

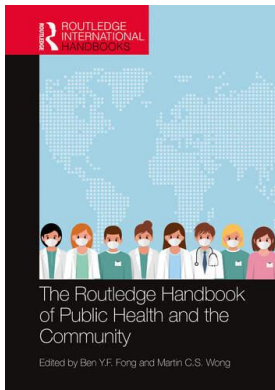
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3

HEALTH AND URBAN LIVING

Peter T.K. Lau

Urbanisation as a major determinant of health

We have reached a remarkable milestone in the first decade of the 21st century. For the first time in human history, most of the world's population is living in urban areas, and this proportion continues to grow (Figure 3.1). Whereas in 2010 just more than half of humanity lives in cities, by 2050 this proportion will increase to a projected 68.4% (United Nations UN, Department of Economic and Social Affairs, Population Division, 2018). Cities concentrate opportunities, jobs and services, but they also concentrate health risks and inequalities. To a very great extent, the health of an individual as well as the community is inextricably entwined with the environment, especially the built environment of cities and its accompanying social structure.

The 'Rainbow Model of Health Determinants', first developed by Dahlgren and Whitehead back in 1991, remains one of the most effective representation of the multiple socio-economic and environmental factors that can determine an individual's risk of sickness or access to effective treatment. Urban living has unique characteristics closely linked to the various layers of influences on health in this model – such as diet, lifestyle, community network, living and working conditions and social infrastructures.

In the following sections the weaknesses, strengths, threats and opportunities of urban living will be explored with a special focus on community health, further illustrated by how cities can cope with an unprecedented public health crisis and lastly shared visions of a healthy city are embraced.

Urban penalty, urban sprawl and urban living conditions

Traditionally there have been two dominant approaches to understanding the impact of cities on health, namely 'urban penalty' and 'urban sprawl'. The 'urban living conditions' model, as advocated by Freudenberg et al. (2005) and Vlahov et al. (2005), attempts to synthesise these two approaches, and considers the factors interacting to shape the urban living conditions as the 'principal remediable determinant of individual and community health'.

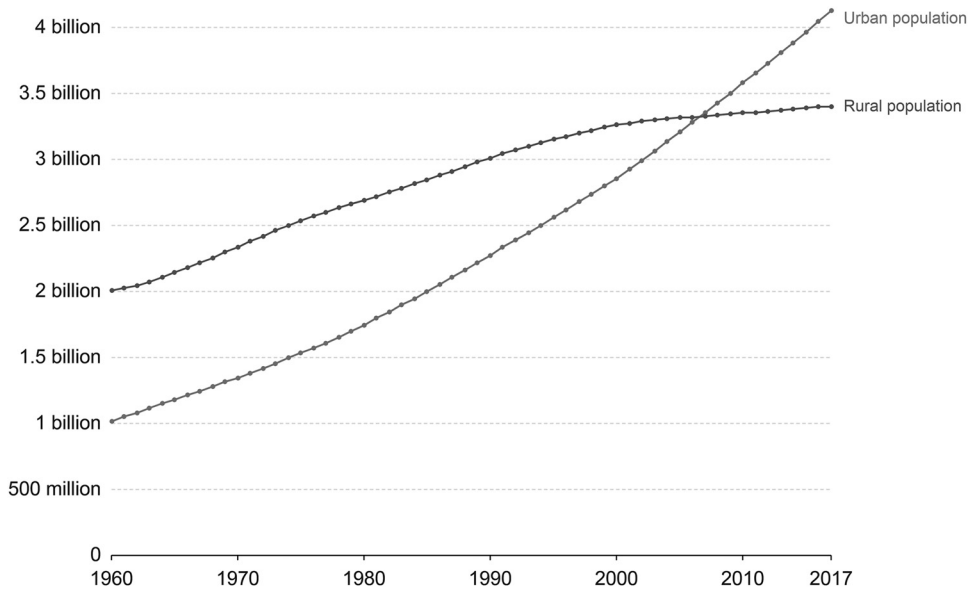


Figure 3.1 Number of people living in urban and rural areas, World, 1967 to 2017

Source: United Nations, Department of Economic and Social Affairs, Population Division, 2018. Chart from: OurWorldInData.org (<https://ourworldindata.org/urbanisation>) (CC-BY).

