

Urban green and blue infrastructure for the health of people and nature

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The Project Group:

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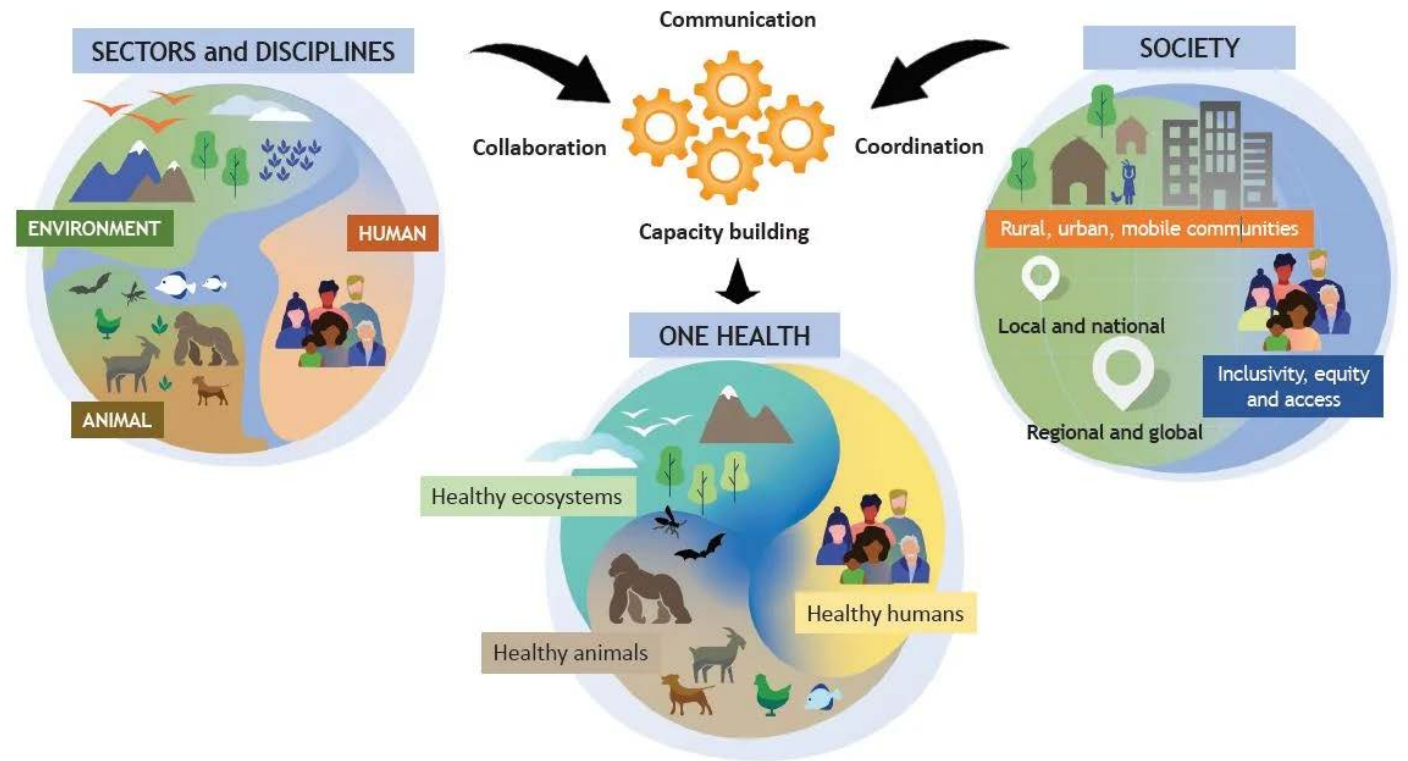


One& Planetary Health

Health: "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity".
[\(WHO, 1948\)](#)

