

# Greener cities, healthier lives: the vital links between nature-based solutions and public health

Interlace- Cities Talk Nature

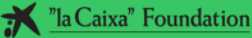
Carolyn Daher

29.02.2024

Urban Planning, Environment and Health Initiative



A partnership of:



# 2050



6.4 Billion  
in urban areas

2 Billion  
in urban slums

2.9 Billion  
in rural areas

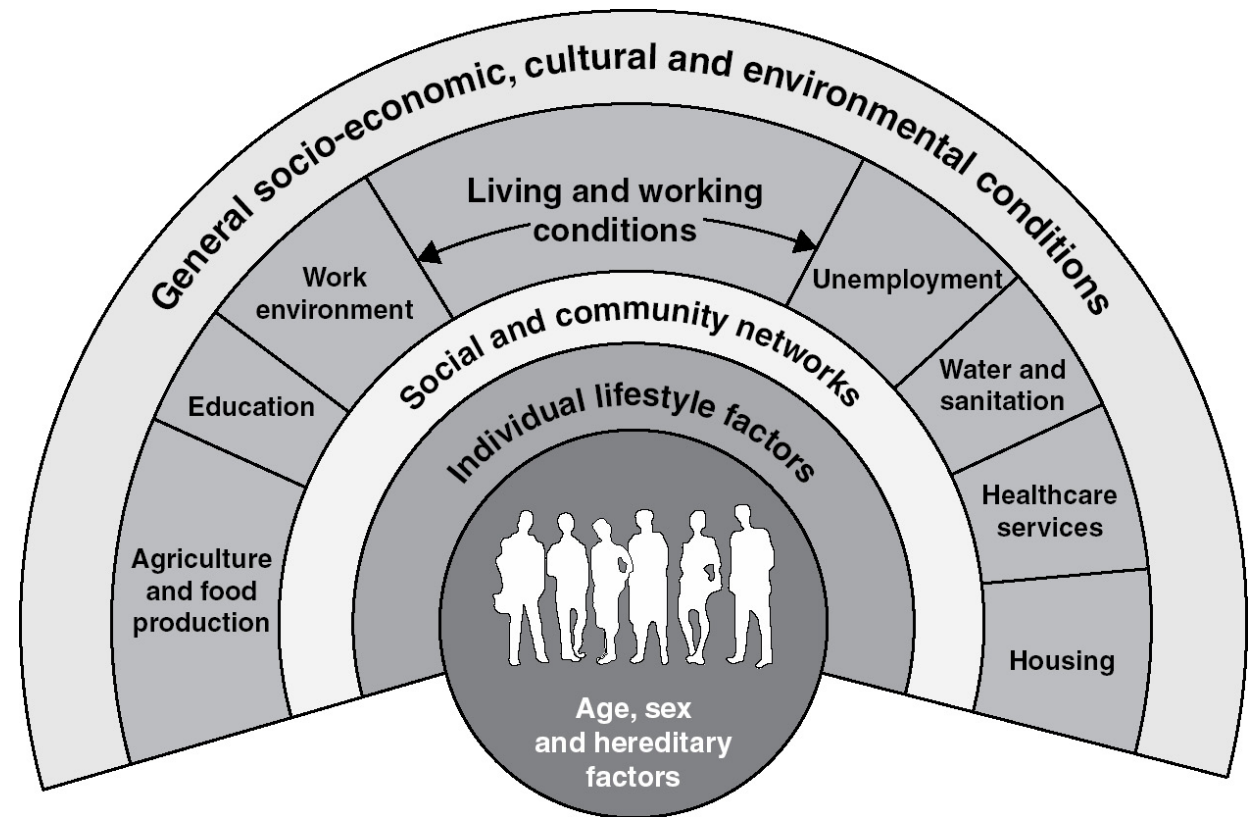


**According to the WHO, "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."**

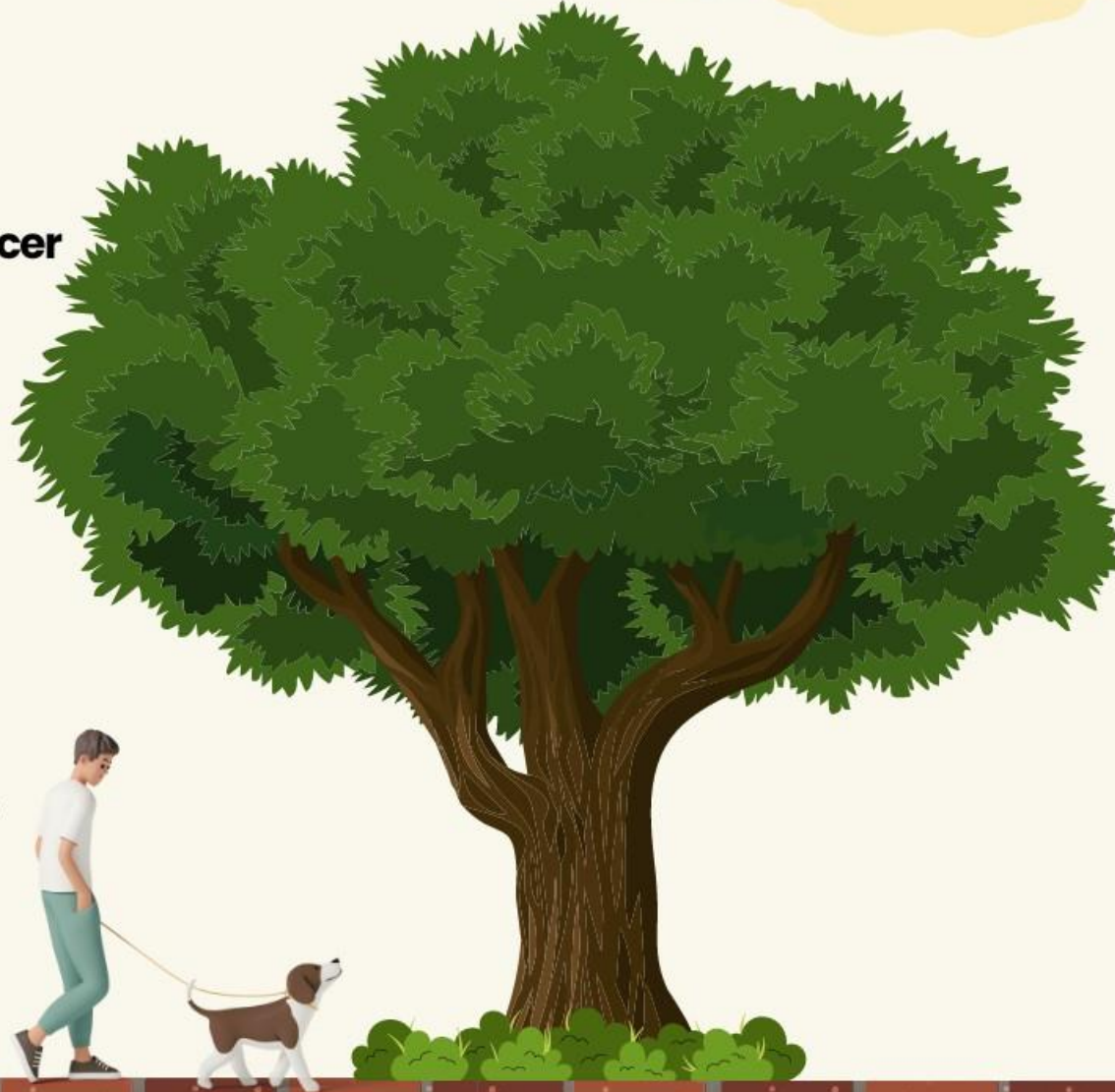
# Health and health determinants

Our health is determined by socio-economic, cultural and environmental factors and public policies

According to the WHO, **23%** of global mortality is linked to environmental factors.



