can also be a health risk. Urban centres may be particularly affected by heat waves because of the urban heat island effect. During the European heat wave of 2003, which resulted in 35, 000 excess deaths, cardiovascular diseases contributed markedly to the excess mortality (Fouillet *et al.*, 2006; Griffiths *et al.*, 2009).

### *Stress*

The built environment has direct and indirect effects on mental health and so, too, on NCDs (Coelho *et al.*, 2009). Poor-quality housing is associated with increased psychological distress. Residential overcrowding, insufficient daylight, noise pollution from sources such as airports and the stench from sewage and poor sanitation can also affect mental well-being (Evans, 2003).

There are also indirect ways in which the built environment can impact on mental health, through its influence on the development and maintenance of socially supportive networks. Personal control, socially supportive relationships, and restoration from stress and fatigue are all affected by properties of the built environment. The harsh physical and social conditions of urban slum life lead to chronic stress in slum dwellers. Community-based studies of mental health in developing countries show that depression affects many urban adults, with poor urban residents suffering the most (National Academy of Sciences, 2003).

### *Urbanization and Occupational Health*

Globalization has seen the transfer of many industries to developing countries, which are often ill-equipped to provide protection against hazards of physical, chemical, biological, psychosocial or ergonomic character. As a consequence there has been an increased burden of occupational diseases and injuries in urban areas (WHO, 1994). Workers in the informal sector face the most severe risks to their health and safety as occupational hazards reinforce the risks associated with poor nutrition, housing and living environments (Barten *et al.*, 2008).

Sedentary work and occupations, common in urban areas, can also be bad for health and is associated with diabetes. This link could partially explain the higher prevalence of diabetes in urbanizing populations (Ramachandran *et al.*, 1999).

## Healthy Urban Planning

The major urban challenges of the 21<sup>st</sup> century include the rapid growth of many cities and decline of others, the expansion of the informal sector and role of cities in creating and mitigating climate change. Evidence from around the world suggests that contemporary urban planning has largely failed to address these challenges. (United Nations Human Settlement Programme, 2008, p. v)

Considering the risk factors associated with city dwelling, it seems clear that inadequately planned urbanization, if allowed to continue, is likely to result in a burden of mortality and morbidity from NCDs that will have unprecedented socioeconomic impacts on the global community (WHO & Public Health Agency of Canada, 2005). The combined effect of the establishment of urban living as the dominant way of life and the onset of climate change, which looks likely to lead to population displacement and increasing pressure on urban resources, make it more important than ever to plan for healthy cities—especially in developing countries where the burden of urbanization and climate change is likely to be heaviest.

Consequently, strategies to address the social determinants of health must recognize the crucial need for planning of safer and healthier urban environments, and the need to reconnect the fields of urban planning and public health (Corburn, 2009): the importance of urbanization and urban planning as determinants of health cannot be emphasized strongly enough. Moreover, it is not only human health that will profit from better urban planning; the environmental benefits of the creation of more carbon-conscious cities is equally important and will ultimately have a bearing on levels of NCDs as well.

The WHO Healthy Cities Project introduced urban planning as one of its key components in the 1990s in recognition of this crucial link. The *direct* influence of urban planning on NCDs is mediated through the built environment and transport system as illustrated in the ‘activities’ and ‘built environment’ domains in Figure 1, which sets out the determinants of health in a neighbourhood.

But urban planning *indirectly* influences all the other social determinants of health. The nature of the urban environment is a complex highly interconnected system with buildings and roads, the state of the economy, access to safe water and sanitation, energy supply, patterns of consumption of goods and services and many other interlinking factors presenting urban planners with a ‘wicked’ problem (Royal Commission on Environmental Pollution, 2007). Consequently, definitions of urban planning now recognize that ‘a city is much more than buildings, streets and open spaces but is a living, breathing organism the health of which is closely linked to that of its citizens’ (Barton & Tsourou, 2000). The holistic scope of urban planning and its policy orientation means that it is highly congruent not only with the social determinants of health model (Figure 1) but also with the concept



FIGURE 1. Health map for the local human habitat. *Source:* Barton and Grant (2006).

of ‘environmental justice’ as a means to achieving health equity. Good urban planning can help to respond to the growing policy imperatives to reduce NCDs through environmental interventions and strategies to reduce health inequities.

