



Public Health
England

East Anglian Planning and Biodiversity Seminar: Thursday 22nd November 2018

Spatial Planning for Health: Green Infrastructure

Carl Petrokofsky, FFPH
Public Health Specialist Advisor
Healthy Places team
Public Health England

In 2007, a new edition of the Oxford Junior Dictionary was published aimed at seven-to-nine-year-olds. OUP deleted a series of words as they were no longer considered relevant to modern day childhood, including:

Acorn, adder, ash, beech, bluebell, buttercup, conker, cowslip, crocus, cygnet, dandelion, fern, gorse, hazel, heather, heron, horse chestnut, ivy, kingfisher, lark, minnow, newt, otter, pasture, poppy, starling, sycamore, wren, willow -

blackberry was replaced by Blackberry



Contents

- **Public Health England (PHE)**
- **Reflections on Health, Health Inequalities and Place**
- **What we know**
- **Evidence into policy and practice**
- **Concluding Thoughts**

Public Health England

PHE is the expert national public health agency that fulfils the Secretary of State's statutory duty to protect health and address inequalities, and executes his power to promote the health and wellbeing of the nation.

Our functions and the things we deliver to our stakeholders:



We do this through world-class science, advocacy, partnerships, knowledge and intelligence, and the delivery of specialist public health services.



Healthy People Healthy Places

The way we plan, design and manage the territory of places, spaces, facilities and buildings within our everyday community can have an impact on health, from either a positive and negative perspective (RCEP, 2007).



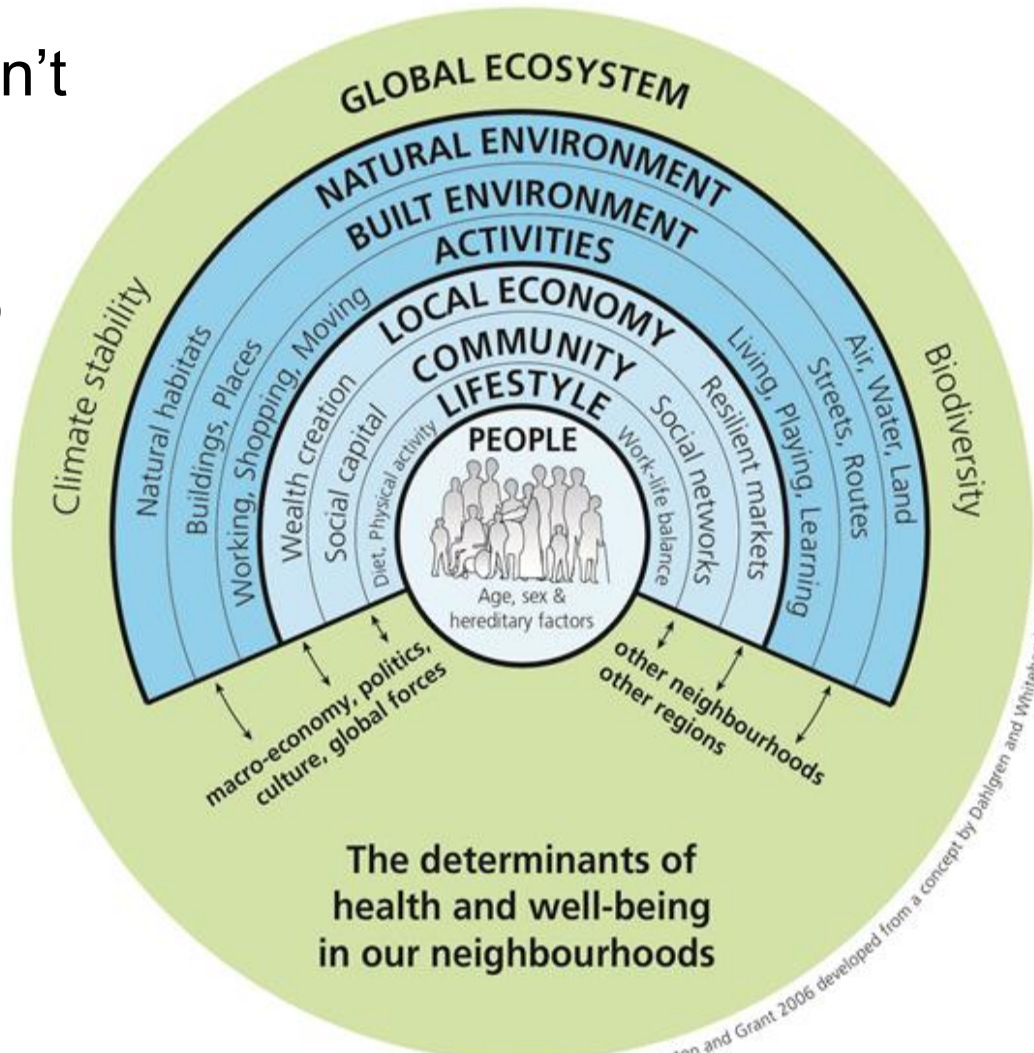
Your health is determined by:

where you don't
live

what you do

who you are

where you live



The way we design and build our towns can promote good health and wellbeing



- promote physical activity in everyday life (walking, cycling)
- can help people maintain healthy weights
- facilitate easy access to healthy, affordable food
- Prevent injuries,
- Promote socially connected neighbourhoods,
- cleaner air
- economic development

What is a Healthy Community



Our Vision: Building a Healthy Community

A healthy community is a good place to grow up and grow old in. It is one which supports healthy behaviours and supports reductions in health inequalities.

