



National Institute for Public Health
and the Environment
Ministry of Health, Welfare and Sport



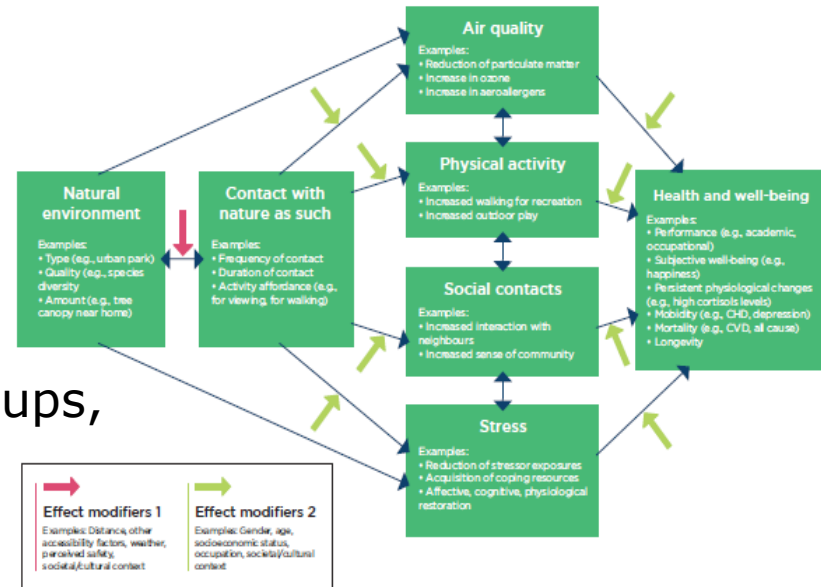
Blue Green Infrastructure- Interventions to improve health and wellbeing

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Impacts on Health and Wellbeing

- Positive effects on mental and physical health, through:
 - Reduction of stress levels
 - More physical activity
 - More social contacts
 - Better environmental quality
 - Reduction of heat stress
- In particular beneficial for lower SES groups, children, older people, pregnant women
- Also negative effects:
 - pesticides, herbicides, vector-borne diseases, allergies, drowning, exposure to UV, water pollution



Hartig et al., 2014



Blue green infrastructure in urban environments

- Threats:

- Urbanisation
- Economic value of land
- Disconnection from nature

- Opportunities:

- Renewed focus on benefits of blue/green space in Europe: from nature conservation towards nature based solutions
- Climate change adaptation

- Many inspiring policies and interventions

- Only few evaluated; little known about potential for upscaling
- Full potential often not used



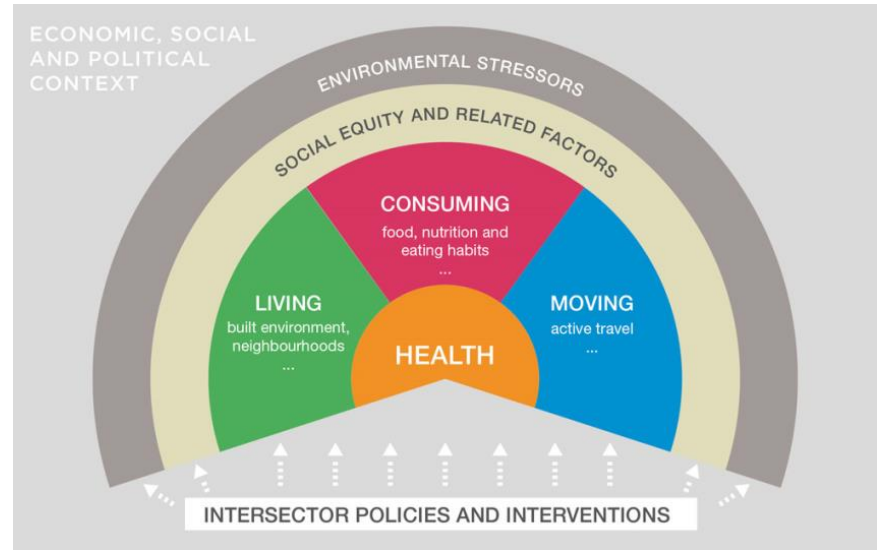


INHERIT
Health | Equity | Environment

INHERIT

Intersectoral Health and Environment Research for InnovaTION

- 48-month / 4-year Horizon 2020 project (2016-2019)
- 18 partners from around Europe, EuroHealthNet lead
- Focus on lifestyles and behaviours
- Identification and evaluation of promising **policies, practices** and **innovations** in Europe that create a triple win:
environmental sustainability, health, and equity





