



THE IMPACT OF THE BUILT ENVIRONMENT ON HEALTH: AN EVIDENCE REVIEW

Initial output of UPSTREAM project

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Outline of presentation

- Context
- Aim of review
- Systematic review method
- Findings
- Next steps

Context



- Need for whole-systems analysis of associations between the built environment and health
- Focus is to integrate health outcomes to real-world commercial urban development practice through the integration of economic valuation
- A 3 year Wellcome Trust Funded project

UPSTREAM

1



Estimating cost of poor quality urban environment

2



Exploring barriers and opportunities for creating healthy urban environments

Moving health upstream in urban development planning

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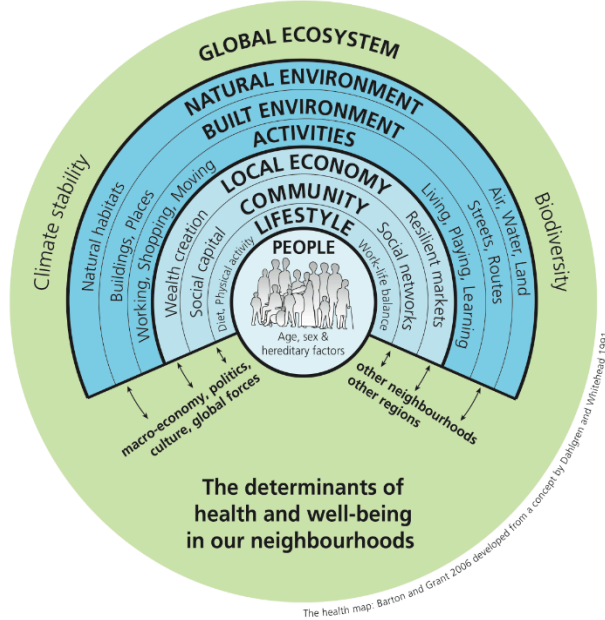
AIM OF REVIEW

- To investigate the impacts of the following attributes of the built environment on health
 - *Buildings*
 - *Neighbourhood design*
 - *Transport*
 - *Food environment*
 - *Natural environment*
- Foundation for evidence-based economic valuation

Systematic review method

Search strategy

Quality appraisal



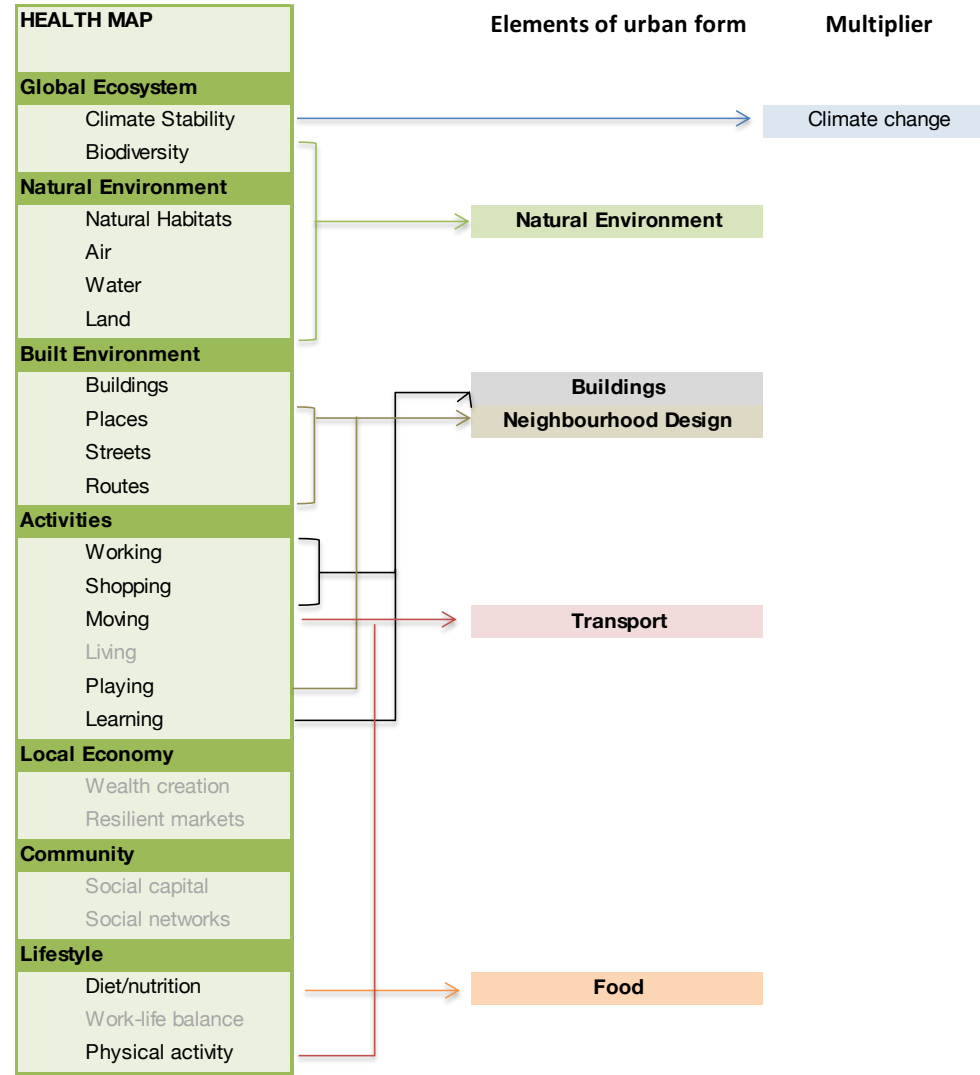
Healthy people healthy places evidence tool