It should enhance the physical and mental health of the community and, where appropriate, encourage active healthy lifestyles and healthy living environments for people of all ages

(Source: National Planning Practice Guidance)





Health Inequalities

Health inequalities are differences between people or groups due to social, geographical, biological or other factors. These differences have a huge impact, because they result in people who are worst off experiencing poorer health and shorter lives.

Some differences, such as ethnicity, may be fixed. Others are caused by social or geographical factors (also known as 'health inequities') and can be avoided or mitigated



Health Inequalities in England



Life expectancy gap:

9.1 years

Healthy life expectancy gap:

18.7 years



Life expectancy gap:

7.2 years

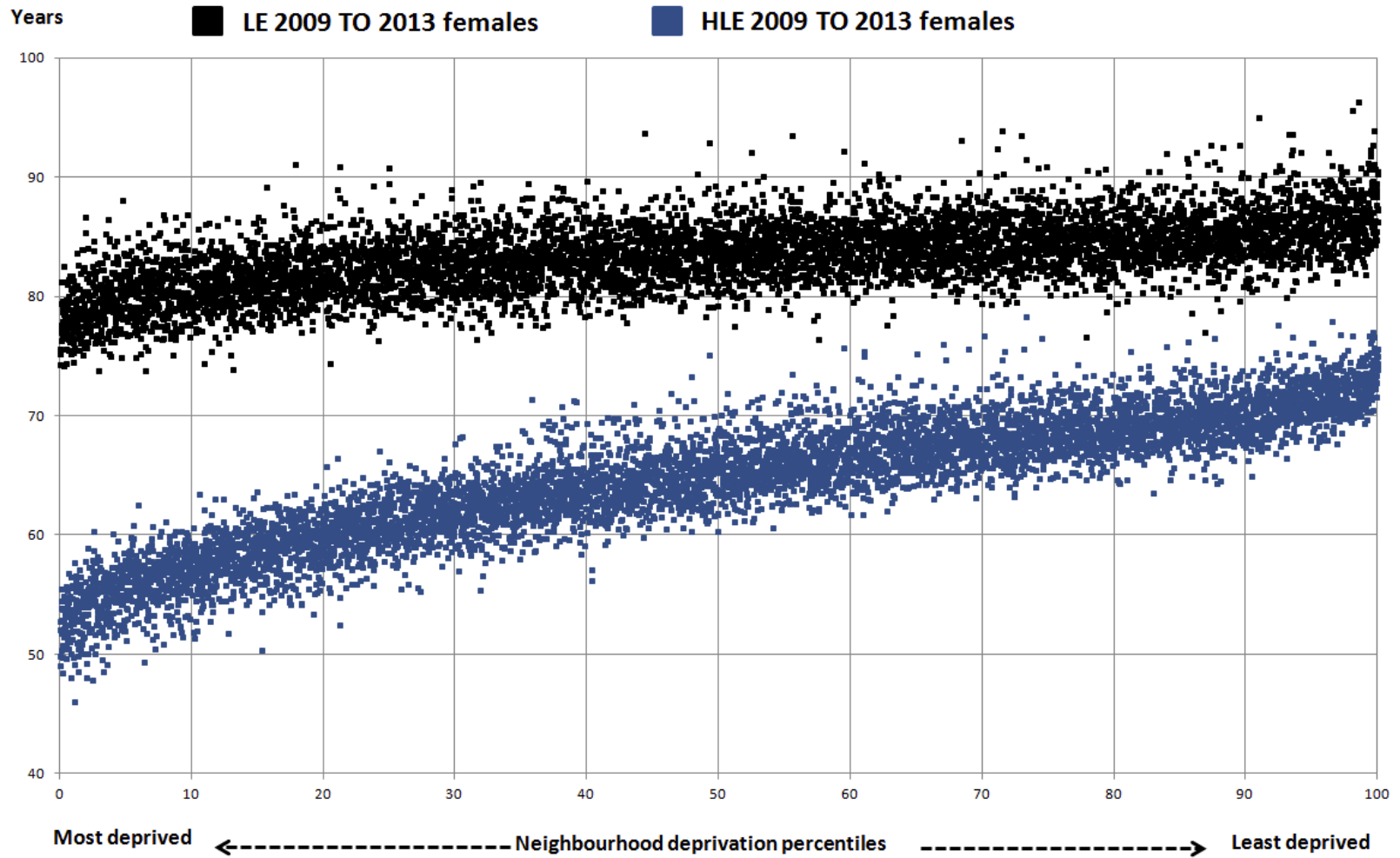
Health life expectancy gap:

19.1 years

Source: Most recent data from PHOF, showing gap between LSOAs in the most and least deprived deciles, 2013-15