### *Pathways to Urban Health Equity*

Cities are important drivers of economic progress but they in turn exacerbate and generate health and social inequities. Urban planning needs to address the chronic health inequities among residents of informal settlements and slums and aim to provide the basic conditions of healthy living to these populations (WHO, 2008b). Three theoretical pathways can be identified through which health equity may be achieved (Schulz & Northridge, 2004; Northridge & Freeman, 2010).

The first pathway seeks to undo health inequities that result from the unfair distribution of and access to resources. Gender, race and ethnicity, and socioeconomic standing lead to unequal burdens of exposures within and across communities (both geographically and socially defined). An example of an urban planning solution to mitigate the negative effects of unequal access to nutritious foods is for local governments to create incentive programmes to attract supermarkets and grocery stores to underserved neighbourhoods (Institute of Medicine, 2009).



The second pathway aims to ensure a fairer distribution of community resources that have a health-promoting effect as well as those that have a deleterious effect. Enhancing the physical and social environment by, for example, facilitating non-motorized forms of travel such as walking and bicycling, increasing accessibility and affordability of safe housing and community-based health facilities, and creating open spaces and parks in close proximity to home, work, and school is likely to engender physical activity and social engagement (Lovasi *et al.*, 2009). Negative aspects of the physical environment include indoor and outdoor environmental hazards and pollutants such as lead paint (Barten, 1992), mould, and particulate emissions, and also an overabundance of retail outlets that sell unhealthy food and alcohol (Ashley *et al.*, 2008). Because urban planning shapes the physical environment, it can have a powerful influence on the spatial distribution of health ‘amenities’ and may be used as an effective tool for increasing health equity.

The third pathway is more indirect. Urban planning can increase economic and educational opportunities through providing, for example, safe and affordable transportation options to and from jobs and schools. In concert with other policies that aim for educational and employment equity, populations may become better educated about their health needs and more economically and politically able to redistribute health resources and amenities.

## **Urban Planning to Address NCDs**

### *Increasing Physical Activity and Improving Air Quality*

There is growing evidence that redesigning urban areas and investing in ‘active’ transport to promote physical activity has both health and environmental co-benefits. The key principle is to incorporate physical activity into the daily routine of the urban-dweller; the healthy, active choice must become the easy choice (Deehr & Shumann, 2009; Lee *et al.*, 2009). If good urban planning can create an efficient public transport system, including provision for pedestrians and cyclists, both physical activity levels and urban air quality will improve.

A study undertaken by the Task Force on Climate Change Mitigation and Public Health demonstrated that, in London and in Delhi, reductions in carbon dioxide emissions through an increase in active travel and a decrease in motor vehicle usage was more effective in terms of health benefits per million population than attempts to limit pollution by using lower-emission motor vehicles. However, a combination of active travel and increased use of lower-emission motor vehicles would give the largest benefits, especially in terms of a reduction in the number of years of life lost from ischemic heart disease (10–19% in London, 11–25% in Delhi) (Woodcock *et al.*, 2009).

Policies that encourage active transport are already up and running in many parts of the world and do not need to be reinvented (see Box 1). Such schemes include public mass transit Bus Rapid Transportation, Transit Oriented Development, walking and biking schemes (Dora & Phillips, 2000), congestion charges to discourage private cars (Mohagan, 2004), and limited parking spaces

(Stein, 2008), all of which have been established in both developed (Department for Transport, n.d.) and developing countries to good effect.

**Box 1**

In Sandnes, Norway, administrators and politicians at all levels have been involved in planning the main cycle path system for the city centre and for the peripheral neighbourhoods, building parking stands for cyclists, making a cycle map for Sandnes and the region, implementing several campaigns promoting cycling, planning recreation routes for cyclists, and planning and carrying out a city-bike system that is free for users. The main purpose of the project was to encourage daily cycling and reduce car-driving both for commuting and for recreation.

