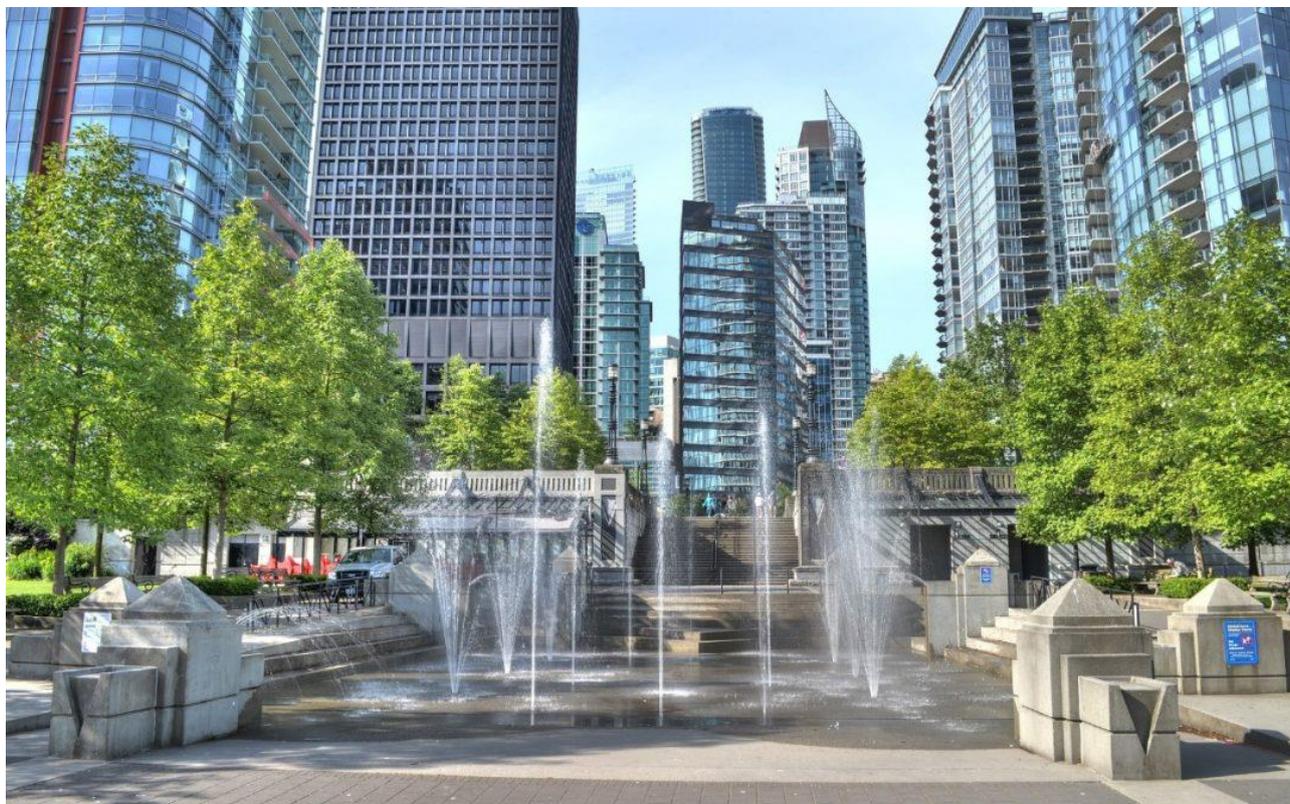


The importance of urban planning to improve physical activity

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The importance of urban planning to improve physical activity

Physical inactivity is responsible for over 5 million deaths annually through its effects on multiple non-communicable diseases. For that reason, it is considered a global pandemic (1). Combined with population growth, rapid urbanization, and climate change, this must lead to rethinking approaches to prevention, which necessarily must take count about the environment where people live. The urban environment's design has the potential to contribute substantially to physical activity and, intervening on it, allows to bring population-wide changes (2), producing long-term effects. For that reason, understanding how environmental attributes can influence physical activity behaviours is a public health research priority.