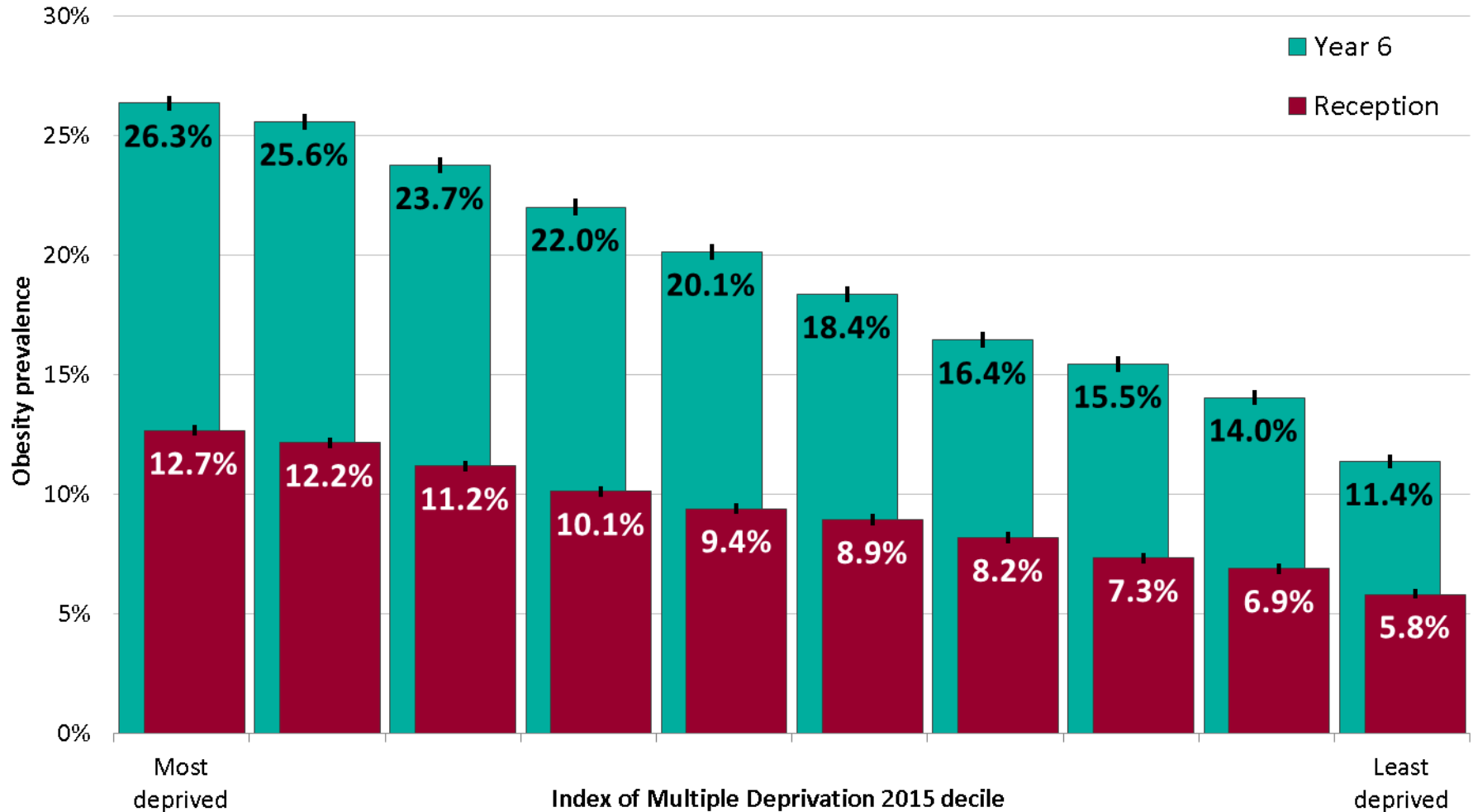
Health Inequalities in England (Females)





Obesity prevalence by deprivation decile

National Child Measurement Programme 2016/17



Child obesity: BMI \geq 95th centile of the UK90 growth reference.



Inequalities in the built environment:

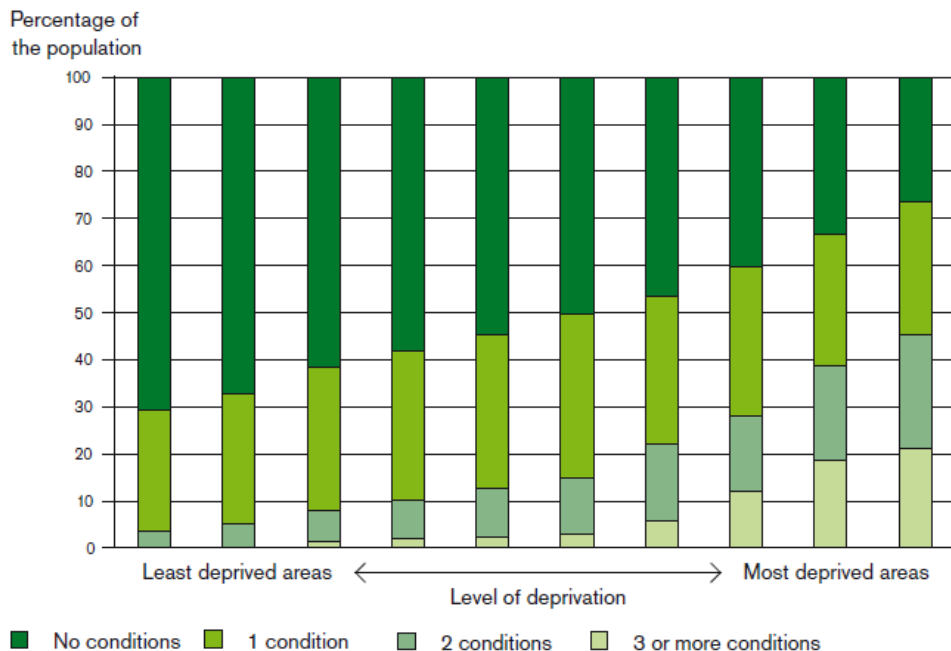
Feature	Most deprived areas	Least deprived areas
Density of fast food outlets	114.1 per 100,000 population	61.4 per 100,000 population
Overcrowded households	7.7%	3.4%
Households in fuel poverty	14.0%	8.1%

Source: Public Health Outcomes Framework, February 2018



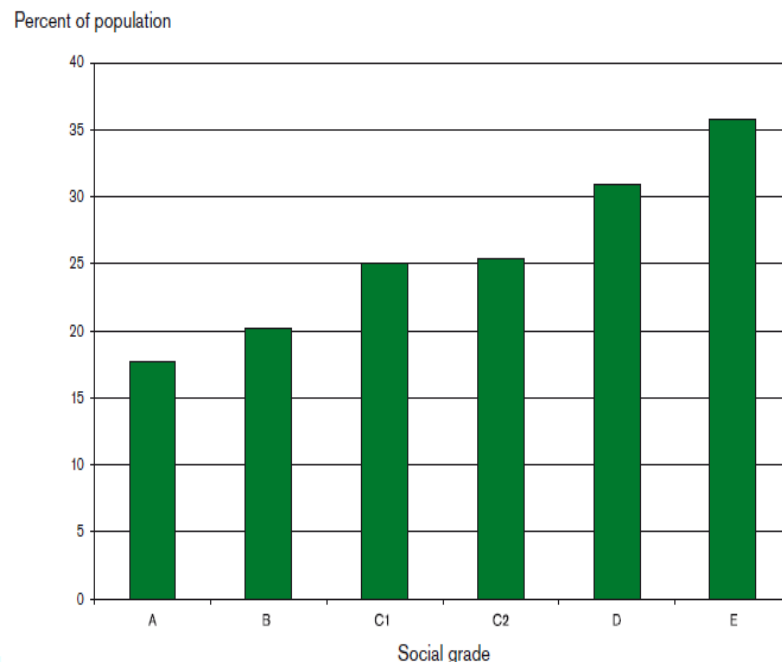
Inequalities in the natural environment

Figure 10 Populations living in areas with, in relative terms, the least favourable environmental conditions, 2001–6



Environmental conditions: river water quality, air quality, green space, habitat favourable to biodiversity, flood risk, litter, detritus, housing conditions, road accidents, regulated sites (e.g. landfill) Source: Department for Environment, Food and Rural Affairs²³

Figure 4.7 Percentage of population by social grade who visit a green space infrequently in a year, 2009



Source: Department for Environment, Food and Rural Affairs, Energy Savings Trust⁴²⁶

