Valuing green space: considering environmental and health benefits in planning

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Spatial planning and public health

- Using spatial planning to deliver 'public health' improvements is making a resurgence into planning policy.
- Recent years have seen a number of publications related to other health implications of spatial planning and ways in which planning can help to generate healthy lifestyles and improve physical and mental wellbeing of the population.
- Recent changes to the legislative and policy context for both spatial planning and public health => opportunities e.g planning representation on Health and Wellbeing Boards.

Some opportunities

- There are now a number of opportunities in the changing planning and public health policy world to strengthen planning and public health links.

- National Planning Policy Framework (NPPF) for England ([Department for Communities and Local Government, 2012](#)) which addresses:
  - 'promoting healthy communities' (Section 8),
  - ensuring health infrastructure meets expected demand (paragraph 161) and
  - ensuring the health needs of the community are taken into account through joint working with public health leads and health organisations (paragraph 171).

- Health and Social Care Act 2012 - transferred public health powers back to LAs. Requires the setting up of Health and Wellbeing Boards to provide strategic planning of health and social care services. HWBs are recommended to include planning representation.
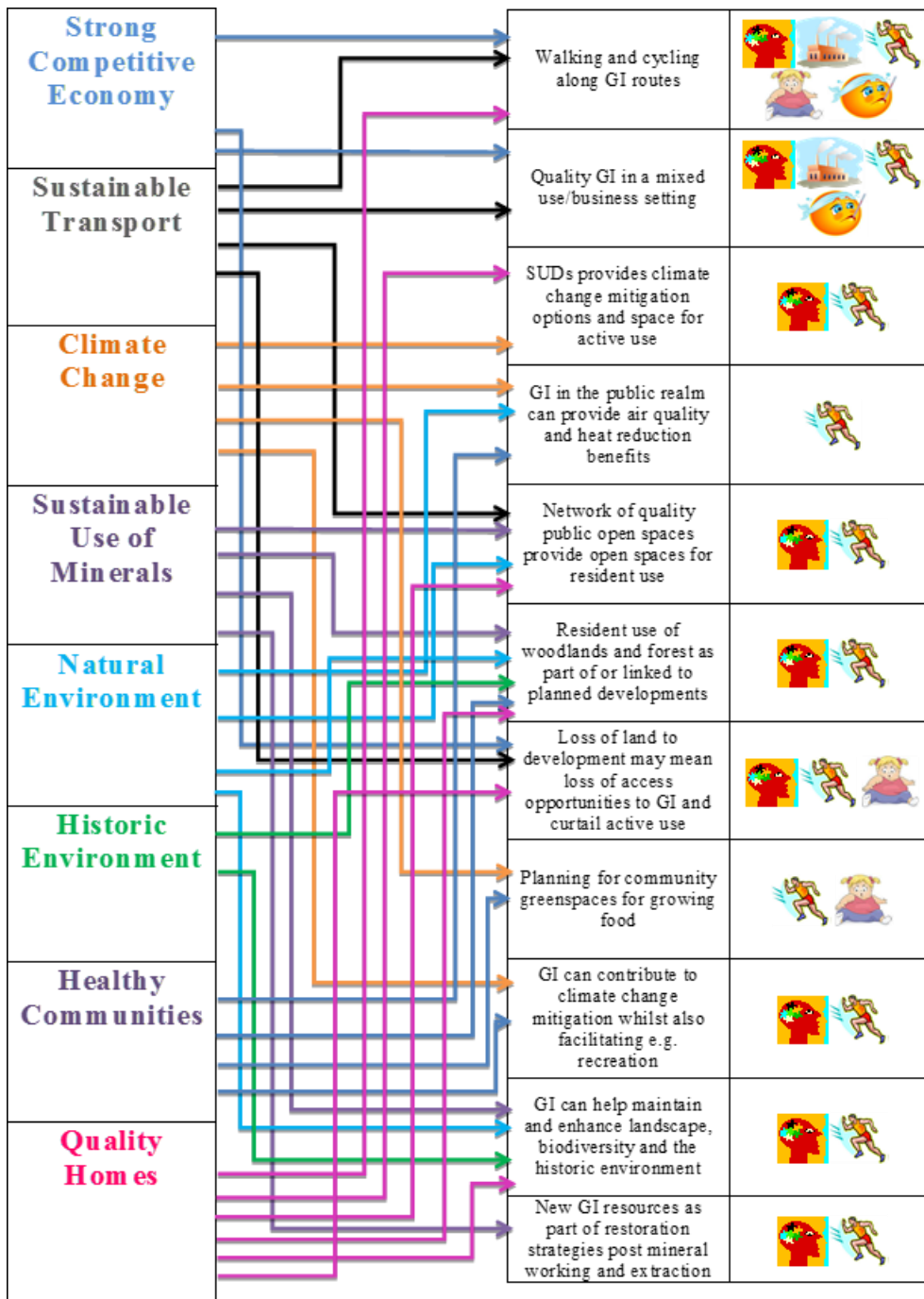
Overview of linkages between Planning Policy, Green Infrastructure and Health Outcomes

Key message: There are lots of linkages between planning policy, green infrastructure and potential health outcomes.