# Benefits of urban green infrastructure



Reduces risk of **cardiovascular disease** and **cancer**



Improves **mental health** and increases **life satisfaction**



Reduces **air** and **noise pollution**



Improves **memory** and **attention**

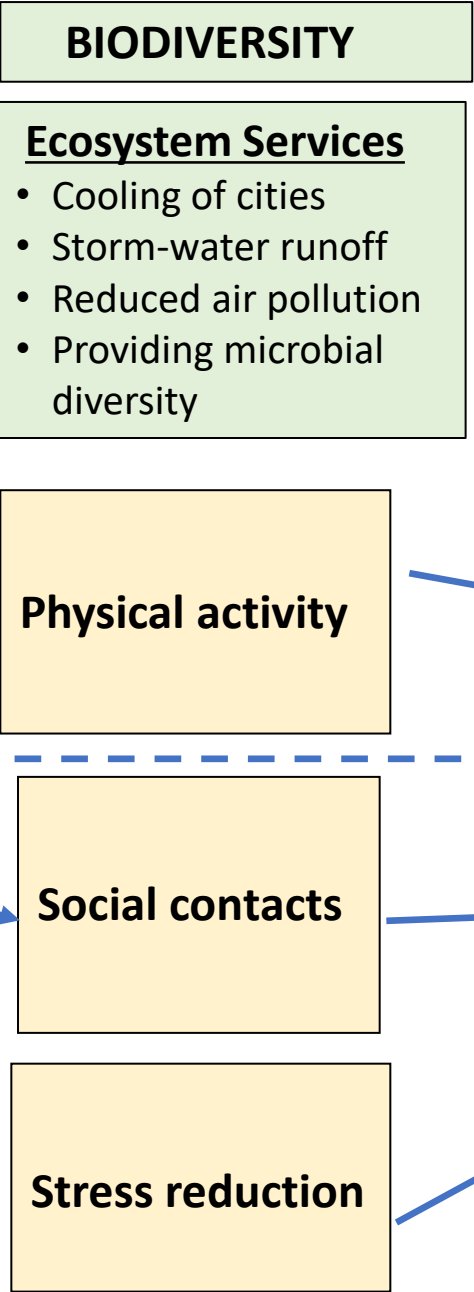


Promotes **physical activity**



Decreases the **urban heat island effect**

# Urban Green Space Reduces Disease Risk



### Reduce the risk of

- Depression
- Cardiovascular diseases and mortality
- Stroke
- Diabetes
- Asthma
- Cancer

### Increase levels of

- Mental well-being
- Happiness
- Academic performance
- Memory capacity
- Sleep quality

Adapted from Hartig et al. 2014:  
<http://www.annualreviews.org/doi/abs/10.1146/annurev-publhealth-032013-182443>



# Blue Spaces & Health

What is the link between health and spaces with water?



## What are blue spaces?



Natural spaces, like oceans or rivers



Artificial spaces, like ponds or fountains



## Limited scientific evidence

An ISGlobal review of

**35**

studies shows association with more **physical activity** and better **mental health**.



## Blue spaces & physical activity

People who live closer to a coast or a river were more likely to walk more than

**300** minutes per week



(Wilson et al. 2011)



## Blue spaces & mental health

People who live within



**5km**

of a coast report better mental health

(White et al. 2013)

# The Health Benefits of Natural Spaces

ISGlobal

## ADULTS

- Stress reduction
- Improved life expectancy
- Better general mental and physical health
- Improved cognitive performance
- Improved sleep quality
- Reduction in cancer risk



## CHILDREN

### Improvements in:

- Attention capacity
- Concentration
- Emotional and behavioural development
- Coordination
- Balance
- Agility
- Self-confidence
- Self-discipline
- Social skills
- Weight of newborns



- Further studies are needed to confirm these results





# THE HEALTH BENEFITS OF GREEN SPACES FOR ELDERLY POPULATION



## What Does Science Say?



Older people living in neighborhoods with more green space show:

- lower risk of cardiovascular disease
- slower cognitive decline
- slower decline in walking speed
- lower mortality
- better general health
- greater life satisfaction
- less stress



## GREEN SPACES AND MENTAL HEALTH

A study led by ISGlobal estimates that implementing **Green Corridors** throughout the city of **Barcelona**:

 **COULD REDUCE:**

**14%** of cases of self-perceived mental ill health



**13%** of visits to mental health professionals



**13%** of antidepressant use



**8%** of the use of tranquillisers or anxiolytics



 **AND INCREASE:**

**5,7%** of Barcelona's green surface



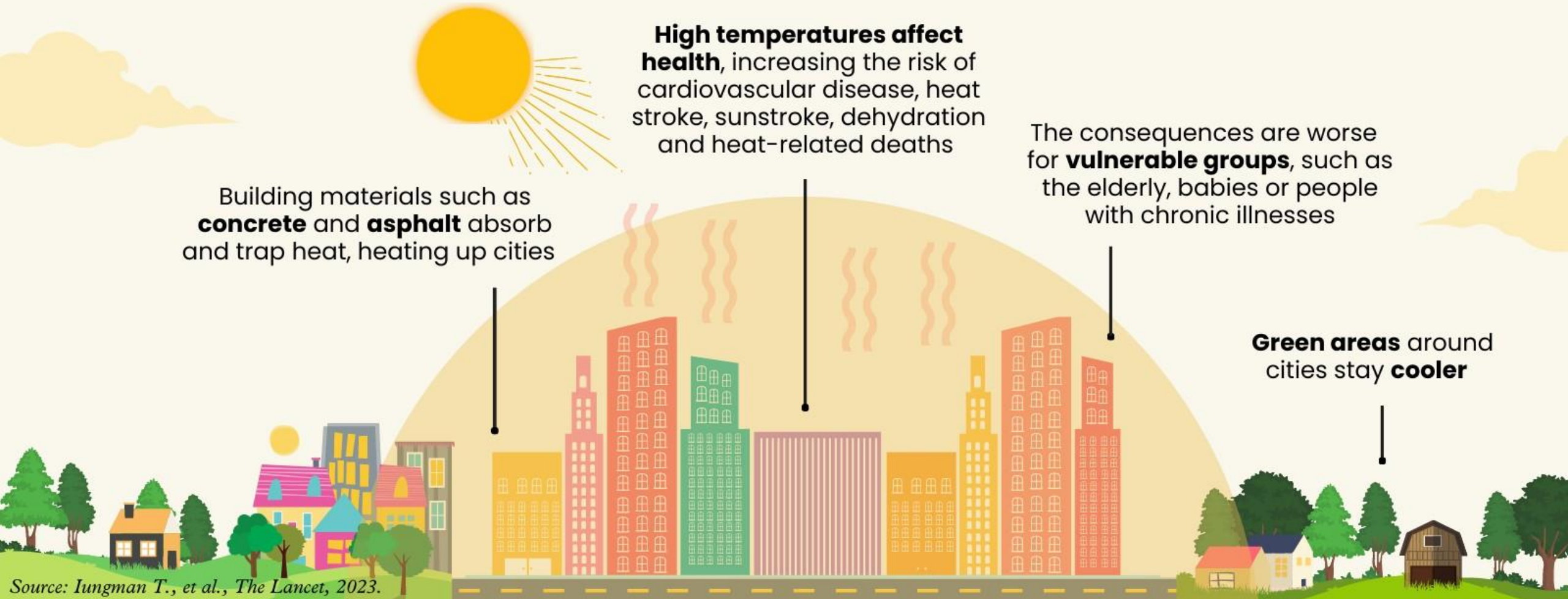
Estimated savings in direct and indirect mental health costs are:

**45 million euros per year**



# The urban heat island effect

Refers to the **increase in temperature** in **urban environments** compared to surrounding areas.



# Over 4% of summer mortality in European cities is attributable to urban heat islands



30%

Increasing **tree cover**  
in cities to **30%**



can reduce the  
**temperature** of  
urban environments  
by up to **1.3 °C**



and **prevent 1/3 of  
premature deaths**  
attributable to urban  
heat islands in summer

Source: Iungman T., et al., *The Lancet*, 2023.



[isglobalranking.org](https://isglobalranking.org)

**CITIES IN EUROPE  
COULD PREVENT UP TO**

**43.000** **deaths**  
**each year**

if they achieved the WHO  
recommendations on access to

**green space.**

Over

**60%**

of population has  
insufficient access  
to green space.