Source: The Marmot Review. Fair society, healthy lives. 2010



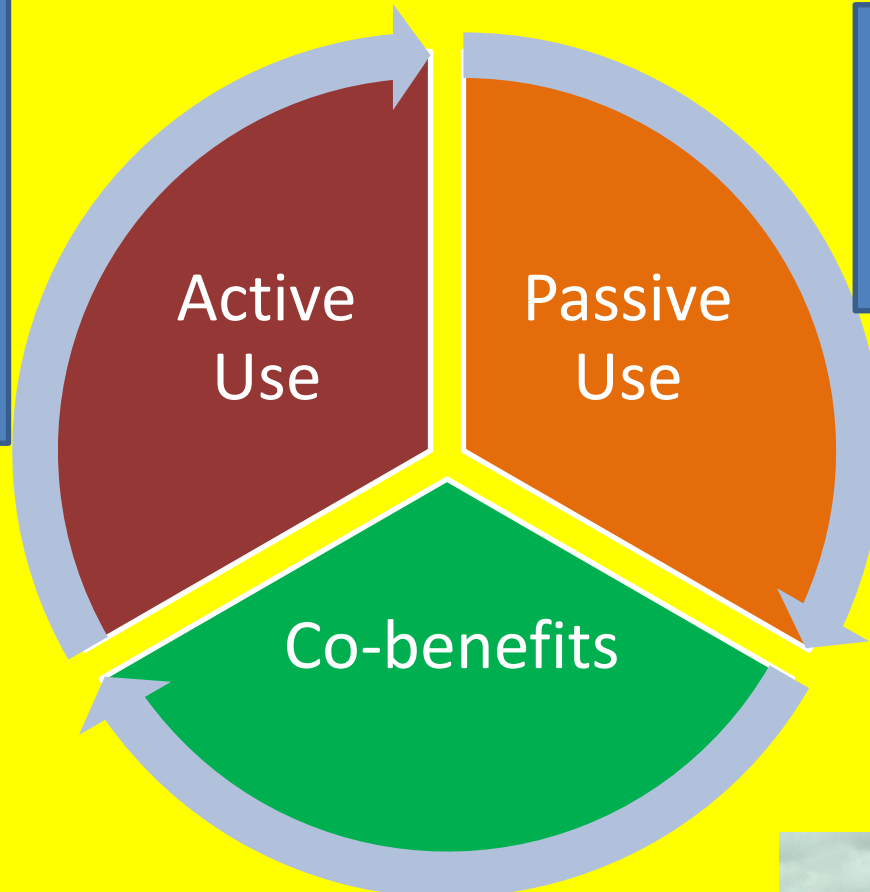
Public Health
England

Why Place Matters: Green (and Blue) Infrastructure and Health



A Framework for the considering Health and Natural Environment

Public parks and Green Space as venues for physical health, recreation and connecting with nature
The positive effects of green and blue space on mental health and social support networks



Physical qualities of green and blue space which moderate adverse environmental hazards and promote wellbeing



The wider economic benefits of public green space (parks) (property values, tourism, cafes and kiosks)



Evidence: Natural Environment

Direct health benefits from:

- Improved mental wellbeing
- Higher levels of physical activity
- Community cohesion
- Reduced social isolation

Indirect health benefits from:

- Mitigating adverse impacts: air quality; noise; heat; flooding, climate change
- Helping people appreciate the importance of nature and the need to protect it for future generations

Greater health benefits from environments that are:

- Biodiverse, clean, well maintained, safe, as well as those that are available in greater proximity and quantity



Refs: PHE. Local Action on Health Inequalities: Improving access to green spaces. 2014; Defra. Evidence Statement on the links between natural environments and human health. 2017

Inequalities: Key statistics

- Older people live longer in areas where there is more green space close to their homes.
- Children who live close to green spaces have higher levels of physical activity and are less likely to experience an increase in BMI over time
- People living in the most deprived areas are 10 times less likely to live in the greenest areas
- The most affluent 20% of wards in England have 5 times the amount of parks or general green space compared with the most deprived 10% of wards

Guildford-
top 10 least
deprived



Rochdale-
top 10 most
deprived

Inequalities: key messages

- Groups who **use green space least have the most to gain** through health, wellbeing and social benefits
- People living in areas with **high deprivation** are more likely to have **less access** to green spaces
- It is important to understand **who** accesses the natural environment and why and what **barriers and enablers** to access are for different groups.
- **Proximity** to green spaces is a key factor in promoting usage.

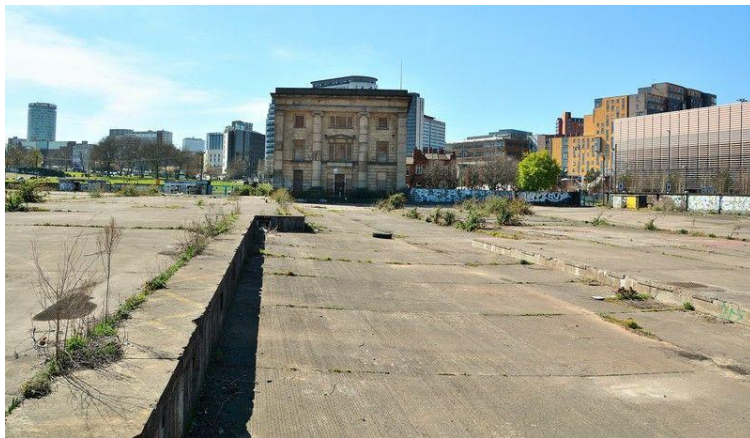


Table 3 Strength and quality of evidence by section

		Quality of evidence	
		Evidence largely from peer-reviewed systematic or non-systematic reviews or meta-analyses [A] [B]	Evidence largely from mixed evidence sources, individual journal articles and reports, or sources that have not been peer reviewed [C] [D]
Strength of links between natural environments and human health	Strong evidence	3.2.1 Mental health and wellbeing 3.2.5 Development and maintenance of a healthy immune system and reduction of inflammatory-based diseases	3.3.2 Variation between social and demographic groups
	Generally positive links	3.1.2 Landscape, ecosystem and city scale linkages 3.3.1 Physical activity (in selected groups)	3.2.2 Perceived health status 3.2.3 Mortality 3.2.6 Maternal health, pregnancy outcomes and children's cognitive development 3.2.7 Other physiological outcomes 3.3.3 Social contact and community cohesion
	Evidence is mixed or unclear	3.1.1 Global ecosystem services, biodiversity and health 3.3.1 Physical activity (at population level) 3.5.1 The effectiveness of existing policy and interventions	3.2.4 Obesity 3.3.4 Environmental quality 3.3.5 The type of natural environment 3.3.6 Exposure mode, duration and a dose-response relationship 3.4 The monetary value of benefits 3.5.2 Future policy and delivery options

Rebecca Lovell, et al Evidence Statement on the links between natural environments and human health. March 2017

WHO. Urban green spaces and health: A review of evidence - 2016

... urban green space has health benefits, particularly for economically deprived communities, children, pregnant women and senior citizens. It is essential that all populations have adequate access to green space, particularly for disadvantaged communities. ..., the need for green space and its value for health and well-being is universal.