*Source:* Barton, H., Mitcham, C. & Tsourou, C. (Eds) (2003) *Healthy urban planning in practice: Experience of European cities*, WHO. Available at [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0003/98400/E82657.pdf](http://www.euro.who.int/__data/assets/pdf_file/0003/98400/E82657.pdf)".

Some parts of the developing world are leapfrogging developed countries. The city of Ahmedabad, India, is winner of the 2010 Sustainable Transport Award for the successful implementation of Janmarg, India's first full Bus Rapid Transit (BRT) system. City residents have embraced their new BRT system; 18, 000 daily passengers use Janmarg to commute to work, to school and elsewhere. In just a few months of operation, it has transformed the transport landscape in the city. Janmarg uses innovative central median stations pulled away from the junctions. Bus stations feature passive solar design, an inexpensive way to keep stations naturally cool. The city is making continued efforts to be a leader in sustainable transport, including incorporating high-quality pedestrian facilities in some corridors, as well as bicycle lanes. Ahmedabad has also initiated car-free days.

*Source:* Institute for Transportation and Development Policy (2010) *Ahmedabad wins 2010 sustainable transport award*. Available at [http://www.itdp.org/index.php/news/detail/ahmedabad\\_wins\\_2010\\_sustainable\\_transport\\_award/](http://www.itdp.org/index.php/news/detail/ahmedabad_wins_2010_sustainable_transport_award/) (accessed 5 April 2011).

Urban planning can also facilitate the development of educational, work, and shopping facilities within walking distance from people's homes. This will not only increase physical activity but also reduce air pollution. The urban authorities must ensure that roads are safe, properly illuminated and well signposted so as to encourage people to walk or cycle without fear (Younger *et al.*, 2008; Anonymous, 2009). There is also a need to increase the availability and safety of green spaces to make them attractive to walkers and joggers. These neighbourhood facilities could provide equipment for other types of exercise too, to encourage maximum usage. Relatively modest changes such as these may result in substantial increases in physical activity (National Institute for Health and Clinical Excellence, 2008).

It is not only physical activity that improves with the provision of green spaces; open-air spaces also provide the opportunity for spontaneous social interactions in the community, resulting in improved mental well-being and helping to boost social capital, both factors associated with reduction of NCDs (Mitchell & Popham 2007; Coombes *et al.*, 2010).

Moreover, green spaces are also recognized as a means of reducing the urban heat island effect that results in comparatively higher temperatures in urban centres than the usual ambient temperature (Zhang *et al.*, 2009). Green spaces are therefore an essential part of a strategy for coping with climate change as well as for combating NCDs.

Interior areas also require careful planning if the risks associated with the development of NCDs are to be tackled effectively. By modifying building design, behaviour can also be altered (e.g. more attractive and prominently positioned stairs encourage walking) and stress reduced (e.g. clear directions and good acoustics and natural light create a good atmosphere). A Harvard Alumni Health study of more than 11, 000 men found that those who climbed at least 20 floors per week had a 20% lower risk of stroke or death from all causes (Paffenbarger *et al.*, 1997). In a 2-year study in one of their own buildings in Atlanta, the US Centers for Disease Control progressively improved the lighting of their stairs, and added art, music, and colour. A persistent modest increase in use of stairs was found. These results led US Centers for Disease Control to recommend the improved quality of stairs in all their facilities worldwide (Kerr *et al.*, 2001).

### *Improving Nutrition*

Urban planning has an important role in addressing the negative impacts of the 'nutrition transition' characteristic of rapid urbanization. Against a background of rising world food prices and deterioration of nutritional status, especially among the urban poor, improving accessibility to vegetables, fruits and agricultural produce is a key priority (Galal *et al.*, 2010; Temple *et al.*, 2010). Healthy urban planning can encourage local farmers' markets in the vicinity of residential neighbourhoods, enhancing access to fresh agricultural produce from nearby rural areas at cheaper prices. Local markets have also encouraged greater physical activity among urban residents. In addition, urban planners and policy-makers can contribute significantly to the vegetable and fruit supply of urban areas by promoting a grow-your-own culture (Leake *et al.*, 2009). Potential health benefits include greater physical exercise, improved nutrition and enhanced mental well-being, all of which reduce the risk of NCDs (Coombes *et al.*, 2010). Other advantages of promoting local food sourcing include the reduction of 'food miles' and resultant decrease in carbon emissions and nutrient loss (Goldman *et al.*, 1999).