**#ISGlobalRanking**

**ISGlobal** \_\_\_\_\_ **Ranking Of Cities**



# Challenges

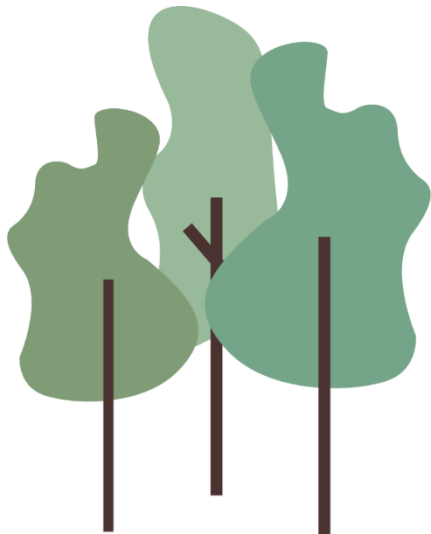
**Distribution and use of public space**

**Current urban and mobility models**

**Loss of biodiversity**

# + Opportunities for nature

- **Change the environment to facilitate behavior change**
- **Protect common goods**
- **Benefit mental and physical health**
- **Increase energy efficiency**
- **Reduce heat and other climate impacts**
- **Nature as an investment (and not a cost)**



# 3-30-300 Rule







## Tool for assessing determinants of health in public space

Tool that allows municipal technicians and project drafters to assess the determinants of health in proposals for the improvement or creation of new public spaces.

[Learn more about the tool](#)

[Start the questionnaire](#)

For completed questionnaires:

[Compare two reports](#)

[Retrieve a report](#)



### Public Space and Health

This portal offers a tool for municipal technicians and project drafters to assess health determinants in proposals for the improvement or creation of new public spaces.

[Entorn Urbà i Salut web](#)

[Equipaments i Espai Públic web](#)

[Sustainable Development Goals](#)

[Contact us](#)

[Legal notice](#)



# Health Impact Assessment: A Scientific Tool to Build Healthy Cities

ISGlobal

## Impacts on health



It estimates the potential effects of a particular intervention on the health of the population.

## Reduction of Inequities



It assesses the distribution of these effects across the population, e.g. by socioeconomic vulnerability.

## Decision making



It helps stakeholders make informed decisions before, during and after the intervention.

## Increasing use



An assessment in Barcelona demonstrated that a better urban planning could prevent 3,000 deaths annually.

# RECETAS Project: Re-imagining Environments for Connection and Engagement: Testing Actions for Social Prescribing in Natural Spaces



Date



# The Friends in Nature model



This group-based intervention, called “**Friends in Nature**” and is based on the Finnish model, “Circle of Friends®” developed by partners from the University of Helsinki.

Our main study hypothesis is: **Nature-based social interventions (NBSI)** among vulnerable people suffering from loneliness is more effective than usual social and health care on improving their health-related quality of life and alleviating loneliness during 3-,6- and 12-months follow up.

# RECETAS impacts



Guide NBS and green infrastructure investments to support population health and wellbeing



Improve real-world policy and practice to reduce loneliness by connecting people with professionals working in NBSP.



Reduce pressure on health care systems.





**COMMUNITY ACTIVATION FOR PREVENTION:  
A Community Gardening Research Study**

**Funding Acknowledgements**

American Cancer Society: Grant # 130091-RSG-16-169-01-CPPB

CU Population Center: Grant # 2P2CHD066613-06

## Key Results

- **Fiber boost** - By fall, those in the gardening group ate, on average, 1.4 grams more fiber per day than the control group—an increase of about 7%
- **More moderate-to-vigorous activity** – the gardening group increased physical activity levels by 42 minutes per week (almost 30% of the way to meeting international health advice)
- **Feeling better** – the gardening group saw their stress and anxiety levels decrease, and importantly, those who came into the study most stressed and anxious saw a greater reduction in their stress and anxiety

# European projects at the nexus of nature & health



Using nature for urban regeneration with and for citizens.



Sowing the seeds for increased nature-connectedness across Europe, Latin America and China.