Vancouver Healthy toolkit

BREEAM Communities

HUDU Rapid HIA

Egan Review



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

Read the Public Health England Summary Report @ www.gov.uk/government/publications/spatial-planning-for-health-evidence-review

Click on this image to access the UWE Bristol Full Technical Report, or visit: <http://eprints.uwe.ac.uk/31390>



- **Eight electronic databases**

- **MEDLINE,**
- **PsycINFO,**
- **Cumulative index to nursing & allied health literature,**
- **Applied social sciences index and abstracts,**
- **Cochrane database of systematic reviews,**
- **SocINDEX,**
- **EconLIT,**
- **Allied and complementary medicine**

- **Search period January 2000 - November 2016**

- **Search terms validated by experts in the field**

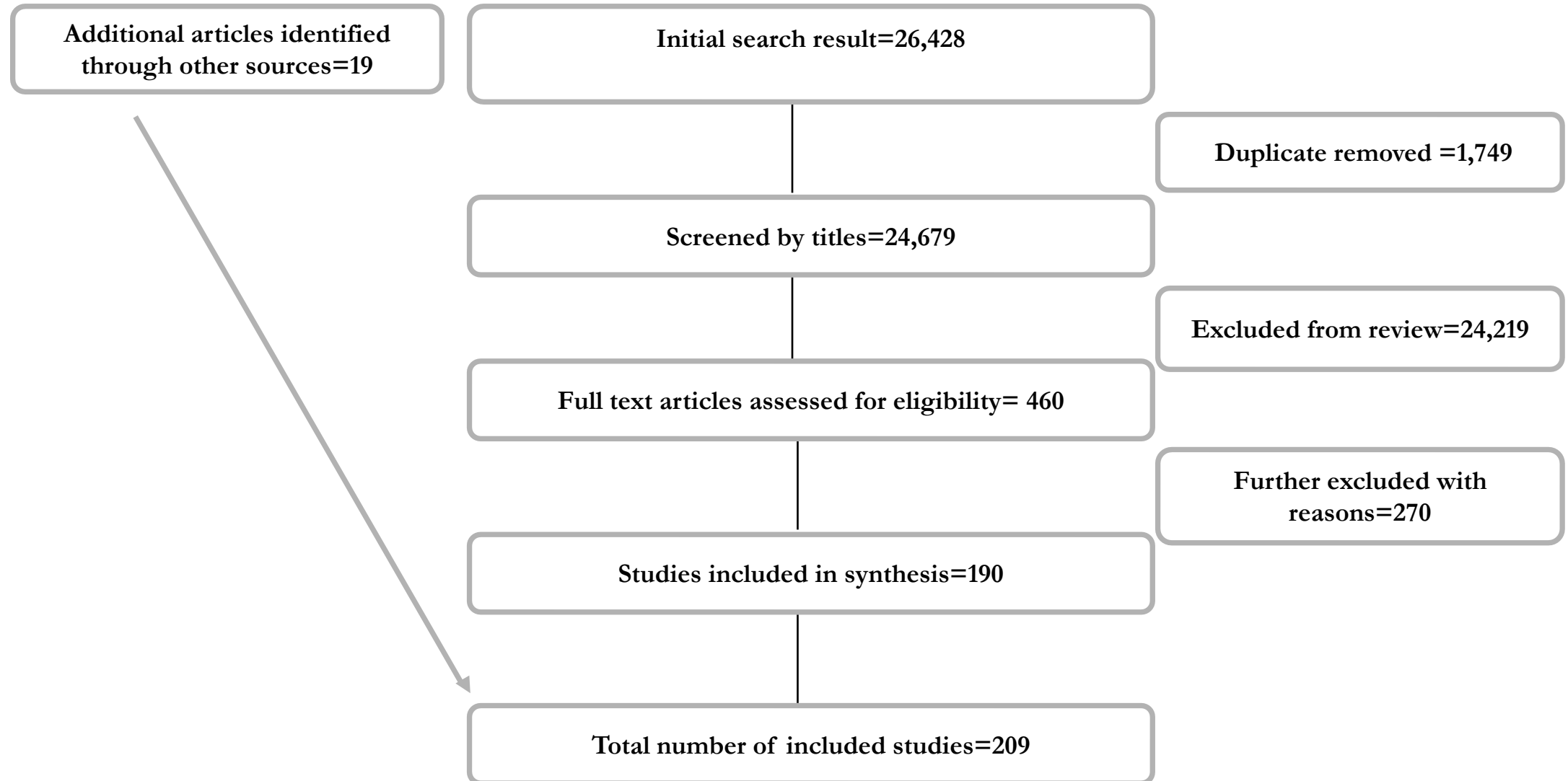


- Quality appraisal conducted using the quality assessment tool for quantitative studies
- Investigates 6 quality domains
 - Selection bias- the probability that the study participants are representative of the target group
 - Design of the study
 - The control of confounders
 - Blinding- for experimental studies
 - Reliability and validity of data collection methods
 - Reporting of withdrawals and dropout rate
- Studies were rated High (H), Moderate (M) or Low (L) based on outcome of quality assessment



