

Health and Wellbeing in the Changing Urban Environment

Xinjue Ke and Franz W. Gatzweiler

1. Integrating health indicators into all policies and implementing integrated systems governance could effectively address multiple change challenges by creating health co-benefits.
2. The guiding principles of the urban planning system need to be inclusive of health.
3. Cities' capacity to deal with emergent public health issues can be enhanced by integrating health into all policies.
4. Public participation and community capacity building for urban health need promotion.
5. Enhance research and education on healthy cities.
6. Set local goals and assess progress indicators towards health goals regularly.

About the authors

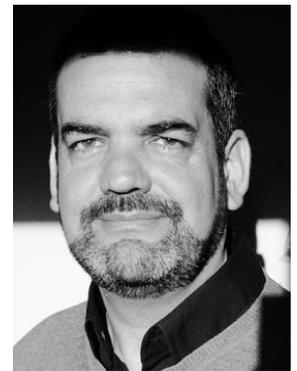
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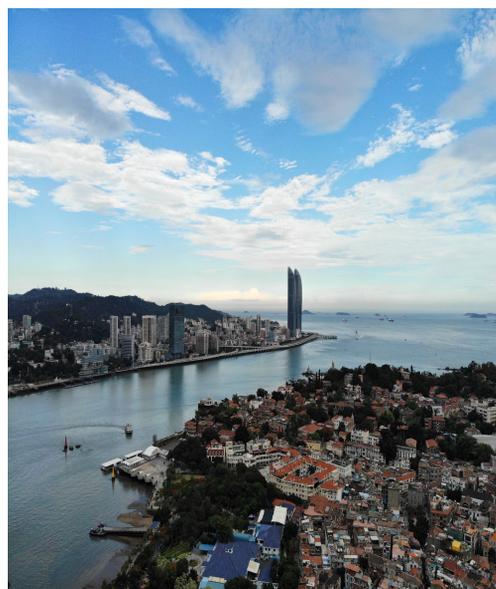
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I. Policy Context

The world is undergoing a severe wave of urban population growth and sprawl, driven by economic growth, population increase and migration. In 2018, approximately 55 percent of the population settled in urban areas (United Nations, 2018), and by 2050, 70 percent of the world's population is projected to be urban (WHO, 2018). Today, Latin America and the Caribbean region have 81 percent of its population dwelling in urban areas. Asia has approximately 50 percent and Africa, even though it is still mostly rural, is embracing fast urban sprawl over the next decade (United Nations, 2018).

Urbanisation as a global concern is closely linked with multiple disciplines, including urban planning, economics, sociology and geography, which directly or indirectly affect human health. A set of major public health matters such as emerging non-communicable and communicable diseases, health inequalities, climate change and job insecurity have arisen as severe consequences of urbanisation. In 2015 the Chinese government launched the 'Belt and Road Initiative' which provides fundamental to achieve global health reform. In 2017 the World Health Organisation and the China have entered a strategic partnership for establishing the 'Healthy Silk Road'. Health is embedded in the investment in and development of infrastructures and transportation in participating countries as main strategies to improve public health. 'Healthy China 2030' as a national strategy defined the health sector as a priority for global sustainable development, promoting good health for all. It has recognised that economic development goes hand-in-hand with a healthy population and environment.



Significant actions have been taken to improve the health of cities globally. In 2016, the New Urban Agenda launched by UN Habitat, put health as a central concern of urban planning. UN Habitat started a working relation on health and planning with WHO and the Shanghai Consensus on Healthy cities was attended by more than 100 mayors from around the world and . The mayors were committed to good governance for health, with core principles of considering integrated health into all policies and addressing all health determinants from social, economic and environmental aspects (Healthy Cities Mayors Forum , 2016).

Nevertheless, the health sector alone is not able to perform well in addressing these concerns. The development of a collaborative and integrated approach is needed to understand and address complex urban health issues. Rather than an outcome, a healthy city is more a process that continually attempts to improve the health of its residents (WHO, 2018).

Over the past few years, system approaches to urban health and well-being in Asia, the Pacific, Latin America, the Caribbean and Africa have been improving the regions' understanding of urban complexity, particularly its effect on health. In Malaysian cities, a SALURBAL (Salud Urbana en America Latina) project draws on the Collaborative Conceptual Modelling (CCM) approach, promoting more effective decision-making for urban health and sustainability. In El Salvador, the 'Urban Health Model', a participatory decision-making process for 'Health in All Policies' informed by participatory systems modelling, has been implemented. It generates information and knowledge from different urban sectors and from different types of data to formulate policies and actions in response to emerging threats to urban health and well-being.