Source: Taylor et al (in prep)
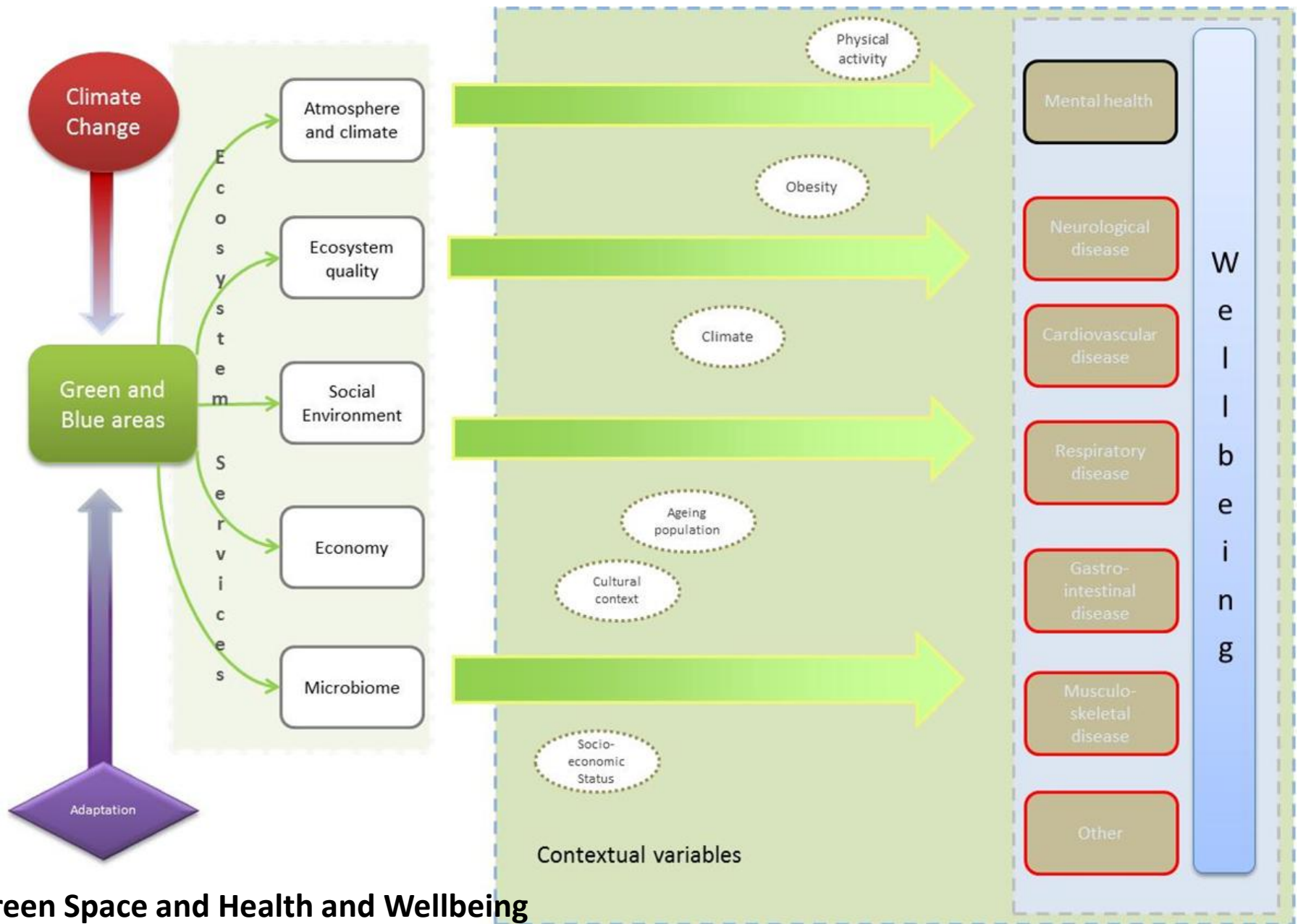
Green Space and Health and Wellbeing

Health and Green Spaces – what is the evidence?