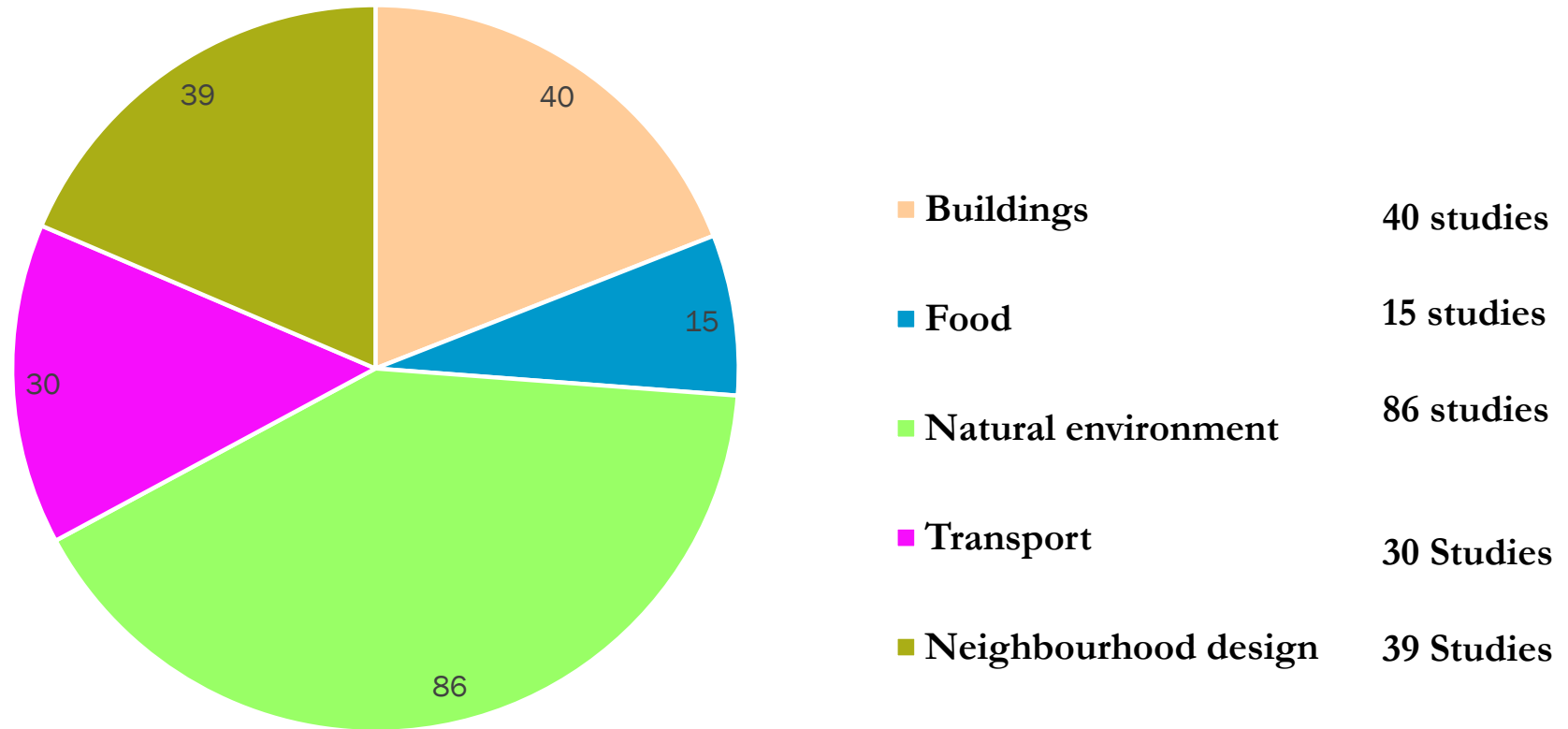
Findings

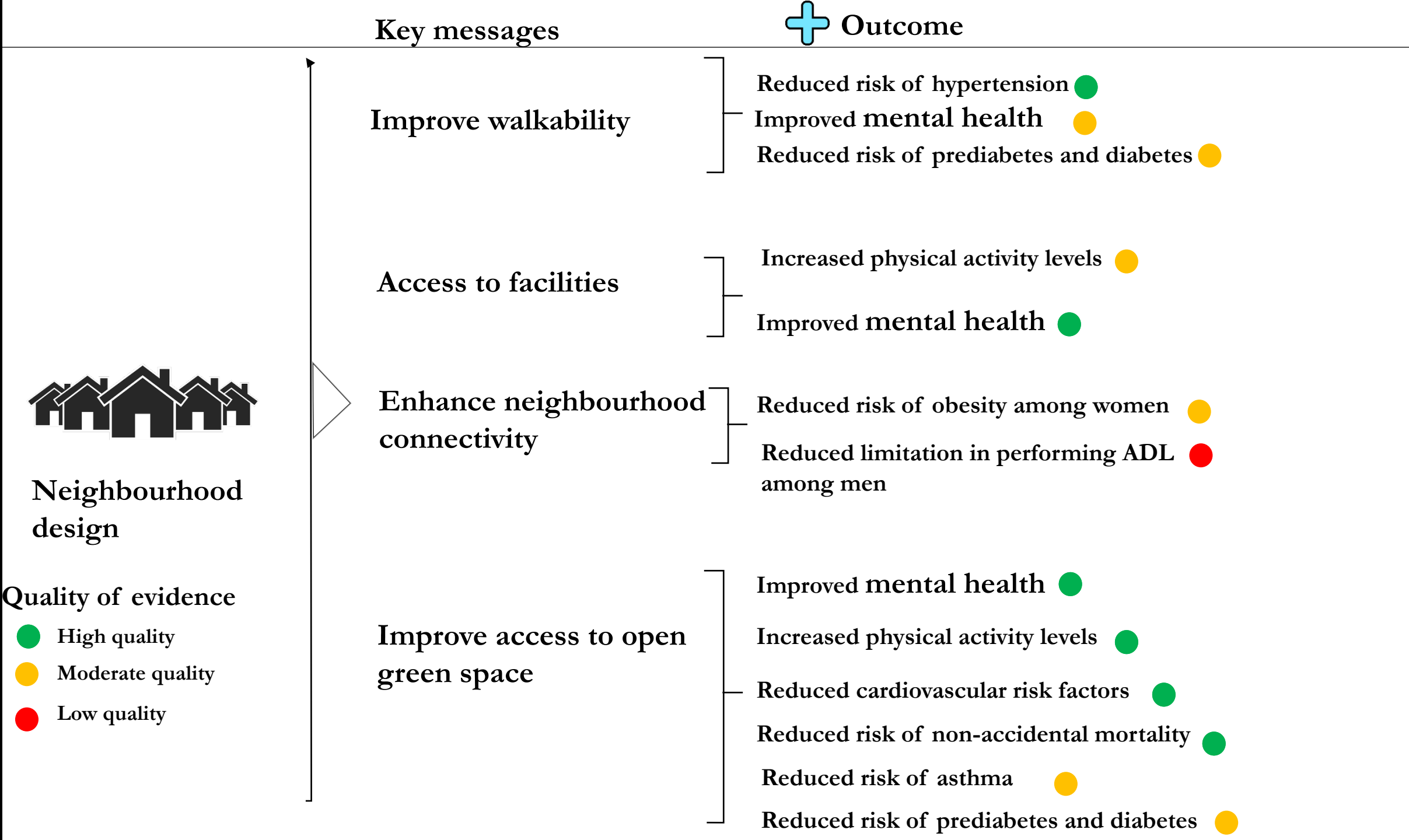
Search returned 26,428 hits



209 studies were identified for all 5 areas

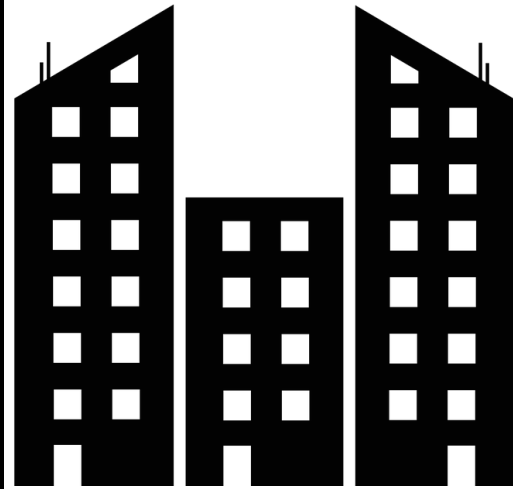
Number of studies for each theme





Key messages

+ Outcome



Buildings

Quality of evidence

- High quality
- Moderate quality
- Low quality

Improve thermal quality and ventilation

- Improve general health and respiratory outcomes ●
- Reduced blood pressure ●
- Reduced cost associated with heating ●
- Improved school attendance among children ●
- Reduced mould contamination ●

Improve quality of housing

- Reduced falls and fall related injuries among older adults ●
- Improved mental health ●

