INTERVENTION BRIEFING
DECEMBER 2024

Adding value to existing government guidance with the HAUS model

The issue

The Health Appraisal of Urban Systems model (HAUS) demonstrates the health impacts of a wide range of characteristics of the urban environment to inform planners, investors and developers at the earliest stage of planning new places to live and work.

TRUUD are working with the Ministry for Housing, Communities and Local Government's (MHCLG) Analysis & Data Division to adapt HAUS for use in the department and for inclusion in its appraisal guide. HAUS has a broad scope and includes more than 200 environment-health impact pathways, each representing a causal path from a specific change to the environment to a health outcome. This means that there are inevitably areas of overlap with the existing methods of appraisal recommended from a range of sources in MHCLG's appraisal guide.

Here we explore the added value of HAUS for appraisals and how it can be used in a complimentary way to other sources. We do this be assessing all impact pathways in HAUS for additionality and overlaps with methods already in the appraisal guide.

We look at three areas:

1. Characteristics of the urban environment covered
2. Valuation methods
3. Attribution of changes in health to environmental factors

Key messages

HAUS provides added value to the existing evidence base in MHCLG's appraisal guide for understanding health and wellbeing impacts through providing:

- Additional **breadth and detail** of environmental characteristics and mechanisms.
- **Consistency** in approach across many environmental themes to allow easier comparison of effects.
- Greater **robustness** in methods for attributing changes to health.
- The disaggregation of health effects into **specific health conditions**.
- Methods for understanding effects on **all ages**, including children.

Characteristics of the urban environment

HAUS overlaps with all sources in the appraisal guide in some way in terms of the characteristics of the urban environment addressed. However, as shown in Figure 1, no single approach covers all the environmental themes included in HAUS.

What is the added value of HAUS?

In addition to providing a consistent approach across all environmental themes covered, HAUS adds evidence not covered in other sources on the food environment and sources of industrial air pollution. It also provides granular detail on health, populations at risk, and value, which are not always included in other models.

UKPRP Prevention Research Partnership – Joint action for a healthier, fairer future

Local authority partners: GMCA Greater Manchester Combined Authority; Bristol City Council

University consortium: University of Bath; University of Bristol; The University of Manchester; University of Reading; University of Stirling; UWE Bristol

Valuation methods

HAUS uses a societal unit cost of illness as its key valuation methodology, comprising direct costs (health and social care), indirect costs (lost productivity and informal care) and intangible costs (the pain and suffering associated with disease and premature mortality). This attempts to describe the effect of ill health across the community or society and the agencies within it that bear that cost.

The Building Research Establishment's Cost of Poor Housing, Department for Transport's Web Tag and Greater Manchester Combined Authority's CBA toolkit also use similar valuation methods. However, other resources use alternative valuation methods, such as hedonic pricing and subjective wellbeing valuation, which may give a more limited perspective on health and may not be as robust for measuring impacts on some people, such as children and those with mental health problems. These methods may not include the wider cost of ill health, or make it hard to disentangle health from other considerations, such as employment, or the housing market.

What is the added value of HAUS?

As shown in Figure 2, HAUS significantly extends the range of environmental determinants valued, while using a societal cost of illness methodology that also describes the wider benefits to society of improving health. It is a more consistent and comprehensive approach, allowing health impacts to be monetized for use in cost-benefit analysis.

Attribution of environmental changes to health

The attribution of changes to health is important for understanding assumptions around the expected impact of a change to the environment in an area. Many existing tools use average unit values derived from the estimated value of preventing health effects. The user then must determine the size of effect themselves in a specific location, for example how many people might benefit from an improvement. The assumptions around average health impacts may not hold when average values are transferred to a specific site, increasing the potential for over or understating health impacts.

What is the added value of HAUS?

HAUS provides greater certainty about the effectiveness of interventions through providing exposure-response functions for each impact pathway. This shows how health outcomes change with differing levels of exposure to a characteristic of the environment. HAUS also disaggregates which health effects are concerned, for example cardiovascular disease or mental health outcomes. Some single theme tools already use this approach, but HAUS extends this by determining exposure-response functions across many other environmental characteristics. This is shown in Figure 3.

HAUS resources

Our webpage includes short films and links to research papers and briefing notes on the development and application of HAUS.