One of the urban planning models that seem to be more for the promotion of physical activity is that of *compact cities*, understood as a "city of short distances that promotes increased residential density, mixed land use, proximate and enhanced public transport, and an urban form that encourages cycling and walking" (4). Compact cities promote regional and local interventions that, if combined, contribute to reducing the principal health risk factors. *Proximity* (distance) and *connectivity* (directness of travel) are the keywords to keep in mind in urban planning of compact cities, because these two factors could influence the use of motorized or nonmotorized transport and, as a consequence, the health of citizens (6). With this in mind, interventions may include (5):

- 1) Making destinations more accessible
- 2) Equitable distribution of employment across cities
- 3) Reducing the availability and increasing the cost of parking
- 4) Designing pedestrian and cycling-friendly movement networks
- 5) Achieving an optimum level of residential density
- 6) Reducing the distance to public transport

7) Enhancing the desirability of active transport modes.

But how could physiotherapists get involved in urban planning? According to the model suggested by Giles-Corti et al. (3), it is necessary for research to create effective collaborations between health researchers and all the people involved in urban planning, including experts in built-environment. The model consists of four different steps:

- Developing policy-relevant research questions to ensure that research would not only be based on scientific literature or theoretical assumptions.
- Advancing the use of research methods that can compel policymakers, including evaluations of real world experiments or different outcomes' examinations (among which social and economic benefits).
- Dissemination of research findings to policymakers, through user and policy-maker friendly communication methods
- Advocacy for the researchers' role as a part of the policy and practice change process.

The implementation of such models requires the creation of multidisciplinary teams including specialists from transportation, urban planning, and local government representatives but also health professionals who can promote physical activity through policy and environmental interventions (2,5).



It has been suggested that walkable neighbourhoods, park features, and transport mode choices are key factors that should be considered by urban planners to promote physical activity in the urban environment. *Highly walkable* neighbourhoods seem to better facilitate walking, the most common form of adult physical activity (6). Highly walkable neighbourhoods are characterized by a high-density population, interconnected streets, and closeness to shop, services, restaurants, public transport, and parks (a mixture of land uses). It is demonstrated that residents in these types of neighbourhoods walk from 70 to 90 more minutes per week than the residents in low-walkable neighbourhoods, contributing to achieving 45-59% of the 150 minutes/week recommended from guidelines (1). This also supports the hypothesis that macroenvironmental factors and neighbourhood design, can contribute to reducing obesity (7), another significant global health challenge of our century. Additionally, activities like walking can serve multiple

purposes (in difference to more vigorous physical activities), which makes them more likely susceptible to environmental influences (6).

Research in urban design has long understood that neighbourhood planning and land use may affect *transport choices* (6), and so the accessibility of crucial destinations for daily living (such as employment or education). Communities with high population density, effective connectivity, and land use mix report higher rates of walking/cycling for utilitarian purposes (6), which implies that good transport access is a requirement for living a less car-dependent life (1).



When designing physical activity supportive environments, *park density* is an attribute that should be considered (1). Apart from *park availability*, it is important to improve *park quality* (8), in terms of safety, park features (such as the presence of playgrounds, picnic facilities, seating, and paths), and amenities' quality and aesthetics (maintenance, gardens, landscaping). The presence of quality parks could also be a relevant factor for physiotherapists, which can take advantage of them for *green exercises* prescriptions (9). Green exercise provides alternatives to traditional health and social care pathways and should increasingly be integrated by health professionals, in particular for patients that experience low wellbeing or comorbidities.

Given all the benefits that an activity-supportive environment can give to the population health, their creation should be a regular function of public health agencies and health care staff getting involved in and advocating for corresponding urban planning decisions (1). The challenge, then, is to make health professionals, including physiotherapists, more involved in political decisions about urban planning, so that they can contribute to creating environments that can influence the health and the sustainability of growing cities, and so contribute to the reduction of non-communicable diseases. The achievement of healthier compact cities needs regional and local interdisciplinary planning policies that can integrate planning for physical activity, land use, transport, housing, economic, and infrastructure with urban design (5).

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Author



Mariavittoria Anderlini is an Italian Physiotherapy student in her last university year at University of Modena and Reggio Emilia, Italy. In her future career, she would like to deal with research and prevention, always keeping in mind a green and sustainable perspective.