Note: Urban populations are defined based on the definition of urban areas by national statistical offices.

Urban penalty

The ‘urban penalty’ approach suggests that poor people is concentrated in cities, and urban environments are generally unhealthy. Urbanisation leads to a disproportionate burden of poor health especially in the so called ‘inner-city’ areas. It draws specific attention to the poor health conditions that persist in many city slums, resulting in inequalities of health, and highlights the necessity of improving health conditions particularly among the underprivileged (Vlahov et al., 2005).

Indeed, ‘living conditions in cities in pre-modern times, going back to antiquity, would have been squalid and unsanitary for the vast majority of urban dwellers’ (Leon, 2008). This is especially true for the urban residents of 18th- and 19th-century Europe, whose cities could be considered a slum by modern health standards (Dye, 2008). However, the urban penalty approach tends to equate urban life with hardship, and fails to recognise that cities nowadays have many positive attributes such as proximity of social support and accessible health care (Vlahov et al., 2005).

Urban sprawl

‘Urban sprawl’, on the other hand, considers the consequences of the urban populace flowing from central city into the suburbs. This approach highlights the adverse health effects of urban growth into outlying areas, including increasing pollution, traffic accidents, sedentary lifestyles and social isolation from the interruption of previous relationships. By considering urban health beyond the city proper, this approach focuses on the health of populations adjoining sprawling, densely populated metropolitan areas (Vlahov et al., 2005).

Cities can also impact the health of broader populations outside its immediate vicinity through spreading infectious disease via the crowded train stations, airports and harbours. The SARS outbreak in 2003 was a case in point (World Health Organisation, 2010), and as a direct corollary led to an almost complete cessation of international travel and lockdown of cities during the COVID-19 pandemic in 2020.

Urban living conditions

‘Urban living conditions’ is an integrative approach that emphasises the everyday life of city dwellers, both health promoting and health detrimental, as social determinants of health (Vlahov et al., 2007). Urban living conditions encompass the physical environment, the social network, availability of health and social services, and the characteristics of urban populations (such as behaviours, beliefs and demographics). The various settings in which urban life plays out all interact to influence health, including the home, neighbourhoods, workplaces, public transport, community centres, health clinics, schools, markets and the less tangible cultural surroundings. Using the ‘urban living conditions model’ enables public health practitioners to look for strategic health promoting interventions which target the various dimensions of living conditions. This framework emphasises a macroscopic view of the health influencing forces in the city. Unfortunately, individual and personal choice in behaviour and lifestyle may have been undervalued as determinants of health (Freudenberg et al., 2005).

Health benefits for city dwellers

The health benefits of city living compared with the rural areas are underscored by the ‘urban health advantage’ perspective, in stark contrast to the notions of urban penalty and sprawl. Thanks in part to the ‘sanitation revolution’ and other public health measures, urban health was typically improving faster than rural health in the industrialised world by the start of the 20th century (Dye, 2008). While the threats to urban health are real and substantial, urban living today has key health advantages (Leon, 2008). Within countries, health is generally better on average in urban than in rural areas. Urban residents tend to have greater access to social and health services, higher literacy rates and longer life expectancy. Indices of health are not only better in urban areas (especially in less wealthy nations), but that the urban poor fare better than the non-urban poor. Indicators that show an urban health advantage include infant mortality and height-for-age z-scores, and they suggest that even when controlling for poverty, health in cities is better than in non-urban areas (Vlahov et al., 2005; World Health Organisation, 2010).

Improved immunisation and medical care over the past few decades have afforded children with a better chance of thriving in towns and cities (Leon, 2008). Socio-economic heterogeneity, one of the hallmarks of cities, may bring better education and health care resources within the reach of even disadvantaged urban residents. Unlike rural villagers living far away from cities, the urban poor can have easier access to diverse sources of advice and support (Vlahov et al., 2005).