...there are many public health benefits (of urban green spaces) through diverse pathways, such as psychological relaxation and stress reduction, enhanced physical activity, and mitigation of exposure to air pollution, excessive heat, and noise as well as other harmful factors in the urban environment.

... there is also a need for small, local green spaces very close to where people live and spend their day, as well as large green spaces,

. Green Space and Health:

Why living near to green spaces might improve health..

1. there may be some intrinsic wellbeing enhancements gained by simply observing natural environments.
2. being in green spaces may reduce exposure to air and noise pollution and extreme temperatures that have a detrimental effect on health — and may also increase access to biodiversity, which can influence immune response.
3. access to green spaces provides opportunities for physical activity and social interaction, which have benefits for physical and mental wellbeing

... the team did not find any studies that explored the link between **blue spaces** and mortality



Air Pollution: Health Impacts

- The Public Health Outcomes Framework (PHOF) estimates an effect equivalent to roughly 25,000 deaths England attributable to anthropogenic particulate matter air pollution (This does not include Nitrogen Dioxide which is being reviewed)
- It estimated that 5.3 percent of all adult deaths in England are caused by long-term exposure to man-made particulate air pollution (Est range from 2.5% in rural areas – 8.8% in the most polluted London Boroughs¹)

Air pollution is the largest environmental risk associated with deaths each year.