Building individual and community resilience through nature-based therapies



An integrated, multi-scale approach for the expansion of nature based therapies for mental health

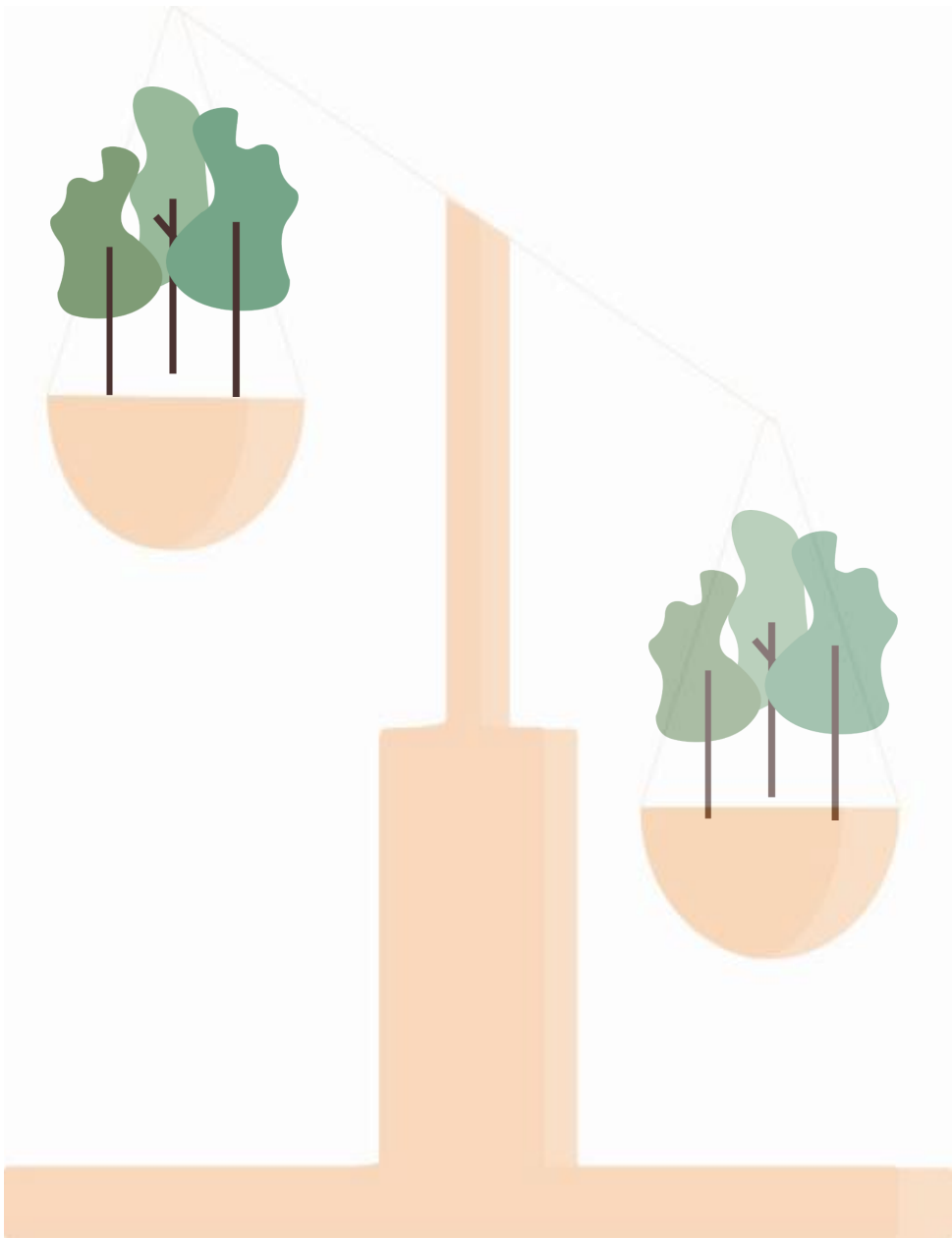


## health inequalities

Cities exacerbate inequity

Lower socioeconomic status is often associated with poorer health and less access to safe and quality nature