Rural urban disparity

Life expectancy has been shown to be inversely related to levels of rurality. Despite overall improvements in life expectancy, a US study has revealed substantial and increasing urban rural disparities in favour of urban residents over time, with the gap widening from 1969 to 2009 (Singh & Siahpush, 2014).

Persons living in rural areas of the United States are considered a 'health disparity population'. Compared with urban residents, the rural population had a shorter life expectancy and more chronic diseases. Poor health outcomes in rural areas can be explained in part by a higher prevalence of risk factors, lower socio-economic status, less insurance coverage and more barriers to quality health care (Matthews et al., 2017).

Studies in China also showed an urban advantage for both children and adults in health and nutritional status, preventive health care access and health care utilisation. However, unlike the United States, the urban rural disparities seemed to be declining significantly in recent years. The gradual narrowing of urban rural gaps may reflect the positive effect of the ongoing health system reform in China, and increasing affluence of the countryside (Li et al., 2018; Liu et al., 2013).

Diffusion of the urban advantage

The proximity of affluence might contribute to the overall advantage even for the poor, both inside and outside the city, leading to a narrowing of the rural urban gap described above. Cities do not exist in isolation. Studies have suggested that people living in rural areas can benefit directly from the growing affluence of cities nearby (Dye, 2008). Again, this contrasts with the idea of 'urban sprawl' which implies a negative health effect exerted by the city to the countryside.

Threats to health in cities

Do the health benefits of urban living outweigh the health risks? This is generally true for children and to a lesser extent for adults. Urbanisation is shifting the burden of illnesses from acute childhood infections to chronic and mostly non-communicable diseases of adults (Dye, 2008). This trend favours childhood survival, but adults will face more health risks due to unhealthy influences from lifestyle factors and the built environment associated with urbanisation. The incidence of obesity is rising faster in cities. Pollution and traffic accidents are more common in urban areas.

Cities do concentrate health risks and hazards. The impact of adverse events such as water supply contamination, environmental pollution or natural disasters is amplified in densely populated urban settings. Precarious housing conditions also constitute hazards for many urban residents. In many cities around the world, unfavourable health determinants have converged to create a triple threat of urban diseases and health conditions, consisting of:

- i. infectious diseases;
- ii. non-communicable diseases and conditions; and
- iii. injuries from accidents and violence (World Health Organisation, 2010).

Infectious diseases

In many cities infectious diseases such as HIV, tuberculosis and diarrhoeal infections are a constant and major threat to health. This is due to overcrowding, lack of safe water and sanitation, international travel and shortage or inaccessibility of health care services, particularly in slums (World Health Organisation, 2010). Indeed, increasing global urbanisation has been considered a threat to 'Public Health Security', as the unprecedented level of population

growth may and does facilitate the spread of epidemic diseases (Leon, 2008). Depending on the characteristics of pathogens, hosts and environment, contagious diseases may present either greater or lesser risks to urban inhabitants. The lower incidence of malaria in urban areas may be offset by the greater incidence of STD or HIV infections. Whether the transmission of arthropod-borne diseases is boosted or diminished depends on the implementation of sanitation measures in urban areas (Dye, 2008).

Non-communicable conditions

Profound changes in diet and physical activity, exposure to environmental pollutants and substance abuse all conspired to aggravate non-communicable diseases and conditions such as cancer, heart disease and diabetes in urban areas (World Health Organisation, 2010). The global nutrition transition, driven by availability of cheap vegetable oils and fats and accelerated further by urbanisation, has resulted in greatly increased fat consumption among low-income nations (Drewnowski & Popkin, 1997). Refined and fast food is both inexpensive and abundant in the city, providing 'empty' calories instead of good nutrition. This in turn increases the prevalence of obesity, elevating the risk of type II diabetes and cardiovascular diseases (Leon, 2008). Central obesity was found to be more prevalent in people living in urban regions and in high-income countries. An increase in the overall global prevalence and a more drastic temporal increase in younger subjects were also identified, highlighting the urgency to implement preventive interventions to tackle this rising threat associated with urbanisation (Wong et al., 2020b). 'Diseases of comfort', namely chronic diseases related to obesity and physical inactivity and brought about by technological advance, may become a primary cause of death in the future (Choi et al., 2005).

