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**Systems approaches could provide a better understanding of urban health determinants and inform interventions. What are the next steps in delivering this promise?**

Diez Roux presents in this Supplement of *CADERNOS DE SAÚDE PÚBLICA* a clear argument for why systems theory should be instrumental for understanding the root causes of urban health and for tackling ill health and inequalities in cities. I am persuaded by the ways in which systems theory can help transform research and action for urban health, as she proposes. She focuses particularly on the development of conceptual dynamic models of the processes leading to health in urban settings, drawing on inputs from researchers and stakeholders, which in turn draw on scientific knowledge and contextual/local factors, while mapping out expected feedback loops and dependencies. These conceptual models are essential for clarifying/generating hypotheses about linkages between health and the urban environment and for identifying potential interventions and their expected impacts on health.

The second mechanism she proposes is simulation modelling of such relations to examine expected impacts from interventions, considering possible pathways and feedback loops. The creation of these “virtual worlds” is both attractive and tantalizing, in that the more complexity one adds to the model, the greater the possibilities of error and eventual misunderstanding of the systemic effects. This also raises a number of questions, including who sets the parameters, which aspects are included in the model and which are left out, various hierarchies, and how one considers conflicting interests in the absence of consensus. On the other hand there is an opportunity to learn from the experience in cities worldwide

regarding their decisions and implementation of policies on similar issues, such as transportation, housing, land use planning, and energy, all of which have important health implications. But again, it is essential to define the knowledge management parameters to attempt to avoid biases in reporting and publication, among others, and the methods used to summarize large amounts of natural experiments occurring in different settings, to identify both good and bad practices. Practical questions also include how to link different types of data, the use of “big data”<sup>1</sup>, available tools for integrating different types of datasets, and lessons from previous attempts to develop large integrated models (such as those used to estimate the impacts of transportation policies on health<sup>2</sup>). Researchers interested in further development of this field feel the need to hear more about the state-of-the-art and existing wisdom on these questions.

The author’s third point is very well taken: there is a need to focus on very specific questions and to move from metaphorical discussions of urban systems to concrete applications. Stakeholder interests, scientific knowledge, policy-making, and decision-making are centered on specific questions and options, and often there is a failure to appreciate their systemic effects. Health is crosscutting and can be used as a common denominator/entry point to clarify the nexus between different policy decisions in the urban setting.

The paper by Diez Roux raises elements for what could become a global research and action agenda for determinants of urban health. This agenda should be pursued in order to provide the tools and capacity to help visualize change and to explore policy alternatives and their expected consequences for health and quality of life and their comparative potential for achieving greater equity. The outcome of this agenda would include a knowledge base, tools, and capacity for robust analyses of urban policy scenarios that lead to the greatest shared health benefits and to other urban policy objectives. Implementing such a research agenda would add powerful tools for health actors to engage in (and contribute to) debates on urban policies and decisions and enable the health sector to expand its contribution to global sustainability and health equity.

This would not only contribute to mainstreaming health into the Sustainable Development Goals (SDGs)<sup>3</sup> and the HABITAT III<sup>4</sup> agendas but also constitute an extra tool for pursuing health in all policies.

## Disclaimer

The above review was written by an employee of the World Health Organization, but the statements, opinions, and conclusions do not represent official WHO policies or positions.

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