Urban green space interventions and their impacts

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Environment and health: long-standing intersectoral collaboration
Political frameworks for our work on green space and health

- **Parma Declaration** commitments:
  By 2020: “to provide each child with access […] to **green spaces** in which to play and undertake physical activity”

- **SDG agenda “Leaving no-one behind”**
  SDG 11.7: “provide universal access to **safe, inclusive and accessible, green and public spaces**, in particular for women and children, older persons and persons with disabilities”
Health 2020: the European policy for health and well-being

- Improving health for all and reducing health inequalities as one of the strategic objectives

- Creating supportive environments and resilient communities as one of the priority areas

- Intersectoral action and partnerships as means to deliver the policy

=> Cities and communities as a major setting to be addressed
Increasing relevance of urban settings in WHO work on environment and health

- Cities and specifically urban green spaces and health discussed at 5th Environment and Health Task Force meeting in November 2015
  - Skopje, 2015

  - Bonn, 2016

- “Cities” as a key theme for the 2017 Ministerial Conference on Environment and Health
  - Ostrava, 2017
OASES IN COPENHAGEN

DON'T KNOW WHERE TO GO?
SPIN THE WHEEL AND FIND OUT!
SCAN THE QR CODE, GET DIRECTIONS
OR LOOK AT THE MAP
VISIT THE PLACE
ENJOY THE MOMENT
TAKE A PICTURE AND SHARE IT
#OASESINCOPENHAGEN
Aim of the project on green space interventions

To explore which green space intervention components work and deliver the best results from health and equity perspective

Working papers:

- Review of evidence on urban green space interventions and their impacts on environment, health and equity;
- Exploration of local case studies on urban green space interventions and lessons learned;
- Compilation of Health Impact Assessment (HIA) / Environmental Assessments (EIA/SEA) experiences and impacts on green space planning.
Urban green space (intervention) definition

- The intervention is based on urban green space changes such as:
  - creating new green space,
  - changing or improving green space characteristics, use and functions, or
  - removing / replacing green space;
- It is implemented in publicly accessible green spaces.

- It may include social / promotion activities based on the physical changes, but not as the exclusive intervention
Urban green space interventions

- Key findings –

drawing from working papers prepared by
- Andrey Egorov et al. (health impacts of urban green spaces),
- Ruth Hunter et al. (evidence review on green space interventions),
- Annette Rebmann et al. (local intervention case study review),
- Thomas Fischer et al. (impact assessment and green spaces)
Environmental quality relates to overall health of population (Kjellstrom et al. 2007; Croucher et al. 2007; Australian Institute of Health and Welfare 2011).

Accessible green space and involvement in local community activities is linked to longevity among senior citizens in densely populated urban areas (Takano et al 2002).


Pathways to health

Green spaces of various types and sizes

Types of green space uses

Demo-graphic factors

Relaxation and restoration

Improved social capital

Improved immune system functions

Enhanced physical activity

Noise and air pollution buffering

Reduced urban heat island

Optimal exposure to sunlight

Improved mental health

Reduced CVD morbidity

Reduced type 2 diabetes

Better pregnancy outcomes

Reduced CVD and all-cause mortality

Green space interventions and health
Evidence review on green space interventions

**IDENTIFICATION**
Studies identified through database/hand searching; N=6997

**SCREENING**
Studies screened; N=4784

**ELIGIBILITY**
Full-text articles assessed for eligibility; N=224

**INCLUDED**
Studies included in evidence synthesis; N=38

**Key characteristics:**
- Study design (before-after comparison)
- Measures (including changes to the physical environment)

Studies excluded; N=4560

Full-text articles excluded with reasons; N=168:
- N=119 not UGS-based intervention
- N=53 not appropriate study design
- N=9 study protocol
- N=5 no full-text available
### Evidence review on green space intervention effectiveness

<table>
<thead>
<tr>
<th>Promising evidence</th>
<th>Mixed/inconclusive evidence</th>
<th>Limited or no evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Park-based interventions combined with social promotion programmes (7/7)</td>
<td>Park-based interventions without social promotion programmes (2/6)</td>
<td>Cooling buildings (1/1)</td>
</tr>
<tr>
<td>Greening of vacant lots (4/5) and street trees (4/4)</td>
<td>Greenways/trails (3/6)</td>
<td>Green walls, allotments, urban agriculture (0/0)</td>
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<tr>
<td>Storm water management (6/7)</td>
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<td>Long-term impacts</td>
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<td></td>
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<td>Economic benefits</td>
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<td>Adverse/unintended consequences</td>
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<td>Differential impacts on equity factors</td>
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</tbody>
</table>
Too little evidence to draw firm conclusions on the impact of urban green space interventions on a range of equity indicators