Pollution, injuries and violence

In many developing countries, the increased motor traffic associated with urbanisation has not been accompanied by measures to ensure road safety, such as adequate transportation infrastructure or enforcement of traffic regulations (World Health Organisation, 2010). Inappropriate or outmoded city planning and transport policies exacerbate traffic exposure, noise or air pollution, social isolation and sedentary behaviours due to lack of walkable neighbourhoods, thereby contributing to injuries and non-communicable diseases. Fossil fuel powered motor transport is also a major contributor of greenhouse gas (Sallis et al., 2016). Urban violence may arise from social exclusion, poverty, unemployment and crowded housing conditions (World Health Organisation, 2010). The perceived safety issues in cities (often a misconception that both crime and traffic are on the increase) makes parents overprotective of their kids, resulting in children housebound and confined indoors, rather than encouraged to play on the streets (Choi et al., 2005).

Opportunities in the midst of threats

The risk is not necessarily higher for all non-communicable diseases in cities compared with the countryside, as illustrated by the following two examples. In China and India, the rates of smoking were found to be higher in rural rather than urban areas. One reason for this reversal of the expected pattern could be the higher educational level of urban dwellers (Leon, 2008), while more effective promotion of healthy lifestyle in well-developed cities could be another factor (Yang et al., 2008).

Colorectal cancer (CRC) has been regarded as a marker of cancer transition because countries with more rapid economic growth show a more drastic increase in its incidence and mortality. An analysis of colon and rectal cancers from 39 countries by Wong et al. (2020a) surmised that the increasing incidence of CRC trends in developing countries may be caused by the changing dietary lifestyle with increased consumption of fat, sugar and animal-source foods, an expected trend with urbanisation. On the other hand, the incidence of CRC has been decreasing or stable in most developed countries. It is suggested that a high degree of economic and social development allows for the implementation of effective CRC screening programmes, leading to a long-term reduction in incidence. Reductions in mortality can also be due to the improved accessibility of treatment options and adjunctive therapy (Wong et al., 2020a), where well-developed cities have an obvious advantage.

Health inequality within the city

Urban inhabitants enjoy better health on average than their rural counterparts, but the benefits are usually greater for the rich; the urban environment even magnifying the disparities. Marginalised city dwellers suffer disproportionately from poor health. It has been suggested that the proliferation of slums in cities of developing countries is shifting the deprivation from the rural to the urban areas – the ‘urbanisation of poverty’. The underlying drivers of health inequities are primarily social in nature, including household income, education level and location of residence; these often outweigh the effects of predetermined attributes such as age and gender (Dye, 2008; Rice & Rice, 2009; World Health Organisation, 2010).

No city – large or small, rich or poor – has been shown to be immune to the problem of health inequity, and Hong Kong is no exception. According to a number of studies, health inequality seemed to exist in terms of health outcomes, health behaviour and the health care system and services in Hong Kong (Chung & Wong, 2017). For example, social status has been demonstrated to be not only a general indicator of poor physical health but also a specific risk factor for diabetes among Hong Kong Chinese (Ko et al., 2001). Socio-economic characteristics, such as borderline living expenses and poor social support, were associated with the risk of depression (Woo et al., 1994).

China and other emerging economies are undergoing rapid development with a pace that has never been observed in developed Western countries. This creates a window of opportunity to mitigate health inequities. Hong Kong itself may serve as an exemplar city to other parts of China and other emerging economies in this direction (Chung & Wong, 2017). Every effort should be made to address the issue of health inequity, as it is ultimately detrimental to all city dwellers.

COVID-19 pandemic and the city: challenges and opportunities

A chapter on public health written in 2020 would not be complete without reference to COVID-19, often considered the greatest threat to human health since the 1918 influenza pandemic. As discussed earlier in this chapter, health threats are amplified in cities because of its population mass. Indeed, the worst hotspots of COVID-19 outbreak were to be found in big cities. Cities became epicentres in the COVID-19 pandemic by acting as foci of community transmission, as well as entry points into further country-wide transmission through travel and trade. Cities also experienced the anguish of health care surge, with hospital capacity stretched to the limits (World Health Organisation, 2020). To cope with waves upon waves of infection,

urban residents were urged to practise ‘social distancing’, which ironically is anathema to the spirit of city living with its closeness to people and services.