Urban planning can promote health through food in a more indirect sense too: infrastructural provision for street food vendors can promote traditional food culture, generating employment, city culture and building social capital (see Box 2). Planning regulation can also be used to restrict the number of fast-food restaurants or prohibit their proximity to educational and other settings where

children and young people may congregate (see Box 3). A study of outdoor advertisements in three US cities revealed a clustering of unhealthy advertisements around child-serving institutions and highlighted the importance of zoning and land-use regulations to protect children from exposure to unhealthy commercial messages, particularly in neighbourhoods with significant socioeconomically deprived populations (Hillier *et al.*, 2009). Moreover, policy-makers can help to ensure that advertising space in cities be used positively: to promote healthy food habits, to highlight the importance of physical activity and to generate awareness amongst citizens.

### **Box 2**

Kibera, with a population of around 750, 000, is the largest informal settlement in Nairobi, Kenya. Residents of Kibera are engaged in agriculture on small plots of land primarily to meet the food needs of their households. In a research study done on urban agriculture in Kibera it was found that engagement in urban food production is beneficial to low-income households. Produce is used directly and indirectly by the household to obtain food, access cash when needed and educate children.

*Source:* Dennery, P. (1997) *Urban agriculture in informal settings*. Available at <http://www.cityfarmer.org/nairobi.html> (accessed 5 April 2011).

In Philippines, the Department of Agriculture has implemented a programme to cover 10, 000 families in the urban poor community of Metro Manila, and densely populated cities of the National Capital Region. The programme encourages small-scale, mainly indoor or backyard food production within Metro Manila. The main objectives are to engage family labour, mainly unemployed or underemployed women, and augment family income. The programme encourages semi-permanent and permanent nutritious crops, short-term meat production for families with adequate space for a simple pen, small-scale backyard mushroom production, production of ornamental plants and vegetable gardening in backyards or vacant lots assigned to families.

*Source:* Campilan, D., Boncodin, R. & Guzman, C. (1999–2000) *Multi-Sectoral Initiatives for Urban Agriculture in Metro Manila, Philippines* CIP Programme Report, pp. 433–443. Available at [http://www.cipotato.org/publications/program\\_reports/99\\_00/56manila.pdf](http://www.cipotato.org/publications/program_reports/99_00/56manila.pdf) (accessed 5 April 2011).

### **Box 3**

In March 2009 Waltham Forest Council became the first local authority in the UK to ban fast food outlets from opening within 400 metres of schools, leisure centres and parks. The ban was supported by a drive to improve the quality of school meals to ensure all children receive at least one healthy meal a day. All secondary schools also routinely bar students from leaving

school at lunchtime. In the same period, childhood obesity levels have dropped from 22.8% of Year 6 pupils classed as obese in 2007/08 to 20.6% in 2008/09. The Council received five applications to open new hot-food takeaways between 24 March 2009 and 1 March 2010. They were all rejected. Since the scheme was established, the number of hot-food takeaways in Waltham Forest has dropped from 253 to 241 (5%).

*Source:* Available at <http://www.walthamforest.gov.uk/index/news/news-newpage-6.htm>

### Strengthening Urban Planning to Reduce NCDs

That awareness and attitudes towards urban planning have undergone a change in recent years is undeniable. The holistic approach to city planning is increasingly adopted and the WHO's Healthy Cities Project in the 1990s was an important step in the right direction. Nonetheless, there are still many barriers to healthy urban planning, legal, political and market-based, that those participating in the UN high-level meeting on NCDs will have to consider if real change is to be achieved. Addressing the challenges of NCDs will require a paradigm shift in urban planning that takes account of the differing patterns of urbanization across the world (Parnell & Pieterse, 2010) and the need to reconnect it to public health.