About Truud

'Tackling the Root causes Upstream of Unhealthy Urban Development' (TRUUD) is a 5-year, £6.7m research project that aims to design policy interventions to support the development of healthier urban environments. Our research seeks to promote a fundamental shift in thinking about how to prioritise healthy urban development. We are funded by the UK Prevention Research Partnership.

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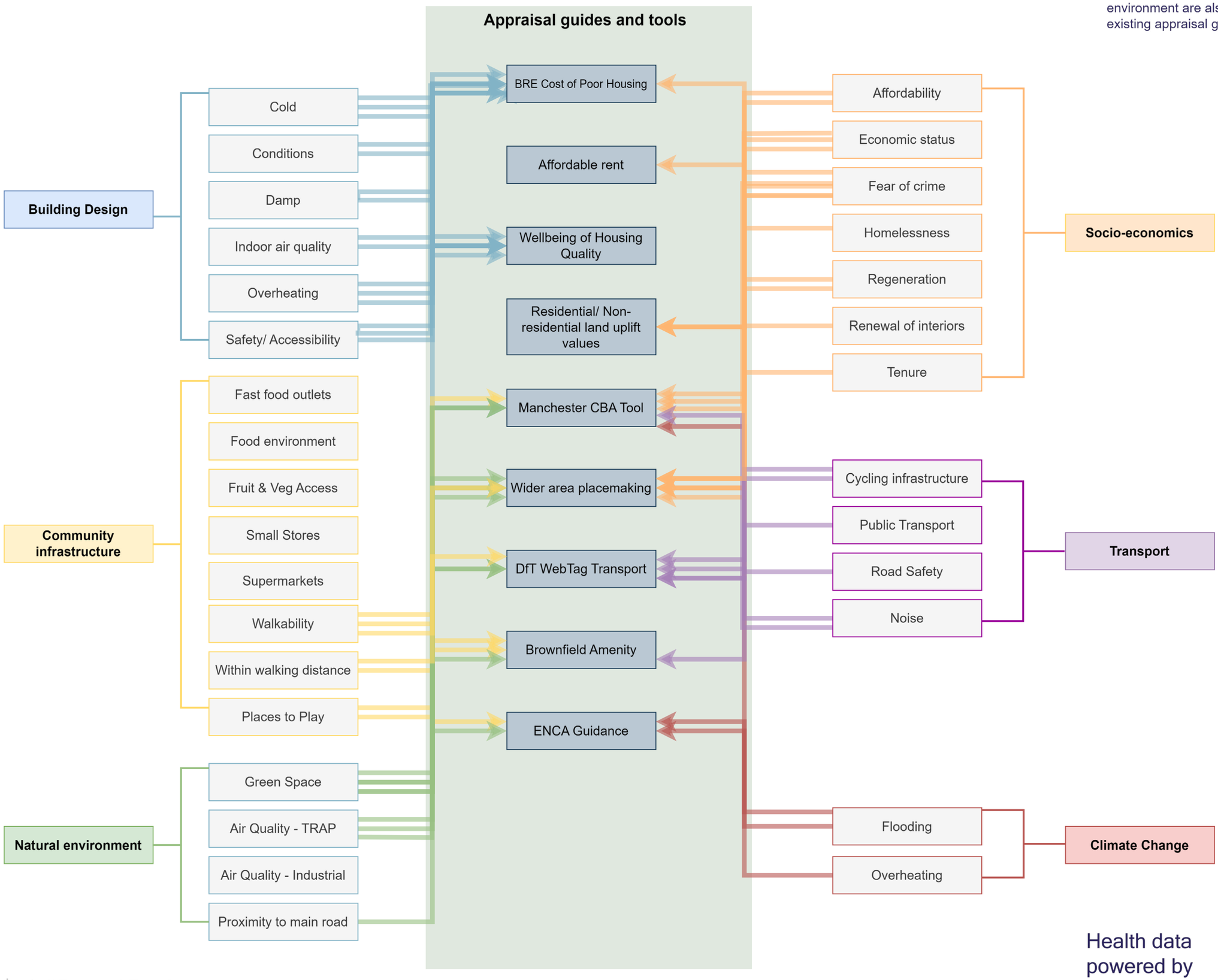
HAUS Model: Overlaps in appraisal guidance