On the other hand, health resources are also concentrated in cities, enabling vigorous public health measures such as timely propagation of health messages, mass screening and rolling out of vaccines. The availability of tertiary medical facilities also allows the severely sick to be treated promptly. Response on different levels would include the participation of the primary care physician, specialist doctors, schools, businesses and community leaders, with coordinated municipal, national and international policies. Cities provide national governments with convenient contact points to reach out to all residents including vulnerable groups, and to engage them as part of the solution. Cities are key players in pandemic preparedness and essential providers of services (World Health Organisation, 2020). Often it is the regional and municipal authorities, rather than the national government, that are at the frontline of the COVID-19 crisis management and recovery (OECD, 2020).

Densely populated cities such as Hong Kong, Seoul, Singapore and Tokyo implemented early and proactive measures to mitigate the spread of COVID-19, including mass testing, contact tracing, isolation, quarantine, social distancing and mask wearing. These actions had been effective in limiting early outbreaks despite the risk of high density (Adlakha & Sallis, 2020). This author himself has worked in a universal community testing programme to identify hidden COVID-19 cases (Figure 3.2), a massive exercise that ultimately tested 1.78 million specimens within 2 weeks (The



Figure 3.2 Working at the COVID-19 universal community testing programme in September 2020, Hong Kong, China

Source: Photographs courtesy of the author.

Government of the Hong Kong Special Administrative Region, 2020). Testing on such a large scale requires resources that can be mustered efficiently only within urban areas.

The case for and against urban density

In the fight against COVID-19, urban density is a contentious issue. A crowded city makes physical distancing difficult, increasing the risk of infection. Desai (2020) argued that dense megacities are ‘nearly defenceless in times of unprecedented disease outbreaks’ and that some of the aggressive steps taken by China to mitigate the pandemic may not be feasible for the more liberal-minded democracies elsewhere. He suggested that urban population densities cannot be left to grow unchecked. However, Adlakha & Sallis (2020) countered that the idea of density per se being unhealthy is ‘an oversimplification and misleading when it comes to COVID-19’. They suggested that the key issue is lack of space – both private living space and wider neighbourhood public space, in effect the actual ‘urban living conditions’ that we have discussed before. They reasoned that people in higher-density communities tend to be more physically active when there is space for walking or cycling, while lowering urban density will instead increase demand for motor transport. Having more space for outdoor physical activity in the ‘walkable neighbourhoods’ is likely to have a double benefit, both reducing the spread of COVID-19 by decreasing crowding, and lowering the risk of chronic diseases by increasing opportunities for exercise. OECD (2020) also supported the view that poverty, poor housing conditions and limited health care access are more important indicators of COVID-19 impact than urban density alone.

The plight of migrant workers

Migrants in cities are often a marginalised group with deprivation in health and welfare. They are more likely to live in overcrowded housing, which are emerging as COVID-19 infection hotspots. In cramped conditions lacking personal space, it is nearly impossible to follow self-isolation guidelines. The predicament of migrants was made painfully obvious during the pandemic, as outbreak clusters occurred in metropolitan cities such as Hong Kong and Singapore. The migrant workers often suffered more than the native population, and their cramped living conditions making infection control more difficult. However, for a city to be truly great and healthy, the welfare of migrant workers cannot be ignored. Any health crisis within the migrant groups will spread to the whole community easily.

An updated model of health determinants

Pandemics have always been experienced unequally according to historical records, with higher infection and mortality rates among the most disadvantaged populations, especially in cities. Even early in the COVID-19 pandemic, emerging evidence suggested that the previous inequalities were being mirrored today, and the impact is often asymmetric even within countries (OECD, 2020). Bambra et al. (2020) suggested a ‘syndemic’ approach, and argued that COVID-19 was occurring against a backdrop of pre-existing inequalities in terms of non-communicable disease burden as well as social determinants of health. This approach calls for an update to the original Health Determinant model.