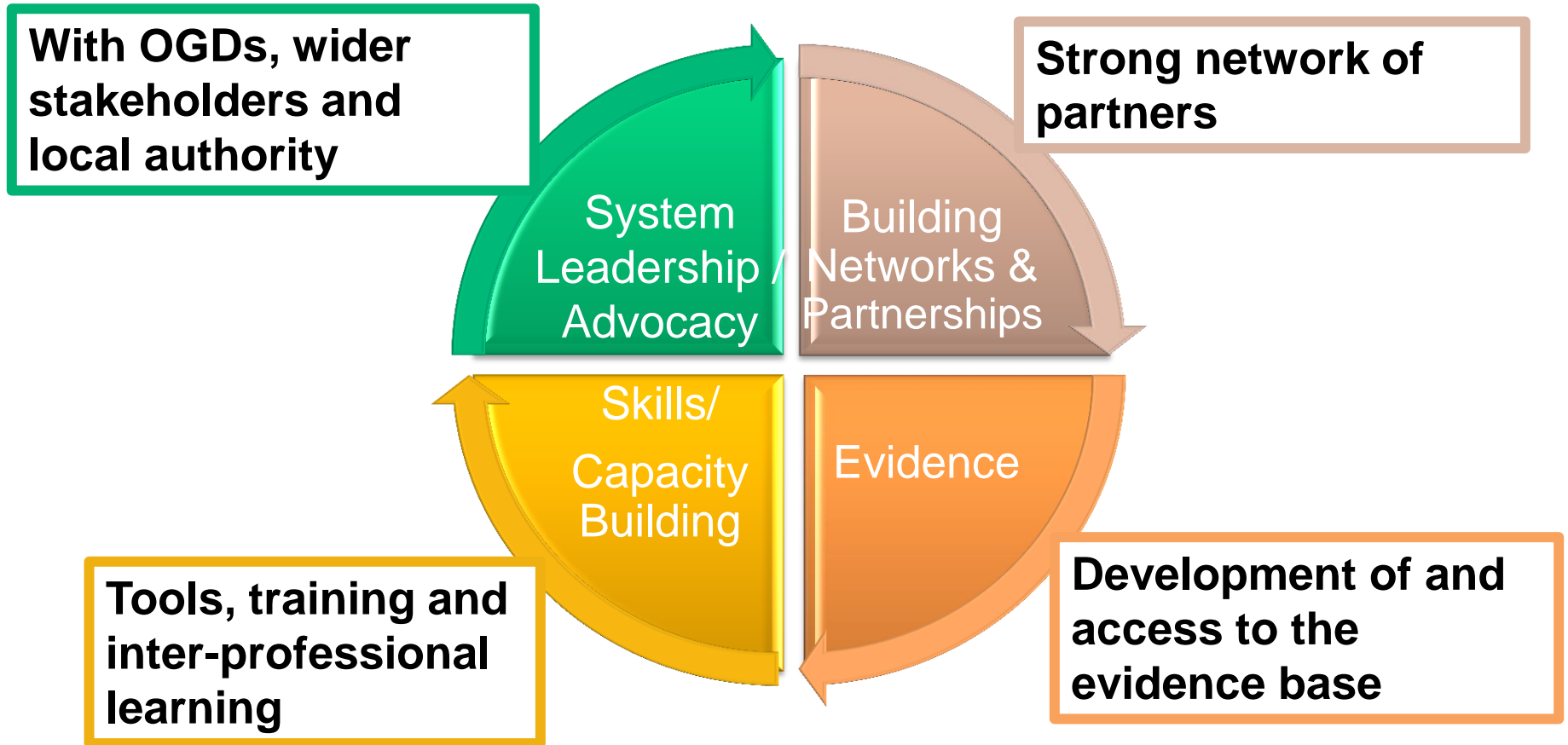
Economic case for action

- **Diet-related** ill health cost the NHS £5.8 billion pa
- **Physical inactivity** contributes to one in six deaths in the UK and costs £7.4 billion a year to business and wider society
- £2.1 billion would be saved annually through averted health costs if everyone in England had equally good access to **green space**
- View of **green space** from home is estimated to have a health value of £135-452 per person
- Having your own **garden** is valued at £171-575 per person per year
- **Poor air quality** is estimated to cause over £1bn in productivity losses each year





PHE Healthy Places programme





Public Health England

PHE Briefing and Evidence Reviews

Public Health England

Protecting and improving the nation's health

Everybody active, every day
What works – the evidence

Public Health England

Protecting and improving the nation's health

Everybody active, every day
An evidence-based approach to physical activity

Public Health England

UCL Institute of Health Equity

Local action on health inequalities:
Improving access to green spaces

Public Health England

tcpa

planning healthy-weight environments –

Public Health England

Healthy people, healthy places briefing
Obesity and the environment:
regulating the growth of fast food outlets

Public Health England

tcpa

planning healthier places –
report from the reuniting health with planning project

Active Design

Planning for health and wellbeing through sport and physical activity

October 2015

Supported by

Public Health England

Protecting and improving the nation's health

Working Together to Promote Active Travel
A briefing for local authorities

Public Health England

National Parks England

An Accord between National Parks England and Public Health England to support joint action on improving health and wellbeing through our national parks

November 2015

Public Health England

Protecting and improving the nation's health

Health and Environmental Impact Assessment:
A Briefing for Public Health Teams in England

Public Health England

Protecting and improving the nation's health

Spatial Planning for Health
An evidence resource for planning and designing healthier places



Public Health
England

Neighbourhood
Design

Housing

Healthy Food

Natural and
Sustainable
Environment

Transport



Protecting and improving the nation's health

Spatial Planning for Health
An evidence resource for planning
and designing healthier places



Methodology

- Umbrella review of other systematic evidence reviews
- Complemented by selected empirical studies
- Concentrated on 5 key themes:
 - Neighbourhood Design
 - Housing
 - Healthy Food
 - Natural and Sustainable Environment
 - Transport



Natural & Sustainable Environments

Quality of Evidence:

- ▲ Improved
- ▼ Reduced
- High Quality
- Medium Quality
- Low Quality
- NR (Not reported):
Methodological quality of the original research is unclear and should be treated with caution.

Greyed Out Text
Association between a health impact & health outcome not obtained as part of the umbrella review.

Best Available Evidence:
* In some instances, more than one piece of review-level evidence reporting on the same health impacts and/or outcomes was identified as part of this umbrella review. In such instances this table highlights findings of the review(s) which reported evidence of the best methodological quality.

Population Groups:

- General Population
- Older Adults
- Children & Adolescents

Disclaimer:
This diagram has been produced as part of a wider evidence resource, commissioned by Public Health England and developed by the University of the West of England. Please see the document Spatial planning for health: an evidence resource for planning and designing healthier places for further information.

Planning Principles



Modifiable Features

Impact

Health Outcomes



Evidence: Spatial planning for health



Principles for natural and sustainable environments:

1. Reduce exposure to environmental hazards
2. Provide access to and encourage engagement with the natural environment
3. Encourage adaptation to climate change



Adaptation to climate change



Reduce exposure to environmental hazards



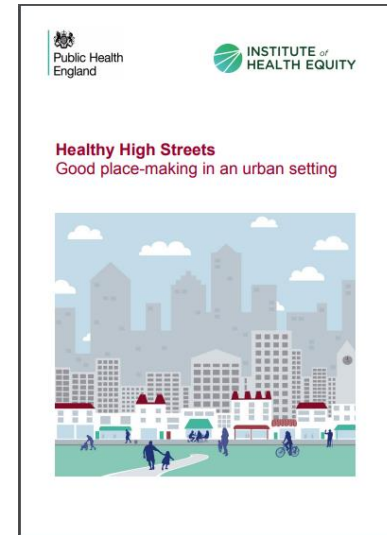
Access to and engagement with the natural environment

<https://www.gov.uk/government/publications/spatial-planning-for-health-evidence-review>

Evidence: Healthy Highstreets

For optimum health promotion and to be considered a significant community asset, high streets should:

- be inclusive of people from all walks of life
- be easy to navigate
- **provide shade and shelter and places to stop and rest**
- be walkable and provide options for cycling
- **have low levels of noise and air pollution**
- provide things to see and do and have a health promoting retail offer
- ensure people feel relaxed and safe
- consider the local context of high street focused on how high street factors interact with one another.