**The distribution of nature in a city is a key determinant of its impact on health**

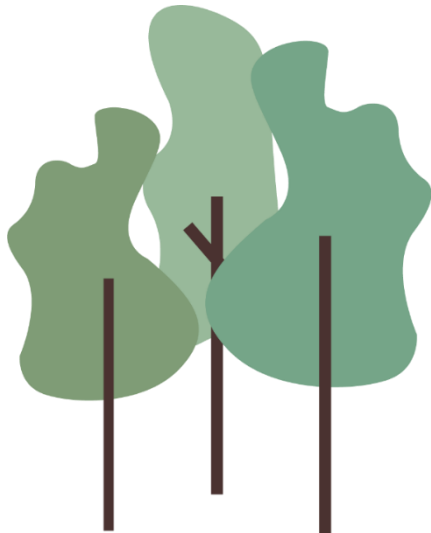
# Challenges

- **Paradigm shifts required**
- **Polarization and politicization of urban issues**
- **Disconnected agencies ie. climate, decarbonization and health**
- **Siloed ways of working**



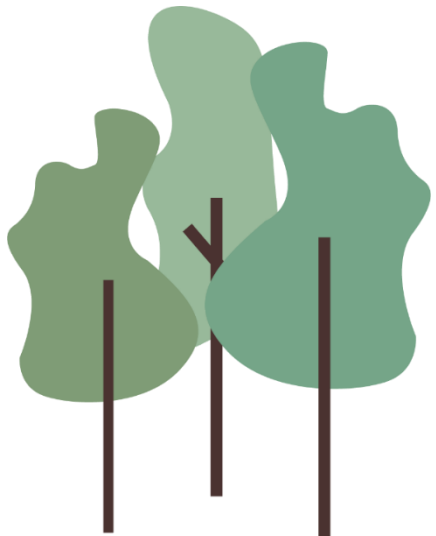
**Nature is our best ally to address many urban challenges.**

**Position and promote health as an effective and efficient entry point for action and transformation in different sectors**



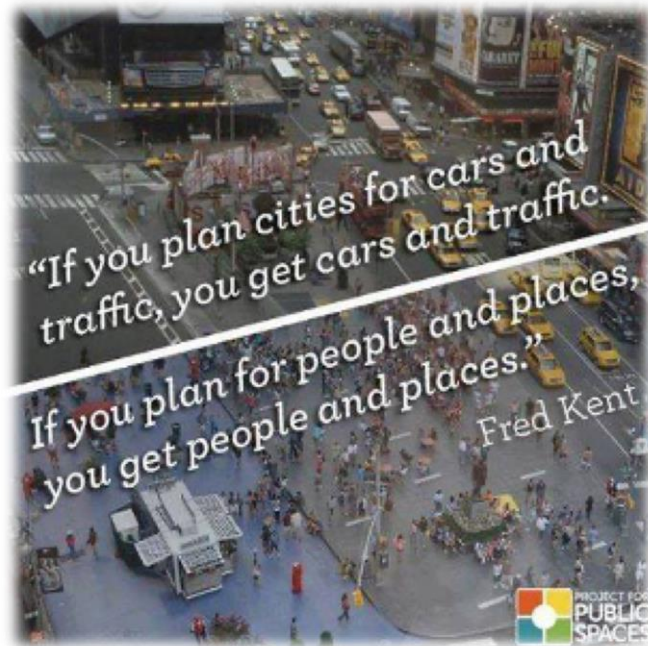
# Forests and Human Health

- 1. Forests, trees and green spaces impact human health across all life stages**
- 2. Positive health outcomes of forests, trees and green spaces significantly outweigh negative ones**
- 3. The health outcomes of forests are the result of several pathways that are dependent on context and individual lifestyles**
- 4. Forest-health relations offer solutions to global crises**
- 5. Integrative and cross-sectoral approaches need to be adopted to improve the forest-health link**



Policy Brief By:





# Thank you!

## Our team:

- Xavier Basagaña
- Aleix Cabrera
- Glòria Carrasco
- Payam Dadvand
- Judith Garcia
- Mireia Gascón
- Laura Hidalgo
- Tamara lungman
- Sarah Koch
- Sasha Khomenko
- Natalie Mueller
- Mark Nieuwenhuijsen
- Evelise Pereira
- Pau Rubio
- Carlota Sáenz
- Raul Toran
- Mònica Ubalde
- Inés Valls
- Matlida Van Den Bosch

[carolyn.daher@isglobal.org](mailto:carolyn.daher@isglobal.org)

<https://www.isglobal.org/urban-planning>

[www.isglobal.org/ca/ciudadesquequeremos](http://www.isglobal.org/ca/ciudadesquequeremos)