Inadequate quality of housing

- Increased risk of mortality from coronary heart disease ●

Increase access/relocation to affordable homes or social housing

- Improved general health among previously homeless people ●
- Improved mental health among adults and children ●
- Improved educational achievement among young boys ●

Key messages

+ Outcome



Transport

Quality of evidence

- High quality
- Moderate quality
- Low quality

Improve infrastructure
for walking and cycling

- Increased physical activity levels ●
- Reduced risk of pedestrian motor vehicle collision ●
- Reduced amount of car use ●
- Increased levels of walking and cycling ●

Improve road safety

- Reduced risk of pedestrian motor vehicle collision ●
- Reduced risk of pedestrian injury ●

Improve infrastructure
for public transport

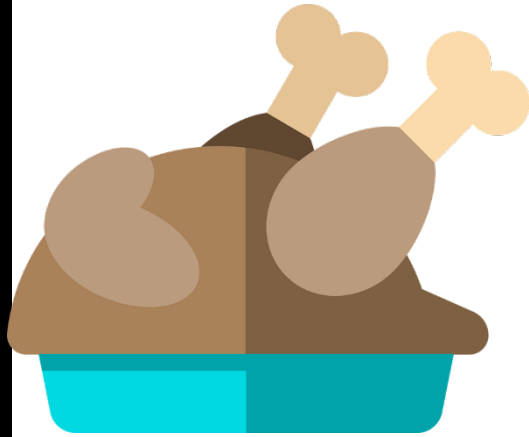
- Increased active transport ●
- Reduced exposure to road traffic collision ●

**Exposure to
transportation noise**

- Increased risk of pre/post menopausal breast cancer ●**
- Increased systolic blood pressure levels ●**

Key messages

+ Outcome



Food

Quality of evidence

- High quality
- Moderate quality
- Low quality

Increase access
supermarkets and
healthy food outlets

- Reduced BMI levels ●
- Reduced odds of obesity among girls ●
- Reduced odds of obesity among general population ●

Higher density of and
proximity to fast-food
restaurants

- Increased risk of diabetes ●
- Increased risk of obesity ●
- Increased childhood obesity and overweight ●

Proximity of full-service
restaurants

- Increased BMI levels ●

Living far away from
super-markets (≥ 4
miles)

- Reduced diet quality index among pregnant women ●

Key messages

+ Outcome



Natural environment

Quality of evidence

- High quality
- Moderate quality
- Low quality

Exposure to
environmental hazards

Exposure to traffic
noise

Reduce exposure to
traffic noise

Improve access to open
green space

Increased risk of cervical cancer ●
Increased risk of brain cancer ●
Increased risk of dementia and Alzheimer's disease ●
Increased risk of Type II diabetes ●
Increased risk of lung cancer ●

Increased risk of myocardial infarction among males ●
Poor academic performance among children ●
Increased risk of Type II diabetes ●
Worsened mental health ●
Reduced quality of life among women ●
Increased blood pressure ●