- Living near green space is associated with:
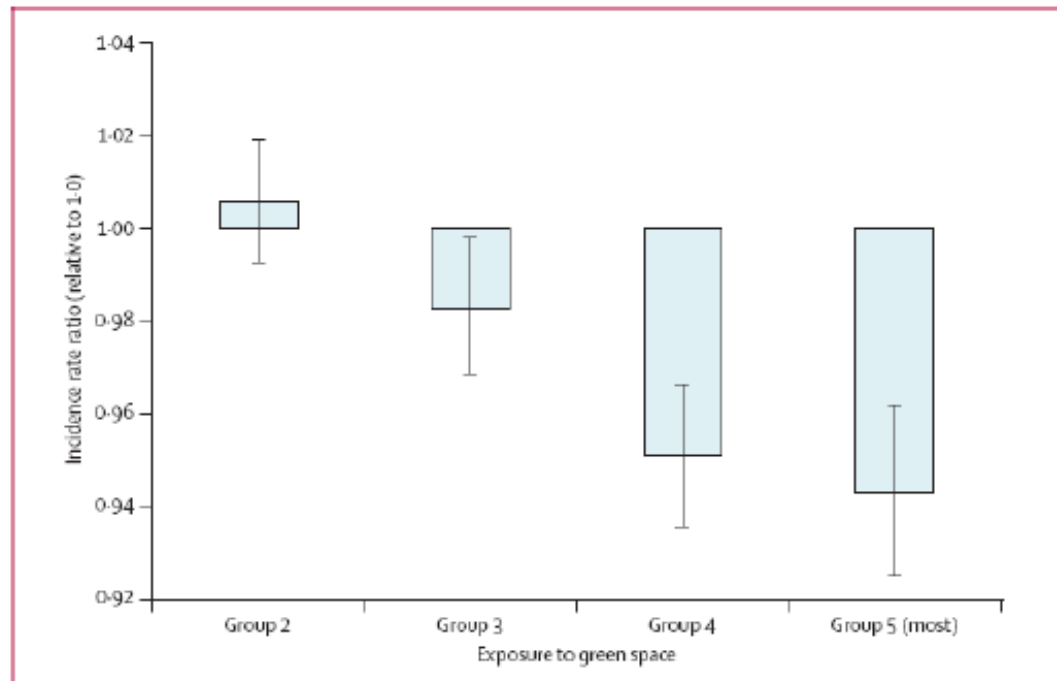 - Lower stress
  - Decreased risk of mortality by age 65

Figure 1: Incidence rate ratios for all-cause mortality in groups of exposure to green space, relative to group 1 (least exposure to green space)
Error bars indicate 95% CIs.

Valuation

- The valuation of health impacts of green infrastructure is in its infancy.
- Health economists in the UK use **Quality Adjusted Life Year (QALY)** and cost-effectiveness thresholds to allow choices to be made about resource allocation.
- Environmental economists – typically use **monetary valuation**.
- A number of "toolkits" exist to value green infrastructure. These toolkits have not fully captured the benefits to health, in part because of the difficulty in identifying specific health outcomes.
- **WHO Health Economic Assessment Tool (HEAT)** for cycling and walking has been used to assess increases in health attributable to increased walking or cycling. However, to assess the impact of a change in green infrastructure provision, the resulting change in walking or cycling needs to be quantified.

Monetary valuation of health outcomes

- Monetary valuation of health can take a number of forms:
  - Cost of illness
  - Stated preference studies – e.g. value of a statistical life, some morbidity
  - Revealed preference - e.g. hedonic wage risk
- We have a number of values that can be used – some areas are weaker than others (e.g. valuation of obesity and children's health are relatively understudied)

Barriers to valuation

- Quantification of the health benefits of greenspace is relatively underdeveloped – further work is needed to unpick these benefits in terms of different disease outcomes.

- Uptake of valuation by policy makers – there are a number of tools but the extent to which they have been used is open to debate…

Valuing environmental benefits

- Valuing some of the environmental benefits of greenspace more developed, e.g.:
  - Recreation – use of travel cost methods to value greenspace in UK NEA
  - Carbon savings – use of carbon values from DECC

Example: NEA and recreation

- The UK National Ecosystem Assessment (2011) employed a three-stage approach to arrive at recreational values for a range of different types of land uses. This involved:

- Site prediction model – which estimated the number of sites of interest for recreation in a given 5km grid square

- A Trip Generation Function – to estimate trip numbers to sites from populations in LSOAs based on the MENE dataset

- A trip valuation meta-analysis – to estimate the value attributed to a visit to any given site, statistical analysis was conducted of the determinants of "willingness to pay" based on 200 previous estimates (Antara et al, 2011).