II. International Symposium

In October 2018, the International Council for Science's (ICS) global science programme on Urban Health and Well-being (UHWB), in collaboration with the Institute of Urban Environment and the Chinese Academy of Science (CAS), organised an International Symposium on Health and Well-being in the Changing Urban Environment. It assembled more than 30 experts in relevant fields from 8 countries all around the world. The symposium aimed at providing an opportunity to present evidence and case studies on the possible generated benefits by better understanding the interconnectedness of specific urban health and well-being issues, and addressing them by taking systems approaches and by promoting health as a core of urban policy-making.



In line with the WHO's goal of promoting the collaboration between different urban sectors including transportation, housing, education, economy etc., as well as fostering community participation and maximising the effectiveness of local governance, the symposium identified several key areas required for improving urban health:

1. Urban Governance and planning: Urban planning and governance are important determinants of urban health. Health, as one of the most important sectors within the urban system, should be considered at the beginning of the planning and policy-making process rather than as an expected outcome. Cities are rapidly growing and developing into more dynamically complex systems, which produce large amounts of unintended urban health issues that have an impact on residents' quality of life. Solely promoting programmes on improving urban health could be ineffective as they are unable to maximize multi-urban system functions and generate co-benefits. In contrast, territorial and spatial planning emphasises integrated urban governance, and cross-sectoral management of resources. This type of planning addresses health issues by considering, as well as engaging with, stakeholders at all levels to act across boundaries for both transitional and regional cooperation

Amid the era of urban transformation due to urban growth, governance requires increasing collaboration across disciplines. Engagement with society at all levels holds great potential to address dynamic interactions between people, ecology, and technology in cities. Urban residents' lifestyles, which are less physically active, high fat diets and with high levels of psychological pressure, make multilevel efforts to engage and call for public participation to improve public health status and well-being, indispensable and inevitable.

2. Technologies and networks: Cities are complex systems, having multiple interacting networks which contribute to the emergence of good health and well-being. Strengthening collaborative networks, that comprise of people, artefacts or machines, is necessary for addressing urban health issues. This is due to the fact that health is an "emergent property" resulting from different interactions among components of a complex and adaptive system.

As part of the networks, innovative and interactive technologies include big data technologies, Geographic Information Systems (GIS) and geodetectors. These are important tools for harnessing the complexities of urban health issues (WHO, 2016) and have great potential to promote healthy cities such as eco-city and smart city development. In the future, universities should play a major role in fostering, educating and strengthening a variety of forms of such networks and interactions.

3. Communication and research design: Population growth driving urbanisation leads to a series of significant changes in urban settings of education, commerce and economy. An integrated and participatory research design to adapt and address urban complexity are required as cities are facing unprecedented challenges. Through visualising difficult concepts, design itself is able to build the bridge between disciplines. It also builds bridges between rapid progresses in technology, science and engineering. The approaches toward shaping the relationship between health, well-being and urban environment therefore becomes vital.

4. Measuring urban pollution and environmental risk: Vulnerable groups in cities, particularly women, children and the elderly, are more vulnerable to environmental pollution. Today, more than 93 percent of children all around the world breathe severely polluted air (WHO, 2018). Urban built environments, including industrial land, green and open space, and road systems are closely linked to respiratory health. That should be considered in the strategies for healthy urban planning. Furthermore, understanding the effectiveness of a range of interventions in different sectors such as housing, planning and transport could contribute to air and water quality improvement.

Risk assessments of public health impacts of the climate change are important for policy selection, which contribute to a risk-informed decision-making processes. Many cities are located in areas prone to natural disaster and climate hazard. The health of city dwellers is expected to be affected by direct physical injuries, water-borne diseases and respiratory illnesses due to changing weather conditions. An analysis of such vulnerabilities at both spatial and temporal scale is able to help identifying policy options considering feasibility, applicability and robustness.

5. Housing and health: In both developing and developed countries housing and the built environment affect residents' physical and mental health and social well-being. The World Health Organization (WHO) recently published guidelines which interpreted 'Healthy Housing' as one that provides a safe and healthy environment for its residents (WHO, 1988). Given the situation of growing inequalities in access to quality housing and affordable energy, taking system approaches which underpin the United Nation Sustainable Goals could improve renewable energy to produce affordable housing at WHO minimum temperatures.

III. Conclusion

Cities offer residents numerous opportunities to access jobs, goods and community services, as well as create opportunities for health. However, the world has a huge population with a dramatic increase in urban dwellers, which exacerbates the sources of social and environmental strains which adversely affect human health and well-being in cities. The ultimate challenge for today's urban expansion is to seek a way of maximizing the functions of a multifunctional urban system and generating co-benefits to improve urban health. The international symposium reflected on the urgent demands for new and intelligent urban planning strategies. Integrated systems governance across urban sectors is a promising strategy to improve health and well-being in cities. In order to achieve health goals for all, an attempt is required to integrate health in all policies and better understand the complex interactions between urban health, well-being and the changing urban environment.

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