Rice and Sara (2018) already enhanced Dahlgren and Whitehead’s ‘Rainbow Model of Determinants of Health’ with the addition of ‘Information and Communication Technologies’ (ICT) in the digital age. Indeed, the term ‘Healthcare 4.0’ has emerged to reflect the increasing use of digital technology in the health industry, incorporating the latest wearable devices, artificial

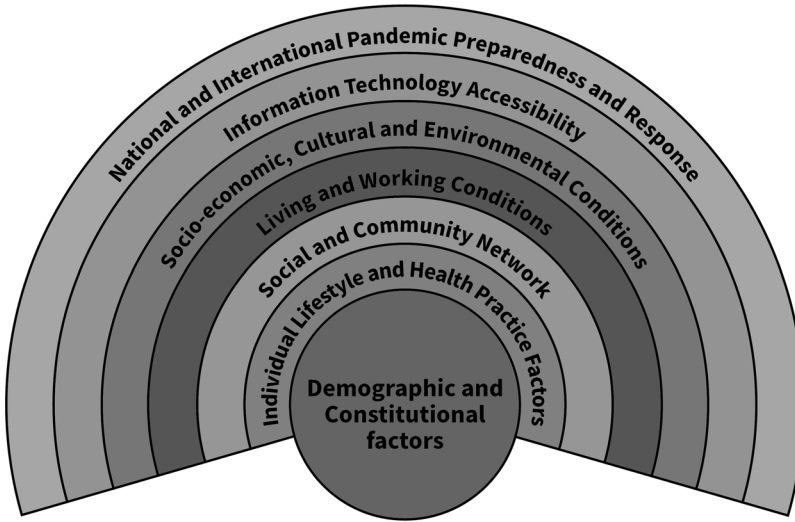


Figure 3.3 Determinants of health, an updated model

Source: Adapted and re-drawn from Dahlgren and Whitehead (1991), Rice and Sara (2018), and Bamba et al. (2020).

intelligence and blockchain innovations (Chanchaichujit et al., 2019). ICT advances have proven vital during the pandemic, for both health care (telehealth) and work (virtual office).

With COVID-19 exposing and exacerbating the health inequalities, another new layer can be added on top of this classic model. COVID-19 is unlikely to be the last contagious outbreak to scourge the world. How a city prepares for and responds to pandemics in future will form another arc in the health determinant rainbow (Figure 3.3). The rainbow motif is apt, not only because the colours differentiate the various determinants of health, but the rainbow itself signifies sunshine after a storm, God's promise that Earth will not be destroyed by flood again. Throughout the ages, cities have endured dozens of deadly pandemics and have survived, even emerging from the saga far stronger and more resilient. London's sewage and water supply systems were much improved after the classical epidemiological study of cholera outbreaks by Dr John Snow in 1854. In the same way, this author firmly believes that cities will be able to learn important lessons from fighting COVID-19 and will become healthier places to live when the battle is won.

Healthy urban governance

While health can and does tend to improve with urbanisation, the scale of the benefits is conditional on other factors such as the effectiveness of public services and the involvement of private enterprise. Solutions often are not confined to the health sector, but require the engagement of many different segments of government and society in the community (World Health Organisation, 2010).

Dye (2008) suggested that the main obstacles to improving urban health were not technical or even financial, but rather related to governance. He argued that many of the prescriptions for better urban health were in fact self-evident and were often inexpensive: healthy housing, accessible primary health care, sanitation, universal vaccination, road safety and the like. These technical solutions do need a framework of healthy urban governance in which they can be

executed. This calls for regulated land ownership, foresight and sustainability in town planning, financial prudence, social cohesion and the empowerment of civil society. Healthy urban governance should embrace diversity – incorporating both a biomedical and a social perspective of health.