Equity Factors addressed in green space intervention studies

*Studies may report PROGRESS-Plus factors in more than one way
48 European green space intervention case studies

Countries of origin

- UK / England: 14
- UK / Scotland: 7
- Germany: 7
- Turkey: 6
- Denmark: 2
- Norway: 1
- Portugal: 1
- Israel: 1
- Russia: 1
- Finland: 1
- Italy: 1
- UK / Wales: 1
- UK / N. Ireland: 1
- Hungary: 1
- Estonia: 1
- Croatia: 1
- Sweden: 1
**Type of green space modified – 48 European case studies**

**Focus on parks or larger green spaces**

- **Public park or similar**: 21
- **Enclosed green spaces (school yard etc.)**: 6
- **Linear green spaces next to streets or train tracks**: 4
- **Green space mainly for sports activities**: 2
- **Riverside areas with green spaces**: 2
- **Playground or similar**: 1
- **Other type of urban green space**: 12
Intervention objectives reported by case studies

Focus mostly on environmental and active lifestyle outcomes

- Creating/maximizing urban environment benefits (32 total): Main objective - 22; Secondary objective - 10
- Promoting active lifestyle (22 total): Main objective - 12; Secondary objective - 10
- Enabling social equity and environmental justice (11 total): Main objective - 6; Secondary objective - 5
- Reducing health impacts (9 total): Main objective - 5; Secondary objective - 4
- Other objectives (5 total): Main objective - 3; Secondary objective - 2
Expected environmental outcomes reported by case studies

Expected active lifestyle promotion outcomes reported by case studies
Expected equity and cohesion outcomes reported by case studies

- Improvement of urban quality in disadvantaged areas
- Provide equal access to green spaces
- Green spaces for better social interaction
- Barrier-free environments accessible for all
- Gardening and access to healthy food for all social groups

Expected health outcomes reported by case studies

- General improvement of quality of life
- Promotion of mental well-being
- Prevention of diseases
Targeting of the interventions mostly done through the selection of the location

**Site of implementation**
- In one specific city quarter or neighbourhood: 23
- Across the whole city / town: 10
- In several parts of the city / town: 7
- In a specific functional setting (school, care centre): 4
- In another target area: 4

**Target group**
- All residents of the respective area: 37
- Elderly (60 years and above): 0
- Adults (20 to 59 years): 2
- Adolescents (13 to 19 years): 0
- Children (up to 12 years): 5
- Other target groups: 4
Process and outcome evaluation of the case studies: an area for improvement!

Process evaluation (n=47)

- Yes: 9
- No: 7
- Don't know: 31

Outcome evaluation (n=47)

- Yes: 15
- No: 29
- Don't know: 3
Data on intervention impacts (n=38 case studies)
Outcomes mainly collected active lifestyle and environmental data

…but more detailed information suggests that much of these data are vague, self-reported or observational.
Case study patterns

Intervention settings and context:
- Gardening and ‘edible’ green spaces
- Schools and institutional settings
- Combination of environmental with social interventions

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Case study patterns

Intervention settings and context:
- Brownfield interventions and area regeneration
- Combination with blue spaces
- Various spatial scales: playground ⇔ woodlands
Case study patterns

Implementation approaches

- Low-budget approaches
- Social cohesion focus / targeting disadvantaged areas
- Collaboration and partnership networks
Recommendations for urban green space interventions

- Multi-faceted (health, social and environmental)
- Multi-disciplinary action / dual approach
- Long-term management and maintenance
- Context-specific green space measures
- Engagement of local community

*More complex than “build it and they will come”*
Conclusions

- **Diversity of urban green spaces** makes it impossible to derive “one size fits all” conclusions
- Urban Green Space = important role for creating a “culture of health” including “social health”
- Yet: health and equity effects mostly as co-benefit
- **Under-evaluated** in research and practice
- Opportunity for delivering **multiple benefits**
- **Additional work (evaluations!) needed** to inform policy research and practice
- Benefits of urban green space reflected by **local action**
- **Dual approaches** most promising (“space” and “place”)
Next steps / deliverables

Technical WHO report on urban green spaces and health – forthcoming in few weeks

Technical WHO report on urban green space interventions to
- Summarize discussion and conclusions
- Make working papers available to the expert community

WHO brief on urban green space action to
- Inform local practitioners on green space benefits
- Provide practical guidance on urban green space interventions and how to maximize their health and equity outcomes
Suggested structure for the brief (12-pager)

- **WHY?** Context / introduction
- **WHO?** Target audience
- **WHAT?** Description of urban green space interventions and their local benefits
- **HOW?** Provision of validated good practices and suggestions for planning, implementing and evaluating urban green space actions
- **SO WHAT?** Overall key messages