Evaluation of interventions in INHERIT project

- Living, moving, consuming
- In 12 pilot projects:
qualitative evaluation of
collaboration between stakeholders
- In 6 pilot projects:
quantitative evaluation of impact on
health behaviour and impact on
triple win
- In 3 pilot projects:
cost benefit analyses

Pilot study

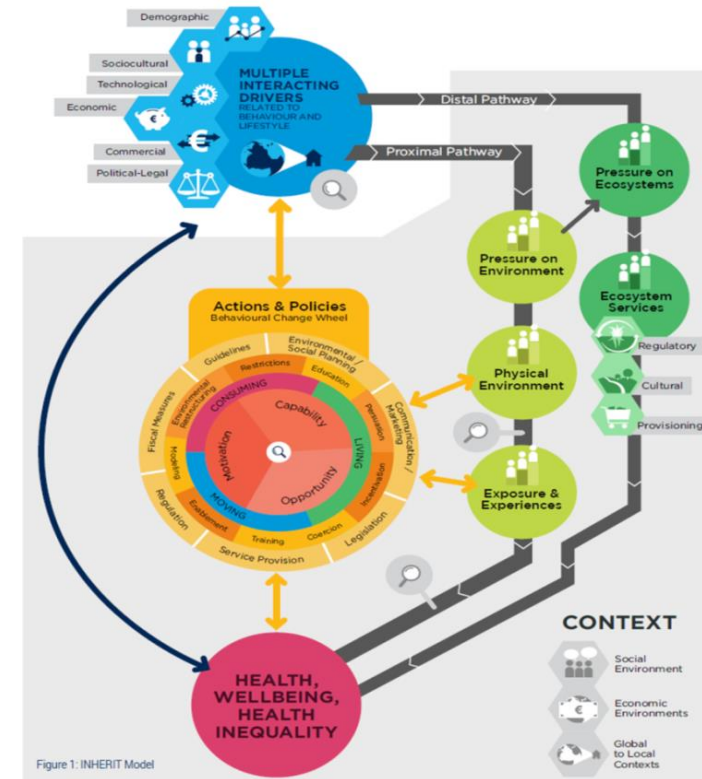
1. Food garden
2. Gardening with green gyms for meat free Mondays
3. GemuseAckerdemie
4. Ghent en Garde
5. PROVE
6. Restructuring residential areas
7. Restructuring green space
8. Sustainable food in public schools
9. Thinking Fadura
10. Place Standard Tool Riga
11. Place Standard Tool Macedonia
12. Urban Cyclers
13. Eco Inclusion
14. Malvik Path
15. Retrospective analysis on energy efficient investments
16. Lifestyle e-coaching



INHERIT Framework

Based on several conceptual models:

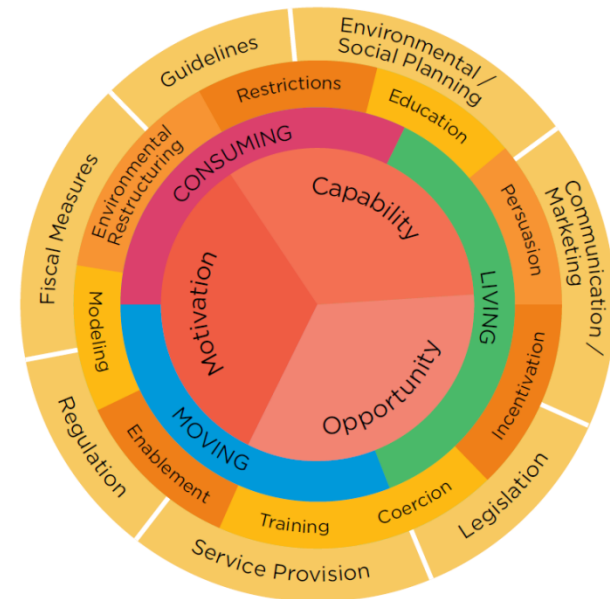
- Drivers: DESTEP
- Environment & health: eDPSEEA (Reis et al., 2013)
- Behaviour: Behavioural Change Wheel (Michie et al., 2011)
Capability, Opportunity, Motivation