Department
for Environment
Food & Rural Affairs

The 25 Year Environment Plan





25 YEP: 6 Key areas for action

1. Using and managing land sustainably

2. Recovering nature and enhancing the beauty of landscapes

3. Connecting people with the environment to improve health and wellbeing

4. Increasing resource efficiency, and reducing pollution and waste

5. Securing clean, productive and biologically diverse seas and oceans

6. Protecting and improving the global environment



25 YEP: Helping People Use Green Space

Government commitment		Actions
i	Considering how environmental therapies could be delivered through mental health services	Considering how NHS mental health providers in England could work with environmental voluntary sector organisations to offer mental health therapies.
		Sharing lessons learned from existing social prescribing programmes widely so others can adopt best practice.
		Developing standardised tools for service providers to support the roll-out of social prescribing
ii	Promoting health and wellbeing through the natural environment	Establishing a cross-government alliance on environment and health to design and oversee the 'Natural Environment for Health and Wellbeing' programme.
		Supporting the alliance to review evidence, develop tools and support local authorities, commissioners, and professionals



The updated **National Planning Policy Framework** is clear that planning policies should aim to achieve healthy communities which are inclusive and safe.

The framework sets out that planners should:

- Support healthy lifestyles that encourage access to healthy food, walking and cycling, and other healthy urban design
- Promote social interaction and encourage social mixing for the wellbeing of communities
- Ensure that crime and disorder, and the fear of crime and disorder, are taken into account so as to provide safe and accessible public places





How can planners achieve these aims?

- *Mixed-use Developments* reduce land being isolated for specific uses and encourage greater pedestrian interaction, providing opportunities for meetings and connections between the community, further supported by *Active Street Frontages*.
- *Green Infrastructure* can improve the mental health benefits of a place and community and encourage active travel while enhancing the natural environment.
- *Good Urban Design* can improve the safety of public spaces without having adverse impacts on character through the use of *Secure by Design* principles.
- *Street layouts* can increase access to an area and encourage active travel.
- *Estate Regeneration* can advance the social, economic and environmental benefits for communities while providing higher quality homes and public places for increase wellbeing.





Public Health
England

Concluding Thoughts

Improving access to green spaces

Summary

- There is significant and growing evidence on the health benefits of access to good quality green spaces.
- There is unequal access to green space across England. People living in the most deprived areas are less likely to live near green spaces and will therefore have fewer opportunities to experience the health benefits of green space compared with people living in less deprived areas.
- Increasing the use of good quality green space for all social groups is likely to improve health outcomes and reduce health inequalities. It can also bring other benefits such as greater community cohesion and reduced social isolation.
- Local authorities play a vital role in protecting, maintaining and improving local green spaces and can create new areas of green space to improve access for all communities. Such efforts require joint work across different parts of the local authority and beyond, particularly public health, planning, transport, and parks and leisure.

Tips for improving access and usage

- ❑ Make spaces inviting and consider the **quality** of visitors' experiences
- ❑ Design spaces to meet local users' needs-if possible **co-design with users**
- ❑ Provide **facilities** (toilets, cafes, play spaces) and activities
- ❑ Ensure the spaces are located in **proximity** to target audiences
- ❑ Provide **facilitated activities** that are tailored to your local groups





Evidence into practice: Key Guidance/ Tools

- **Natural England Green Infrastructure Guidance.**
- **TCPA. Garden City Standards for the 21st Century: Guide 7 planning for green and prosperous places.**
- **Landscape Institute. Green Infrastructure: An Integrated approach to land use.**
- **Tree and Design Action Group. Trees in the Townscape: A guide for decision makers.**
- **WHO. Urban Green Spaces: A brief for action.**
- **NICE Guidance. Air Quality: Outdoor air quality and health**
- **Natural England. Nature Nearby: Accessible Natural Greenspace Standard.**
- **Building with Nature.**
- **TCPA. The Green Space Factor and the Green Points System.**

Planning for future Climate Change





Sign up to our Knowledge Hub – “healthy places”

<https://khub.net/group/healthypeoplehealthyplaces>

Including month Current Awareness Evidence Updates

The screenshot shows the Knowledge Hub interface. At the top, there is a green navigation bar with the Knowledge Hub logo and navigation links for GROUPS, PEOPLE, and NETWORKS. A user profile for 'FY Fiona' is visible in the top right corner. Below the navigation bar is a dark grey menu with icons for FORUM, LIBRARY, BLOGS, EVENTS, MEMBERS, REPORTS, and SETTINGS. The main content area displays the 'PHE Healthy Places' group page. On the left, there is a purple square icon with 'PHP' and a section for group actions: 'You joined', 'Add to favourites', 'Unsubscribe', 'Leave the group', and 'This is a restricted group'. Below this, it states 'Started - January 2014' and '288 Members'. The main content area on the right has the title 'PHE Healthy Places' and a description: 'Public Health England's (PHE) Healthy Places programme, set up in 2013, works in partnership with local and national partners on a wide range of activities related to 'place'. It also includes a paragraph about the impact of where we live, work and play on health and wellbeing, and a note that information posted on the forum does not necessarily represent the view of PHE.



Public Health
England

Thank you!

