Designing health into urban green and blue infrastructures – The need for action in planning, policies, and research

Executive Summary of the International Synthesis Report
Terms of References

This executive summary of the international synthesis report PREHealth: Designing health into urban green and blue infrastructures – The need for action in planning, policies, and research is the outcome of the first intellectual output (IO1) submitted in fulfilment of the requirements for the Erasmus+ Project Promoting education and jobs to enhance the use of urban blue and green infrastructure for health and fitness (PREHealth).

Project partners

Technische Universität Darmstadt (coordinator) | City of Darmstadt
Utrecht University | City of Eindhoven
Széchenyi István University | City of Győr
PRISMA – Centre for Development Studies | City of Athens

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This summary is based on the full international synthesis report which contains detailed background information on the results of the literature review and expert interviews as well as the associated statistics and data sources:

A growing body of research shows the positive effects of green open spaces on people’s health and well-being. However, there is still limited knowledge among local stakeholders, urban designers, and policy makers about how to plan, develop and maintain urban green and blue infrastructures to purposefully design more health and fitness into people’s lives.

It is for these reasons that the focus of this report is set on the potential of the built environment to foster and promote health-related behaviour on the different socio-economic and cultural profiles of populations in European urban areas. It addresses the following research questions:

1. What is the relation between health-related behaviour (i.e. active travel, active recreational use, and social interaction) and urban open spaces (e.g. green spaces, squares, street networks, blue infrastructure)?

2. How do socio-economic and cultural profiles relate to health-related usage of open spaces?

The following results are based on a systematic literature review of academic articles published in the last ten years. In addition, expert interviews were carried out in order to obtain insight information about the partner countries and cities.

We lay out that there is a strong and vast documented relationship between health-related behaviours, particularly for physical activity (PA), and the built environment (i.e. urban open spaces). Most studies were carried out in the United States of America, Australia and United Kingdom.

Open spaces are ideal opportunities to be active and have been proven to provide various health benefits to citizens. They may act as determinants of health and support the promotion of a health-related behaviour of city dwellers. Attributes such as quantity (e.g. amount, proximity, accessibility) and quality (e.g. cleanliness, paved roads, short routes from A to B, good state of trees and green areas) have the potential to enhance active travel, social interaction and active recreation. These attributes, both quantitative and qualitative, affect diversely health-related behaviours of the different socio-economic groups.

There is scarce information about the relationship between the different socio-economic groups, urban open spaces, and their usage. Nevertheless, it can be stated from the literature review that women in general, adults who work in sedentary jobs (office), pensioners, and minority ethnic groups are in risk of pursuing and developing less health-related behaviours than other population groups, since they use the urban open public spaces in average less actively.
The reviewed data shows significant variation of PA levels in the partner countries. In the Netherlands, around 50% of the population exercise or practice sports few times per week, followed by Germany with 41%, while in Greece and Hungary only 24% and 23% of the population engage in sports and exercise.

The question as to where people become active varies from country to country, revealing geographical and cultural differences across Europe. While active travel is important in The Netherlands (e.g. the world famous “bicycling culture”), people are more hesitant to exercise in open spaces. German population, in contrast, engages in sports and exercise in outdoor spaces, such as parks, in large numbers, while Hungarians do the same mostly at home. In Greece, people state they engage in sports or PA mainly on the way between home and school, work or shops, but there is almost no active travel by bike or the like. Partner countries share similarities regarding the risk of sedentary activities, such as watching TV, listening to music, using the internet, social media, and talking on the phone during the free time.

We observed that policies and practices promoting and encouraging city dwellers to pursue more health-related behaviours, as well as in open spaces as elsewhere, are increasingly being implemented in different European countries. We could not evaluate whether they are effective or not, but we perceived that in many cities there is a lack of collaboration between institutions and administrative bodies. In fact, it is striking that local groups, dispersed across organisational units, do not work together although they have similar goals. These observations do underline the need for more efforts to put the aim of “health in all policies” in practice. We conclude that in order to achieve this goal, it is imperative to develop more holistic approaches to the problem, strengthen participatory efforts, especially with disadvantaged groups, and to increase the health literacy of the population, especially regarding the untapped potential of urban green and blue spaces.
Glossary

Active travel
Moving to a fixed destination with the help of your own muscle power, e.g. walking, cycling or skateboarding to work.

Active recreation
Activities engaged in for the purpose of relaxation, health and well-being or enjoyment (i.e. other than work) in which physical exertion is required, e.g. sports, dancing, gardening or play.

Blue infrastructure (in urban areas)
Comprises all surface waters within a city (e.g. lakes, rivers, coastal water) (Volker & Kistemann, 2015).

Green infrastructure
An interconnected network of green space that conserves natural ecosystem values and functions, and provides associated benefits to human populations (Coutts & Hahn, 2015).

Health-related behaviour
Any activity undertaken for the purpose of improving health and wellbeing or for preventing and detecting disease, e.g. exercising regularly, eating a balanced diet, and obtaining necessary vaccinations.
PREHealth focuses on the health-related behaviours active travel, active recreation and social interaction.

Urban open space
All areas not developed by buildings. Particularly important for PREHealth are green and blue open spaces such as parks, greened road and path networks, squares, bodies of water, etc.

Physical activity
According to the World Health Organization physical activity can be "defined as any bodily movement produced by skeletal muscles that requires energy expenditure" (WHO, 2018, p.14).

Social interaction
Action and communication related to fellow human beings/groups in everyday, public and private situations (Korte & Schäfers, 2010).