Good urban governance depends on an intricate interplay of multiple drivers including the density and diversity of populations, the richness of social and human resources, as well as the sophistication and resiliency of the municipal infrastructure. Such contextual complexity requires a corresponding level of intervention complexity, namely an intersectoral approach (Vlahov et al., 2007). Intersectoral collaboration extends in both vertical and horizontal directions. Vertical partnerships involve national, regional and local governments and community administrations. This must be complemented by horizontal partnerships of stakeholders within cities, with political commitment, a vision shared across a wide range of local leaders, institutional arrangements with expertise and practical experience, and connections within and beyond the country (World Health Organisation, 2010).

Healthy governance should aim to protect the population's right to health. Lee (2020) cautioned that the effectiveness of sweeping public health interventions in pandemic situations must be balanced against unnecessary infringement of the individual's rights. Good governance demands the principles of 'proportionality' and 'absence of arbitrariness' be adhered to.

The role of the health sector

Although the initiative for healthy governance is essentially a role for the government, it must include broad intersectoral collaboration with the private sector and non-government organisations within the community (Choi et al., 2005). de Leeuw (2017) suggested ownership of healthy cities can be shared amongst a diverse group of stakeholders very much beyond health care. She challenged the idea held by many professionals in the health care silo that one 'cannot make health if it is not under the control of the health sector', and instead argued that health is created outside the health sector. It is interesting to note that WHO too downplays the role of current health infrastructure in building a healthy city, but rather chooses to focus on the continuous commitment, connection and participation in political, economic, and social arenas to improve a city's environment (World Health Organisation, n.d.).

Unlike de Leeuw and WHO, this author, being a primary care physician, believes that the health care profession should play a prominent and indispensable role in the process of enabling the Healthy City movement, while recognising that partnership across disciplines and sectors is essential in healthy governance. It is vital to integrate health considerations when building a healthy community. Indeed, health-related government departments and non-government organisations are major stakeholders in the Healthy Cities movement in Hong Kong (Department of Health, 2007). The private health sector plays a particular important role in primary health care and prevention in Hong Kong. Most of the primary medical care is provided by private practitioners. Primary care physicians or general practitioners in the private sector provide almost all seasonal influenza vaccinations for children under the age of 12, as well as a significant proportion of the elderly population (Legislative Council of the Hong Kong Special Administrative Region, 2018).

The price and the promise

Our future is to be decided here and now. It brings either a price or a promise, both are possible, and the choice is ours. The price to pay, if we fail to act despite all the warnings and

appeals from public health stakeholders, will be more health risk and inequity among city inhabitants. This will cause more avoidable suffering from diseases and other health problems, preventing countries from reaching their full economic and human potentials (World Health Organisation, 2010).

The promise, on the other hand, is that cities are healthy for all, both migrants and the native population. Health equity is after all an issue of social justice. It is an indicator of the ability of cities to provide their residents with the conditions for health and wellbeing, helping them to fulfil their aspirations and capabilities. The promise is a great reward to reap, if we dare to commit our efforts and resources to truly achieve the goals of a healthy city by connecting the fields of public health and urban planning within a framework of multilevel urban governance (World Health Organisation, 2010). There is an imperative to succeed: 'if cities are the "defining artifacts of civilization", a nation should be judged by the health of its urban majority' (Dye, 2008).

Healthy city – vision and actions

Cities are population-dense centres of both opportunity and risk. Considering the relentless trend of urbanisation, healthy cities are of central importance to 21st-century global health (World Health Organisation, 2010). If a city and its people can achieve equitable health and wellbeing for all, it will be a charming 'new natural habitat of humanity' (de Leeuw, 2017). The fundamental wellbeing of humanity more than ever depends on the quality of urban health (Rice & Rice, 2009).

The vision

The Healthy Cities movement was launched by WHO in 1986. A 'Healthy City', according to WHO, should aim 'to create a health-supportive environment, to achieve a good quality of life, to provide basic sanitation and hygiene needs, and to supply access to health care' (World Health Organisation, n.d.). Global efforts 'to make cities inclusive, safe, resilient and sustainable' is one of the important 'Sustainable Development Goals' (SDGs) set by the United Nations to be achieved by 2030 (United Nations, n.d.).