Stimulating use of bluegreen infrastructure

- Opportunity/motivation:
 - ✓ Provide green space that is attractive, safe, easily accessible, within (perceived) walking distance, involve community, make it fun
- Capability:
 - ✓ Provide education & information, organise activities
 - ✓ Consult or involve potential users in the design
 - ✓ Combine both downstream and upstream measures



Mitchie et al., 2014



Promising practices

- Blue space:
www.bluehealth.eu > community interventions
- Greenspace:
<http://inherit.eu/db-results/>

The screenshot shows the INHERIT Database interface. At the top, there is a navigation menu with links for ABOUT, PROJECT, PROMISING PRACTICES, FORUM 2018, MEDIA, and RESOURCES. Below the menu is a dark blue header with the word "Database". A search bar is located on the left side, with a search button labeled "ABOUT THIS DATABASE". The search results are displayed on the right side, showing "Found 20 Results". The results list includes:

- Green belt and green area program in Vitoria-Gasteiz
- GOSASUN concrete initiative "Thinking Fadura"
- Deglavas street Landfill
- Pocket Parks
- Madrid Rio – urban infrastructure redevelopment plan
- Travel Smart and Your 30
- Bee Urban – social entrepreneurship to promote a greener city and local commitment
- Die Essbare Stadt Andernach (Edible City Andernach) – urban gardening plan

On the left side, there are filters for "EUROPEAN COUNTRY/COUNTRIES" and "FIELD". The "EUROPEAN COUNTRY/COUNTRIES" filter includes checkboxes for Austria, Belarus, Belgium, Bulgaria, and Croatia. The "FIELD" filter includes checkboxes for "Urban food gardens", "Living/Green space: Improving availability, quality and use" (which is checked), "Living/Green space:", and "Other".



Example Bluehealth: Flevopark Amsterdam

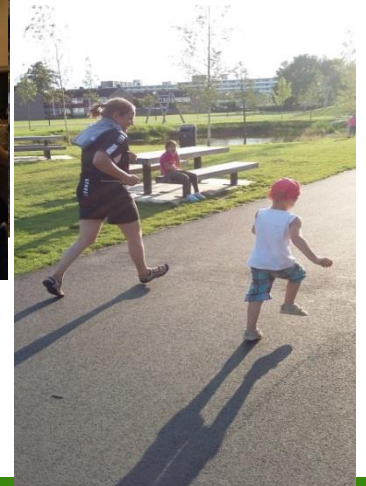
- Creating more places for outdoor swimming in Amsterdam > Flevopark
- Opposed by nature conservists
- As part of Bluehealth project:
pre intervention observations of use (BBAT) and interviews with stakeholders
- Intervention not realized 'because of heavy metals in soil/water'
- Of interest:
 - How to balance opposing interests?
 - How to balance positive and negative impacts on health and wellbeing?





Example INHERIT- Restructuring greenspace

- Restructuring park in low-income neighbourhood in Breda (NL) involving residents and other stakeholders
- Activities organized together with residents
- As part of INHERIT: Observations of use (SOPARC), evaluation of collaboration between stakeholders (focus groups)
- Baseline data available





Conclusions and recommendations

- Despite contradictory evidence, bluegreen infrastructure has a potential positive effect on health and wellbeing, but we should not neglect the negative effects
- Bluegreen infrastructure under pressure, but the renewed attention offers new opportunities
- Size of blue/green space not the only thing that matters, but also usability, attractiveness, and safety, among other factors
 - > involve users in the design
- How to balance risks vs. benefits, how to balance opposing interests?
- Many inspiring policies and interventions. Full potential often not used
More evaluation needed; little known about potential for upscaling
- INHERIT and Bluehealth help to improve our insights



More information

INHERIT website

www.inherit.eu

Baseline Report

<http://inherit.eu/baseline-report/>

Database Promising Practices

<http://inherit.eu/db-results/>

Conceptual Framework

Int J Environ Res Public Health.
2018 Jul 7;15(7).

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