Example: NEA recreation values for Cornwall

There are clear issues when you "zoom in" – Cornwall's beaches undervalued, and the highest value greenspaces are in areas where there is potentially less use of greenspace – e.g. Redruth/Camborne areas.

Total value (£' 000)

- ☐ < 1
- ☐ 1 - 10
- ☐ 10 - 100
- ☐ 100 - 500
- ☐ 500 - 1 000
- ☐ 1 000 - 10 000
- ☐ > 10 000
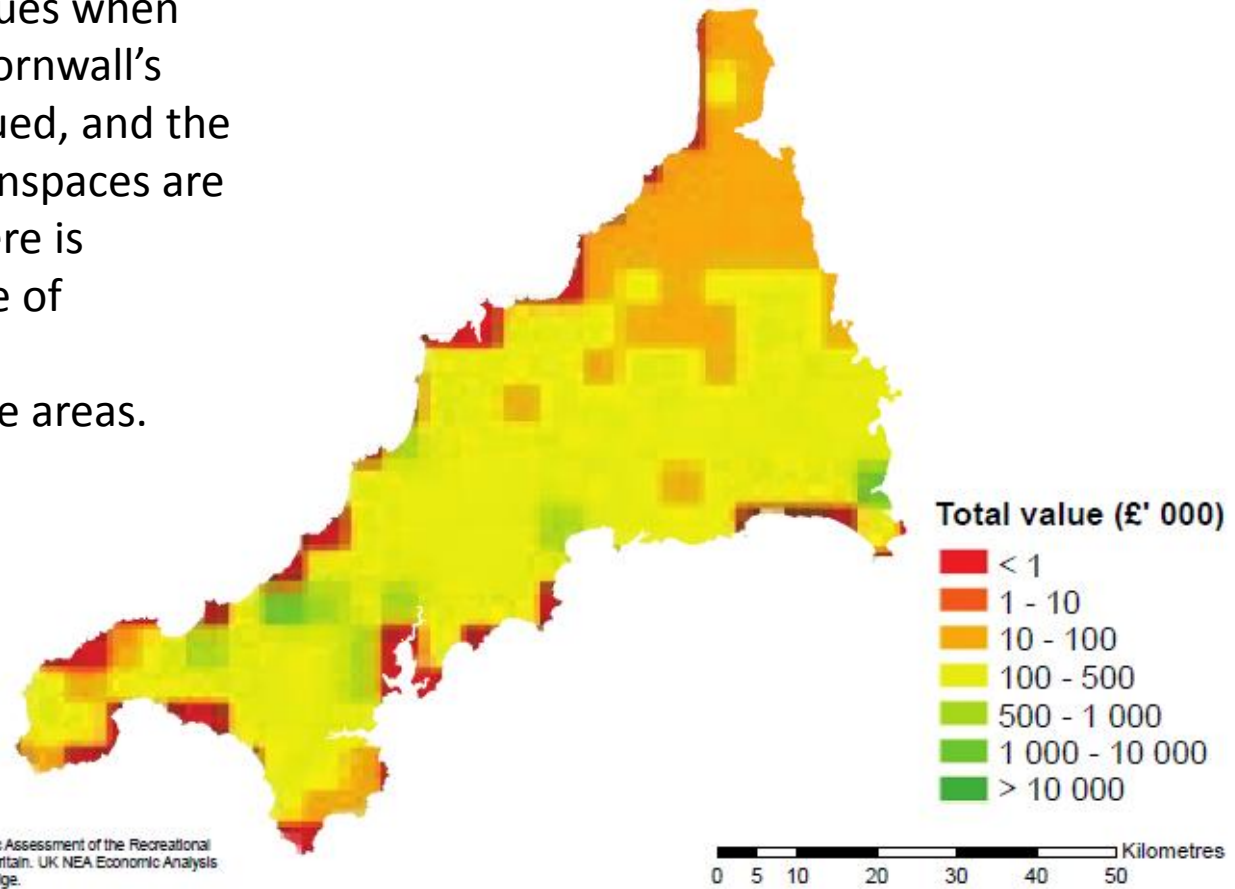
Source:
Antara, S. et al. 2011. Economic Assessment of the Recreational Value of Ecosystems in Great Britain. UK NEA Economic Analysis Report. UNEP-WCMC, Cambridge.

Kilometres
0 5 10   20   30   40   50

Key outstanding questions

- Do recreational values include health values within them? Would isolating health values lead to double counting?

- How can we best assess the health benefits of greenspace?

- In the HPRU on Environmental Change and Health we are trying to develop better values of greenspace health benefits.

- We hope to develop strong links to planning policy (e.g. recent bid for KTP on Green Infrastructure led by LSHTM).

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Thanks for listening.

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