The Healthy Cities movement has been described as a visionary crusade, but the vision was so strong and empowered the movement because 'it resonated with deeply held human values that urbanites and their institutions can easily identify with' (de Leeuw, 2017). Lee (2016) also shared a vision of the Healthy City as 'a new paradigm for city development in bringing equity'. As citizens embrace the concept of Healthy City, they will nurture a deeper collective understanding of social, environmental, organisational and political factors that impact on their own health. They will be empowered to engage in debates around local health issues, and enabled to advocate for changes, helping to lessen inequity, foster connectedness and create a more harmonious society. Fong (2020) emphasised the importance of community health programmes and local networks as integral parts of public health policy, to be developed in response to the rapidly changing environment with a community health perspective, especially during the COVID-19 pandemic. Like Lee, he envisaged living in a healthy, safe and smart Hong Kong city.

The actions

The built and social environment is a powerful determinant of health. The buildings and surroundings (and the air quality) where we live, work, commute and play influence many

factors related to public health, including obesity, respiratory disease, physical activity and mental health (Koehler et al., 2018). Urban planning and design policies must take health effects into account. To enhance health and sustainability, cities can pursue urban designs that encourages walking, cycling, exercise, nutritious food choices and a shift from private vehicles towards public transport. Creating neighbourhood business within walking distances of homes, and having more green space (parks) and blue space (water) for people to enjoy are practical ways to achieve these goals (Choi et al., 2005; Sallis et al., 2016). The importance of green space usage to promote health and wellbeing in urban settings has been affirmed by studies focusing on associations between urban green, health and wellbeing (Krefis et al., 2018). In addition, healthier and more energy efficient building designs help to both combat sick building syndrome and reduce carbon emissions (Kolczak, 2017).

The health of older adults, in particular, is closely associated with their residential environment. A Chinese study found a positive correlation of good housing and neighbourhood quality and a safe social environment with better subjective, physical and mental health outcomes (Liu et al., 2017). Mental health should have a high priority in municipal health planning. A city would do well to improve the social environment by fostering neighbourhood ties, spirituality, sense of belonging and connectedness to safeguard the mental wellbeing of its residents; transforming itself from a 'sad and blue' city to a 'sunshine and smiling' city (Lee, 2016).

The potential health impact of any urban design and policy should be properly evaluated before implementation. Health Impact Assessment (HIA), a systems approach to integrate social, economic, environmental and health data and stakeholder input, is one such tool that is being increasingly utilised in the field of environmental health (Koehler et al., 2018). Moreover, public health education efforts to augment community health should be redoubled. While challenging, the health educator can capitalise on the strengths of the urban environment. With its easy access to diverse cultures there are plentiful opportunities to disseminate accurate health messages and for facilitating people to adopt health promoting behaviours (Leviton et al., 2000).

Healthy City Movement in Hong Kong

In Hong Kong, the first Healthy Cities project was initiated in the district of Tseung Kwan O in 1997, and since then many other districts have been involved (Department of Health, 2007). The first District Health Centre was opened in Kwai Tsing in 2019 (The Government of the Hong Kong Special Administrative Region, 2019b). In December of the same year Hong Kong joined the 'Partnership for Healthy Cities', a global network committed to prevention of non-communicable diseases, demonstrating our city's ongoing active participation in this movement (The Government of the Hong Kong Special Administrative Region, 2019a).

The building and city design recommendations in Hong Kong have been improved after the SARS epidemic, especially in terms of the ventilation of indoor and outdoor spaces and its relationship with the city's development densities and building layouts. The problem of faulty and infection spreading drainage design was also addressed (Ng, 2020). Unfortunately, the COVID-19 pandemic arrived too soon for these changes in building codes to have a measurable impact, but it is hoped that in the future the city does become healthier and more resistant to diseases, with more green space, walkable distance, fresh air and natural light.

The changing global environment presents an opportunity and urgent need for public health leadership to reduce the burden of disease and health inequity as we build healthy communities and cities (Koehler et al., 2018). Many cities around the world including the author's own have embraced the Healthy City vision and have taken concrete actions to enhance the health of

their residents. Community collaboration is essential, and the primary care health workers including primary care physicians will play a pivotal role in the efforts to create a greener, more pleasant and liveable urban environment for people to enjoy life to the fullest.

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