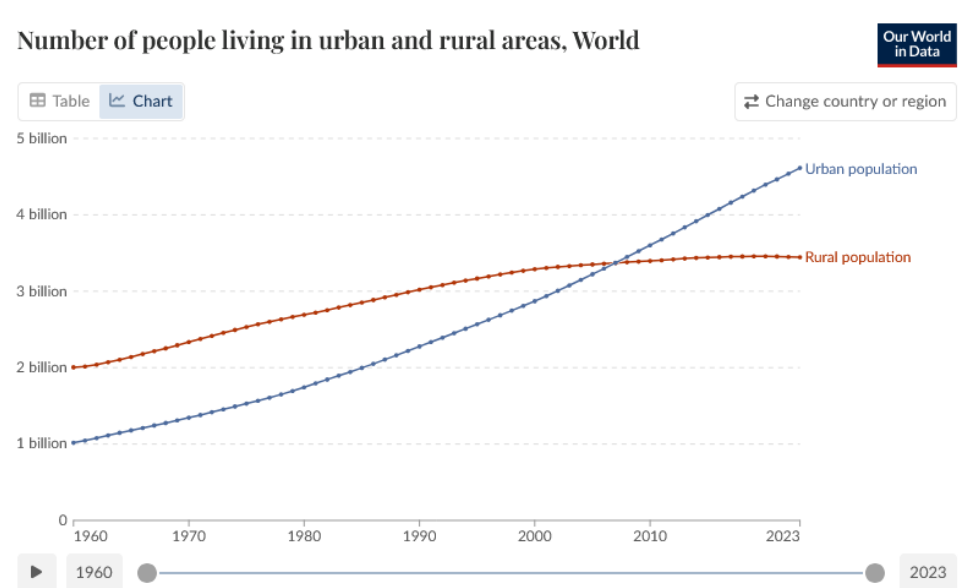
State of well-being encompassing **physical**, **mental**, and **social** aspects

Healthy urban ecosystems



www.who.int/news/item/01-12-2021-tripartite-and-unep-support-ohhlep-s-definition-of-one-health

Urbanization



<https://ourworldindata.org/urbanization>



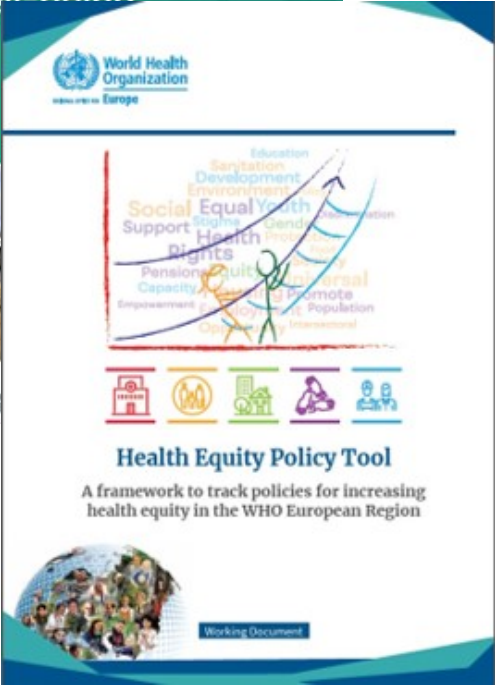
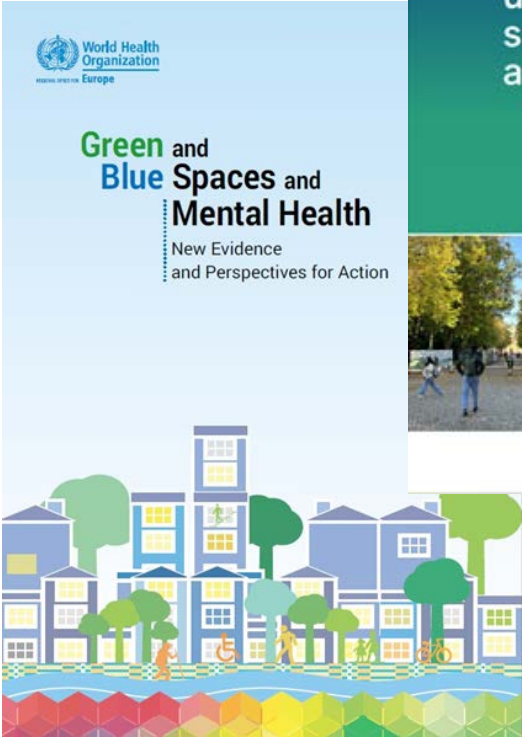
60% public spaces dedicated to cars ([Mark Nieuwenhuijsen 2021](#))



2,5% public green areas (Italy. [ISTAT, 2024](#))



The context



Brussels, 6.5.2013
COM(2013) 249 final

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Green Infrastructure (GI) — Enhancing Europe's Natural Capital

{SWD(2013) 155 final}

Regulation 2024/1991	
European Union regulation	
Text with EEA relevance	
	
Title	Nature Restoration Law
Made by	European Parliament and the Council
Journal reference	OJ L, 2024/1991, 29.7.2024
History	
Entry into force	18 August 2024
Other legislation	
Amends	Regulation (EU) 2022/869



The VeBS project



Applied research project financed by the Italian Ministry of Health
«Environment-Health-Biodiversity-Climate»

10 partners representatives of environment&health, 4 Regions

Assumption: Green/blue, accessible and quality public spaces are basic building blocks of health in cities



<https://it.council.science/blog/urban-health-and-wellbeing-in-the-anthropocene/>

Project's aims:

- gather scientific evidence about the role of GBI for health and well being of children and elder population
- Support decision makers and city planners with practical tools and science-based information
- Inform professionals from environment and public health sectors, citizens

The scoping review

Map the existing literature to provide a preliminary assessment of the available research (key concepts, gaps in the knowledge base, etc.)

