Natural Environments, health and wellbeing in Sheffield - population level associations

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Improving wellbeing through urban nature (IWUN)

- Epidemiology - Mapping health inequalities & access to green space
- Cultures and values of nature, health & wellbeing
- App based intervention to connect people with nature
- Identifying and costing the ‘best’ urban nature interventions for mental health
SHEFFIELD’S ADMINISTRATIVE GEOGRAPHY

Our analyses use Lower-layer Super Output Areas (LSOAs) as an aggregated spatial unit. LSOAs are an administrative geography commonly used for census data analysis. Each LSOA has a population of around 1500, and boundaries are drawn to socially homogenous areas. Sheffield contains 345 LSOAs, the boundaries of which are shown in this map.

The online version of this atlas (www.iwun.uk/map) has the option to use a backdrop (like the one shown here) against all maps, to facilitate identifying particular areas in Sheffield.
Findings

• Urban populations across Sheffield do not have equal access to natural environments
• The quality of urban green spaces (e.g. its cleanliness and landscape structure) may be just as important as its quantity and distribution
• Different aspects of urban green spaces are salient for different health conditions
• People in different demographic groups may have different requirements from greenspaces
POOR GENERAL HEALTH

This health outcome is derived from the 2014 census question, "How good is your health in general?". This measure of general health is associated with objectively assessed physical, mental and social health factors, as well as all-cause mortality[1].

The main map shows standardised poor health, i.e. the ratio of observed to expected counts, where the expected counts are calculated from the LSOA’s age and sex distribution.

COUNT OF OBSERVED CASES

<table>
<thead>
<tr>
<th>Count Range</th>
<th>Legend</th>
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<tbody>
<tr>
<td>12-52</td>
<td>Light Pink</td>
</tr>
<tr>
<td>53-77</td>
<td>Red</td>
</tr>
<tr>
<td>78-103</td>
<td>Deep Pink</td>
</tr>
<tr>
<td>104-125</td>
<td>Purple</td>
</tr>
<tr>
<td>126-252</td>
<td>Black</td>
</tr>
</tbody>
</table>

RATIO OF OBSERVED: EXPECTED CASES

- Less poor health than expected: 0.26-0.57
- 0.57-0.81
- 0.81-1.07
- 1.07-1.50
- More poor health than expected: 1.50-2.29
Unequal access to natural environments

a) Households within 300m of any publicly accessible greenspace

Households within 300m of a ‘good’ (large, natural-feeling, high quality) publicly accessible greenspace
Statistically significant relationship between garden size and poor general health in England controlling for: income, employment, education, pollution, smoking, population density, house price and geographic region.

Fig. 1 Strength of association between general health and average garden size, accounting for confounders (with 95% CI)
Lower incidence of poor health associated with greenspace composition and configuration

Diversity of tree habitats

Proportionally less grass cover

Good interspersion of green and grey covers

Presence of water cover

Some large greenspace (not all small)
Higher rates of greenspace cleanliness associated with lower rates of depression
Childhood obesity

• Higher tree density in 100m radius associated with lower rates of obesity in reception year and year 6 children in Sheffield

• High rates of access to good quality (large, natural feeling, high quality) green space within 300m associated with lower levels of obesity

Figure 1. Quintiles of childhood obesity in Sheffield LSOAs. Reception Year (age 4-5) obesity, as (a) ratios of observed to expected (calculated by indirect standardisation) counts and (b) observed counts. Year Six (age 10-11) obesity as (c) ratios and (b) observed counts.
AN ATLAS OF SHEFFIELD’S GREEN SPACES

Improving wellbeing through urban nature
References