Increased average life expectancy ●
Result in high economic savings ●

Improved respiratory outcomes ●
Increased physical activity levels ●

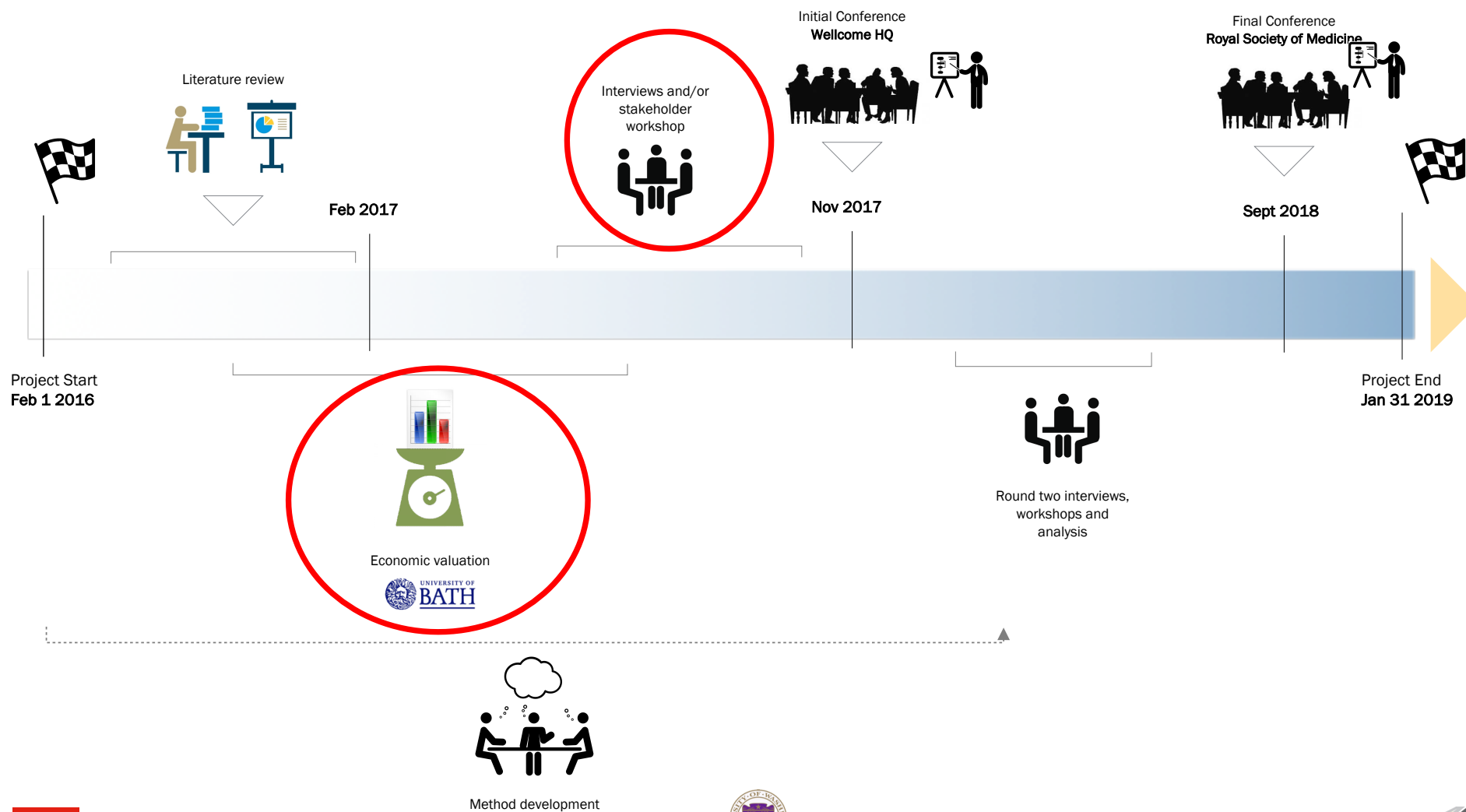
Next steps

- Our findings provides a basis for further investigation of the barriers to healthy urban environments
- Lays the groundwork for developing a set of economic valuations, which can help to move health 'upstream' in built environment planning and development

Next steps

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PROJECT ACTIVITY TIMELINE



UPSTREAM

Moving health upstream
in urban development

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wellcometrust



Research Team



Gabriel Scally
Public Health



Spatial planning for health: evidence review

From: Public Health England
Part of: Homes for health
Published: 6 July 2017

This review provides public health planners and local communities with evidence informed principles for designing healthy places.

Document



[Spatial planning for health: an evidence resource for planning and designing healthier places](#)

Ref: PHE publications gateway number: 2017151
PDF, 1.47MB, 69 pages

This file may not be suitable for users of assistive technology. [Request an accessible format](#).

Details

This report provides the findings from an evidence review examining the links between health, and the built and natural environment to help inform policy and support local action.

The review concentrated on 5 built environment topics:

- neighbourhood design
- housing
- access to healthier food
- natural and sustainable environment
- transport

Full report available at : <http://eprints.uwe.ac.uk/31390/>