Effects of green exposure on children & youth neuropsychological development and mental health

Domains investigated: working memory, intelligence, cognitive development, [academic performance](#), well-being, attention-deficit/hyperactivity disorder symptoms, and behavior



Street greenery&pedestrian (Rome, 2023). Photo credit: Anna Chiesura

Many systematic review of sperimental and observational studies suggest increasing evidence of causal association between natural/green areas and better mental and cognitive health in children and teen agers

Results

children and adolescents:

- ✓ Better neuropsychological outcomes (Luque-Garcia 2022, Bikomeye 2021, Davis 2021): reduction of symptoms of anxiety and depression ([Bray 2022](#), [Zhang 2023](#), [Reece 2021](#))
- ✓ Better cognitive functioning ([Buczylowska 2023](#), [Fernandes 2023](#), [Vella-Brodrick 2022](#))

elder people:

- ✓ Higher degrees of residential green space were associated with lower rates of non-accidental and respiratory mortality ([Bauwelink 2021](#), [Lee 2020](#))



Mediation variables

Beneficial effects on mental health and neurocognitive development are estimated to be higher:

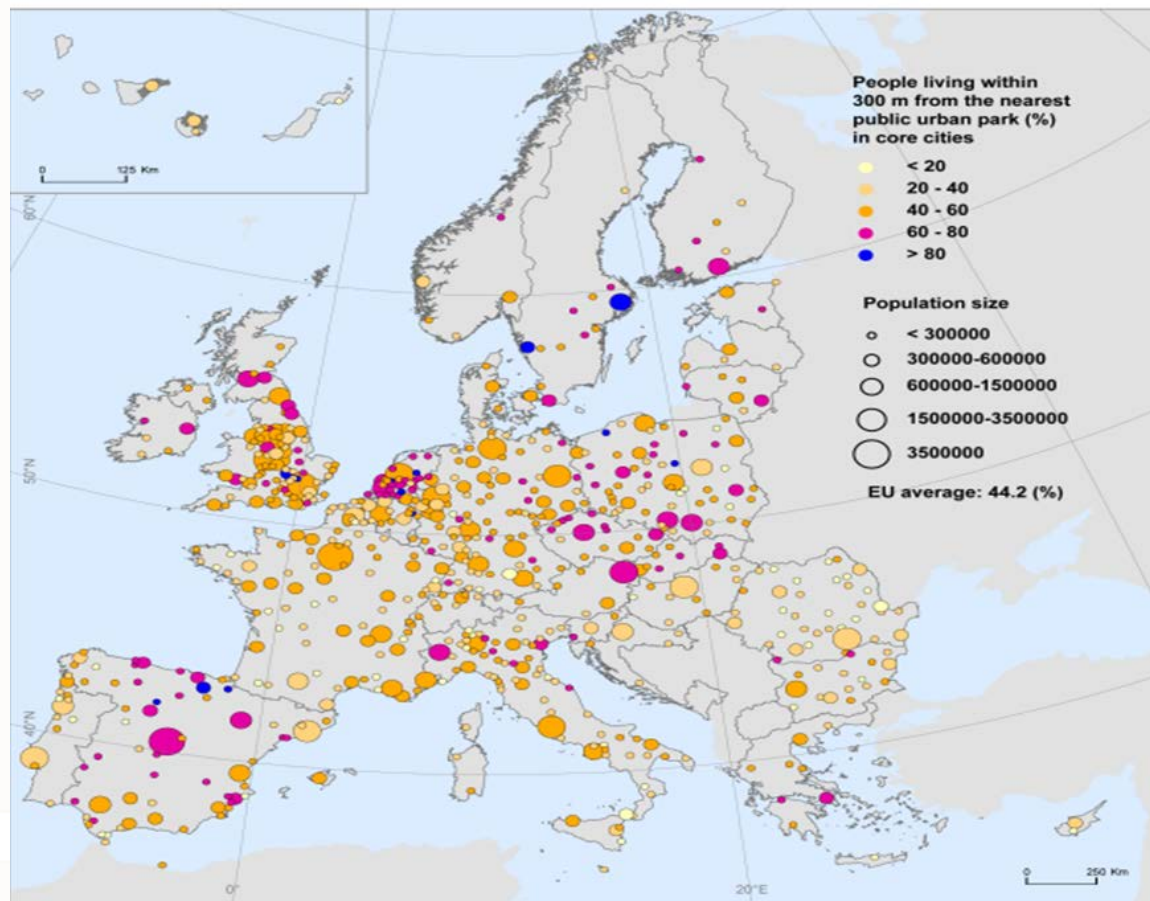
- ✓ when green areas are within 50-100 m from people's house
- ✓ When mediated by other expositions (physical activity, social interaction, playing, etc; [Wallace 2022](#))