Overview

Arrows show where characteristics of the environment are also covered in other existing appraisal guides and tools



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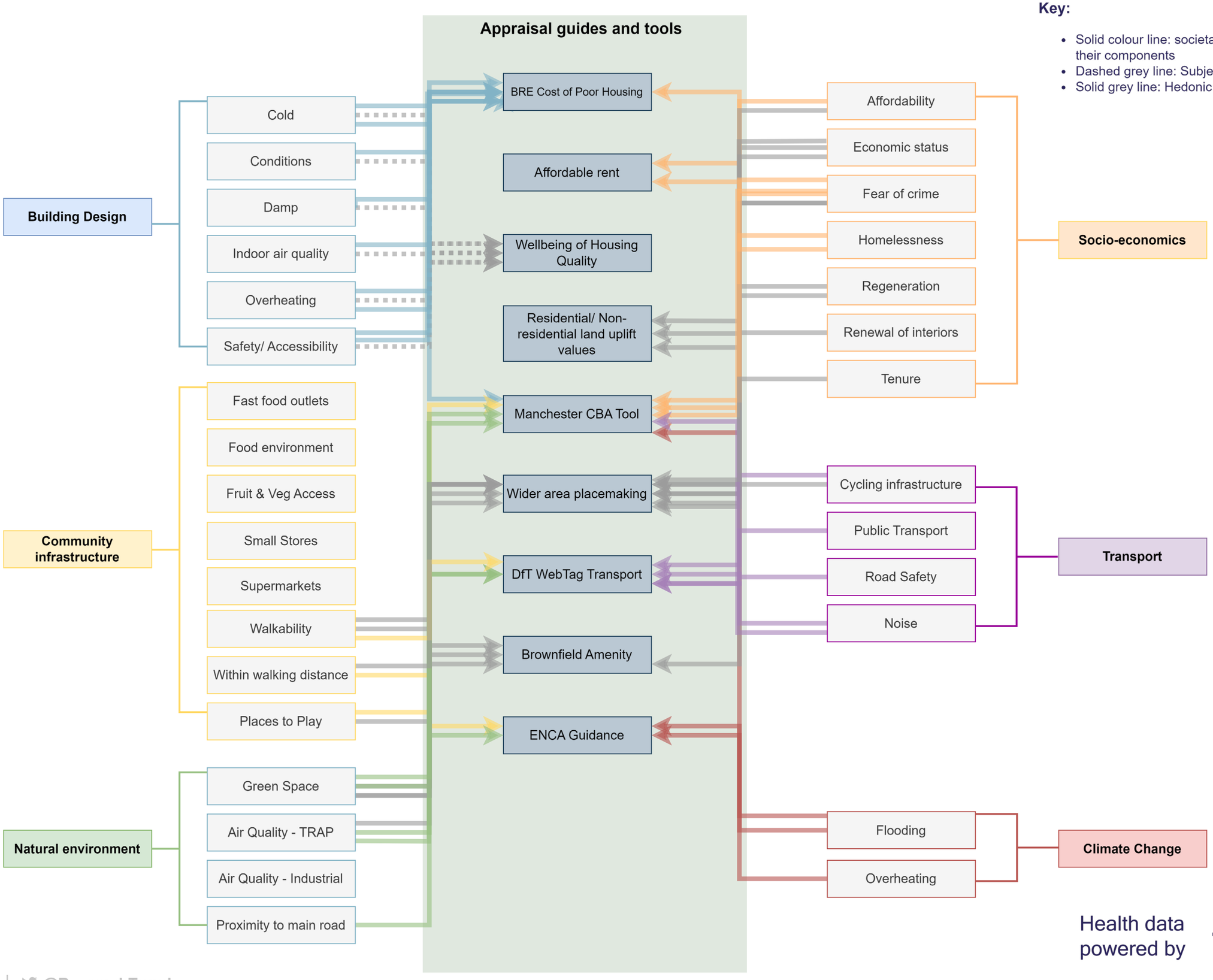
HAUS Model: Overlaps in appraisal guidance



Valuation methods

Key:

- Solid colour line: societal costs of illness or their components
- Dashed grey line: Subjective wellbeing
- Solid grey line: Hedonic pricing/ other method

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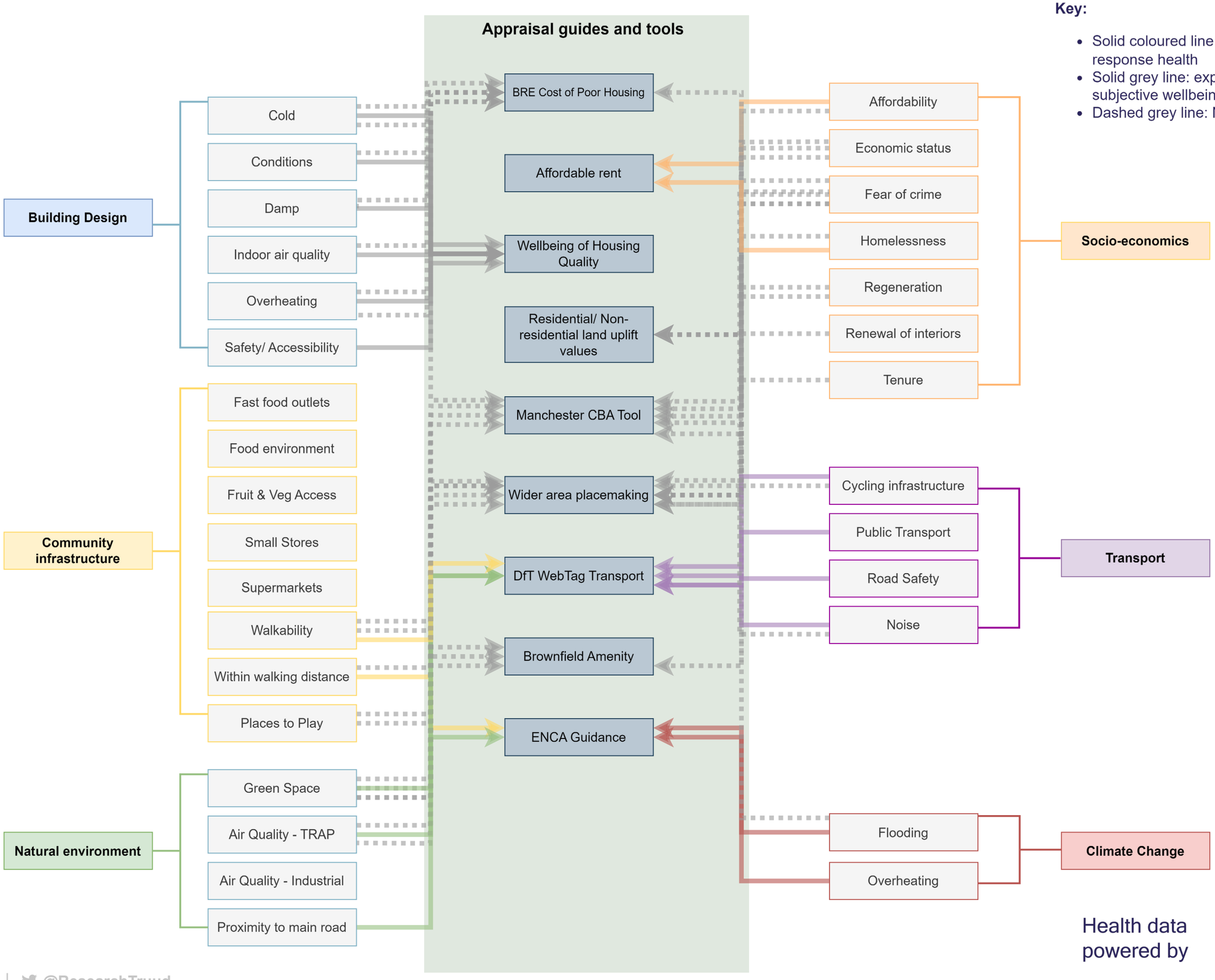
HAUS Model: Overlaps in appraisal guidance

Attribution of health effect

Key:

- Solid coloured line: exposure-response health
- Solid grey line: exposure-response subjective wellbeing/ life satisfaction
- Dashed grey line: Not indicated



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