### Recommendations for the UN High-level Meeting on NCDs

1. *Attitude shift.* NCDs as MDGs. It is clear that NCDs are a major threat to global health and well-being. If significant progress is to be made in their prevention and control they must be considered as seriously as other health threats targeted by the MDGs. Given the enormity of the disease burden and its impact on health equity, a case could be made for their inclusion in the MDGs, even at this late stage, or at least after 2015.
2. *Good urban governance with equity at its heart.* This idea was recommended by the WHO Commission on Social Determinants of Health (2005–2008). The report referenced in the next sentence is that of the Commission on Social Determinants of Health, so it is now in the reference list. A crucial component of such a model would be participatory urban governance, which encourages all stakeholders to work together and in particular empowers communities to contribute to develop and work on the co-production of a healthy urban environment (WHO, 2008b).
3. *Leadership.* An important pre-condition for more effective urban planning is that there is political leadership and commitment that establishes an appropriate vision and legislative framework bringing together sustainable and equitable development, environmental justice and public health principles in relation to the urban setting (see Box 4).
4. *Intersectoral collaboration for healthy urban planning.* Development of an urban planning policy, which takes account of both socioeconomic and public health interests requires effective horizontal and vertical integration

- as well as coherence and harmonization of urban planning approaches between and among sectors. This joined-up approach is crucial for policy development that takes account of the environmental, socioeconomic and health evidence.
5. *Research into responsive, community-based planning methodologies and the establishment of a cadre of experts.* Policy action to defend health as a human right does not have a unique locus for development and implementation in the health sector but also (if not primarily) in non-health sectors and in the community. Healthy urban planning should empower urban planners, public health experts, transport authorities, sociologists, energy experts, public engineering teams, policy-makers and communities to address the challenges of public health problems, environmental degradation and sustainable development. A crucial first step would be to develop a well-trained, competent and resourced multi-disciplinary planning workforce from diverse sectors, a well-informed political cadre, a strong higher education capacity in urban planning and inter-professional learning all converging into an integrated urban planning and public health workforce.
  6. *Data collection.* Another important requirement is improved data collection and sharing. Access to information is an important enabler and source of power in participatory governance arrangements. In general, data demonstrating health inequities in urban settings are neither routinely reported nor shared between relevant sectors, organizations, or with civil society (Knowledge Network on Urban Settings, 2008). There are, however, examples of urban planners being provided with compelling evidence of unfair health opportunities as a means of encouraging healthy urban policies. For instance, the Scottish Government, the Glasgow Centre for Population and Health and Glasgow City Council are cooperating on a pilot to review the role of planning in addressing health inequities arising from the national strategy *Equally Well* (The Scottish Government, 2008).
  7. *Capacity-building.* There is an urgent need to increase capacity for urban planning, intersectoral action and urban management especially at the municipal level. This requires action in the political, educational and professional spheres. Indicators of such capacity should be developed and included as criteria in assessing aid and development strategies.
  8. *National-level and international-level legislation.* National-level planning legislation appropriate to individual countries and situations should be formulated. International agencies should also focus on the process of urbanization; the mechanisms, the drivers, the winners and losers.
  9. *Evaluation and assessment.* Assessing the impact of urban policy and interventions in improving health and well-being and reducing health inequity may be the best platform on which to build support for sustainable development at the neighbourhood level. Consequently, urban authorities have a responsibility to monitor health and health-equity impacts of their policies (see Box 5). A neighbourhood with equal access to housing, safe work, just employment conditions, local facilities, good food, green environment, safe streets, and diverse social opportunities, with a population that is mindful of the well-being of future generations, is also likely to be a sustainable neighbourhood (Barton *et al.*, 2005).