Biological mechanisms:

- ✓ Connection with nature (Zhang 2023; Dzhambov 2023)
- ✓ Reduction of psycho-physical stress (Ulrich 1983)
Attention restorative/regeneration effect (Kaplan 1989)



Proximity to green areas



Fonte: Maes J, et al, 2019. doi:10.2760/689989, JRC115375.

Healthy environment, healthy lives:
how the environment influences health
and well-being in Europe

ISSN 1977-8449



In the average, 44% of European citizens live within 500 m from an urban park; More than 1 over 2 EU citizen

Green prescriptions / nature-based interventions

A green prescription is a health professional's recommendation for a patient to engage with nature to improve their physical and mental health, connecting individuals with nature-based activities (walking, gardening, community projects)

Lombardia law (2024): orthotherapy within public schools, hospitals, penal institutions.



Forest bathing (Japan)
incorporated into social prescribing programs, where healthcare professionals can recommend it alongside or instead of traditional medical treatments

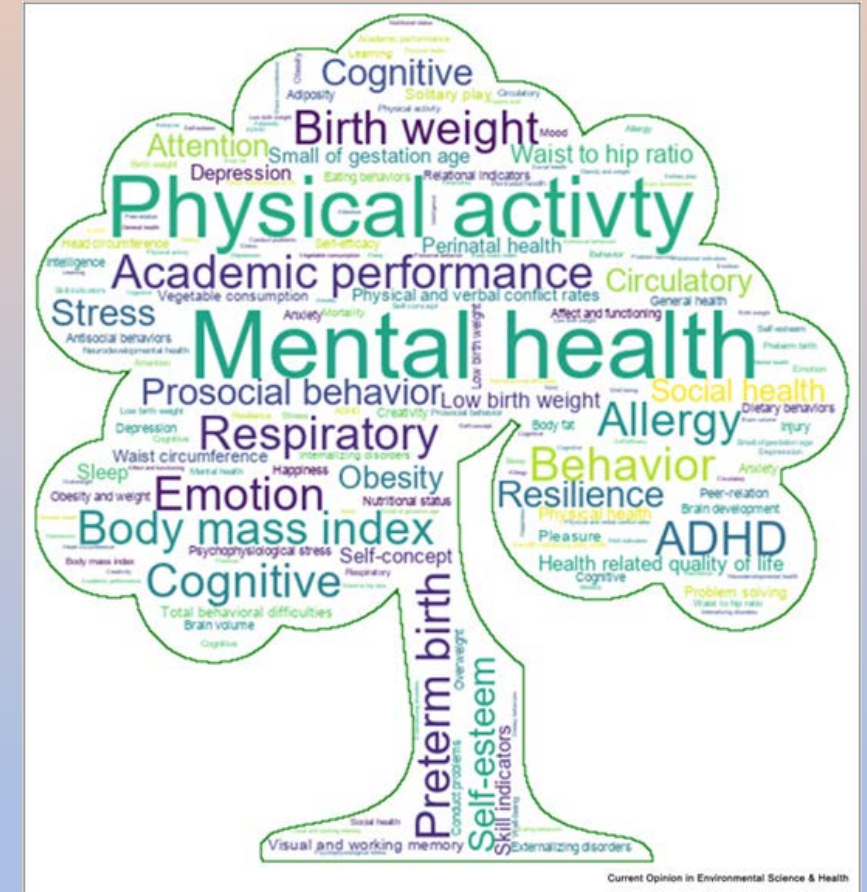
<https://www.visittrentino.info/it/articoli/natura-benessere/forest-bathing>

Conclusions

In a rapidly urbanizing world, researchers, policymakers, healthcare workers, environmental practitioners and urban planners need to work together to elaborate evidence-based policies and interventions to increase the availability of quality green and blue spaces in cities

Evidence shows positive association between exposure to green&blue and health outcomes

VeBS project will bring more evidence to support green prescriptions and nature-based intervention as health prevention policy





Thank you!

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