#### Box 4

During his tenure as mayor of Bogotá (1998–2001), Enrique Peñalosa led massive efforts related to transportation, land use and housing for the poor, pollution abatement, and the critical need for public spaces. In a city of 6.5 million inhabitants with no subway system, Peñalosa declared a virtual War on Cars, restricting traffic during peak hours to reduce rush hour traffic by 40% and convincing the City Council to increase the tax on gasoline. One-half of the revenues generated by the increase were then poured into a bus system that currently serves 500, 000 Bogotá residents daily. He promoted a city model giving priority to children and public spaces and restricting private car use, building hundreds of kilometres of sidewalks, bicycle paths, pedestrian streets, greenways, and parks. Peñalosa also led efforts to improve Bogotá's marginal neighborhoods through citizen involvement; planted more than 100, 000 trees; created a new, highly successful bus-based transit system; and turned a deteriorated downtown avenue into a dynamic pedestrian public space. He helped transform the city's attitude from one of negative hopelessness to one of pride and hope, taking to new levels the work of his predecessor Antana Mockus, thus developing a model for urban improvement based on the equal rights of all people to transportation, education, and public spaces. Although Peñalosa's urban reforms have been praised for their environmental benefits and overall contributions to the quality of life, he prefers to focus on their role in promoting social equity. He realigned the focus of city planning and policies to a new priority: equal access of all people to public spaces, services, and facilities. Peñalosa believes that public spaces are one of the only environments where all citizens, regardless of income, can meet as equals. He explains that 'high-quality public pedestrian space... [is] evidence of a true democracy at work'. One of the most essential roles of public spaces is therefore to give all people a sense of belonging and create a more socially integrated community.

*Source:* Enrique Peñalosa, *Project for public spaces*. Available at <http://www.pps.org/info/placemakingtools/placemakers/epenalosa>

#### Box 5

The Urban Health Equity Assessment and Response Tool (Urban HEART) is a user-friendly guide for policy-makers at local and national levels to address health inequities in cities. It is based on the principles used by the WHO Commission on Social Determinants of Health and the World Health Report 2008 on Primary Health Care, and is a key deliverable of the WHO Non Communicable Diseases Action Plan. The tool has been piloted in cities in 2008/09 and piloting results are currently being documented and consolidated. It consists of two key components: *assessment*, analysing health outcomes and health determinants (in four policy domains: physical environment and infrastructure; social and human development; economics;

and governance); and *response*, identifying interventions and strategies for action from a list of best practice interventions. While interventions would be modified to address the specifics of the local context, the tool provides the basis to prioritize appropriate interventions.

*Source:* WHO (2010) *Urban Health Equity Assessment and Response Tool (Urban HEART)*. Available at <http://www.who.or.jp/urbanheart/index.html> (accessed 5 April 2011).

## Conclusion

Participants at September's UN high-level meeting on NCDs face tremendous challenges. Based on current trends, by 2030 NCDs will account for over three-quarters of all deaths, and developing countries are likely to experience a more dramatic rise in chronic illness than high-income nations. The forces behind NCDs are ubiquitous, affecting low-income, middle-income and high-income countries, and this paper has argued that the specific typology of urbanization—an inexorable process, driven by internal forces of migration and unequal development and by external forces of globalization, conflict and, increasingly, climate change—may contribute to the spread and intensity of the NCD burden.

However, from a public policy and planning perspective there are enormous opportunities for interventions and improvements that can help to prevent and control the rising rates of NCDs. Whilst the extent of the intervention will vary significantly from one country to another according to the phase and pace of development, urban planners—especially in emerging cities of the developing world—have the potential to take the lead in promoting better, more equitable and more sustainable lifestyle choices through healthy urban planning (WHO, 2010b).

However, the barriers to better urban management should not be underestimated. The foundations of sound urban planning include legal structures, functioning land markets, community empowerment, technical capacity, high levels of subsidiarity and strong municipal governance. Progress in developing this superstructure must go hand in hand with the application of specific interventions. The UN high-level meeting in September has been committed to 'a concise action-oriented outcomes document'. This paper has highlighted that healthy spatial planning and better urban governance should be conspicuous components of such an agenda.

Urban planning or city and regional planning, is a dynamic profession that works to improve the welfare of people and their communities by creating more convenient, equitable, healthful, efficient, and attractive places for present and future generations. (American Planning Association, 2011)

A proactive approach is required that takes account of poverty reduction, environmental sustainability and health. Social equity is key to minimizing the negative health impacts of urbanization and enhancing the opportunities for addressing NCDs. Many examples of inspirational leadership and transformation



in urban planning are to be found and there is an urgent need for lessons learnt from these experiences to benefit practice in other parts of the world. Healthy urban planning can reconnect the fields of urban planning, public health and social science to address NCDs and to contribute to making the WHO's core strategy of 'Health for All' a reality.

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