

**Westminster Briefing**  
**Planning Healthy Communities**  
15 September 2015

**Planning Policy's Role in Addressing Health Challenges**

**Dr Laurence Carmichael**  
**Coordinator**

WHO Collaborating Centre for Healthy Urban Environments  
University of the West of England, Bristol

[Laurence.carmichael@uwe.ac.uk](mailto:Laurence.carmichael@uwe.ac.uk)



University of the  
West of England

**bettertogether**

# Content

---

## **The impact of the built environment on health and wellbeing: concepts and evidence base**

1. Built environment as a determinant of health
2. Inequalities and built environment
3. The evidence base

## **Re-emergence of planning to promote healthier environments and behaviour change: the case of healthy weight environments**

1. Re-emergence of the planning process
2. Guidance on healthy weight environments
3. Local case studies

## **Conclusion: a few issues to consider for policy-making in health and built environment**

1. Evidence base
  2. Delivery mechanisms
  3. Politics
-

# The impact of the built environment on health and wellbeing: concepts and evidence base

# What is health?

---

WHO definition of Health:

*Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*

Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946.

---

# What factors influence our health? The broader determinants of health

---

Social/ecological theory to health:  
maps the relationship between the  
individual, their environment and disease.



Dahlgren and Whitehead (1991)

---

# What role does the built environment play in influencing health and wellbeing?



Physical and social characteristics of communities and neighbourhoods are factors of health and can deliver health outcomes including:

## **Physical and mental health through:**

- perception of local area
- social connections
- physical activity

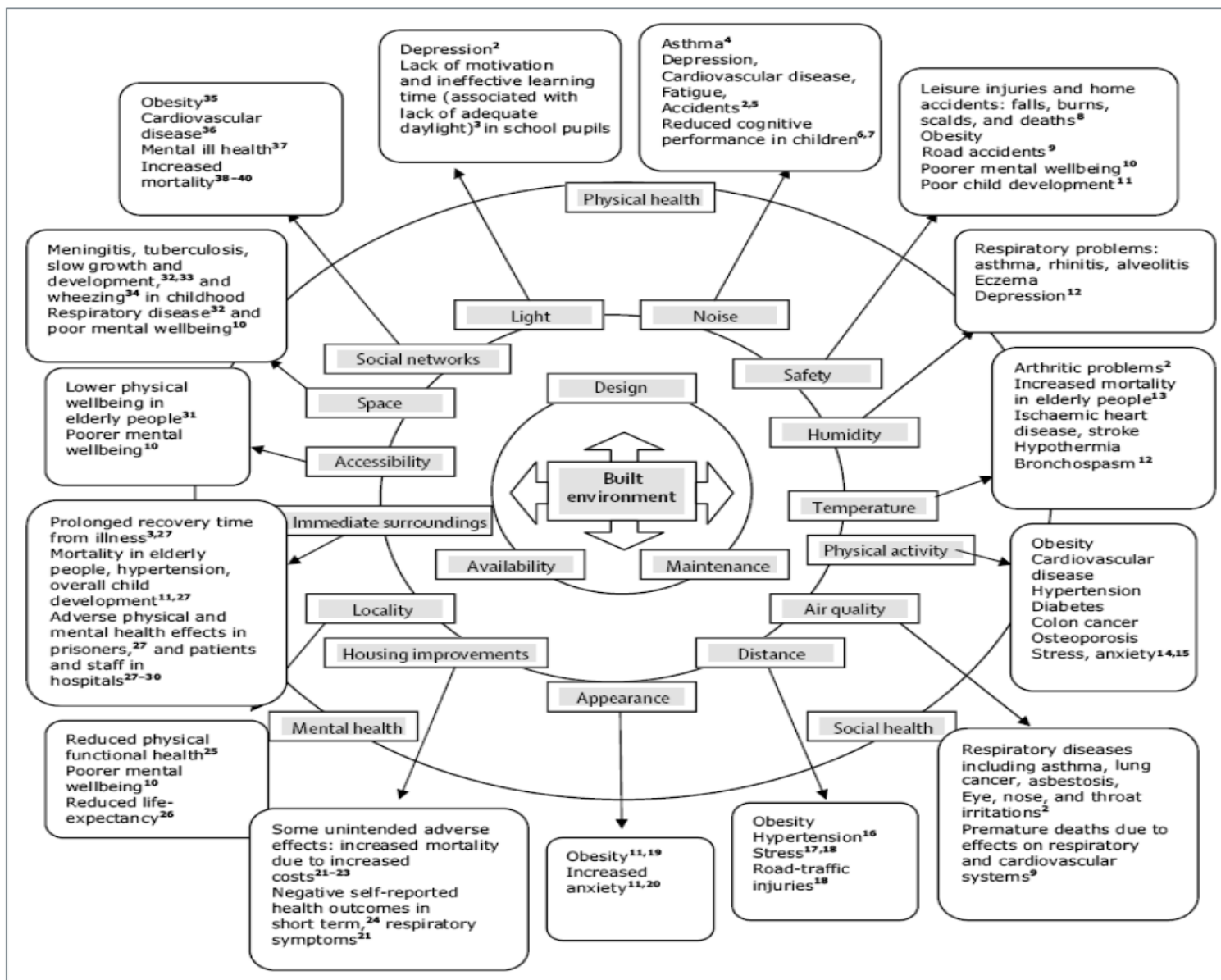
## **Environmental health:**

- air quality, water, noise

## **Safety, security**

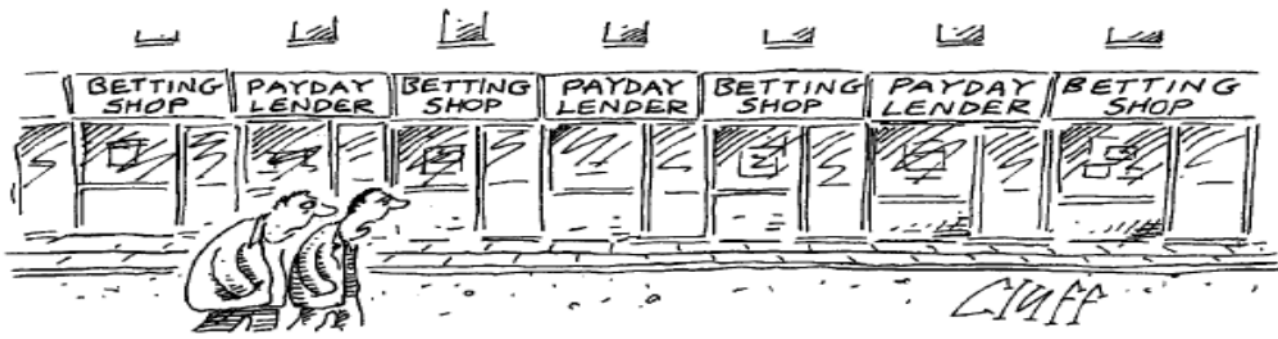
## **Health equity**

# Health problems with possible links with the built environment



Webfigure: Built environment and health

Map showing health problems investigated for possible links with built environment. Developed from diagram showing how built environment affects health.<sup>1</sup>



IT'S GOOD TO SEE THE HIGH STREET COMING BACK TO LIFE



"OF COURSE I HAVE TO DRIVE HIM TO SCHOOL IN A PEOPLE CARRIER, HE WON'T FIT INTO ANYTHING ELSE"



"AT LEAST WE STOPPED THEM SELLING OFF ALL THE PLAYING FIELD".



Road traffic noise is associated with increased cardiovascular morbidity and mortality and all-cause mortality in London Halonen et al.. (2015)



High quality Green space in Cities provides Opportunities for Physical activity

Mytton et al. (2012) found a positive association between green space and physical activity levels

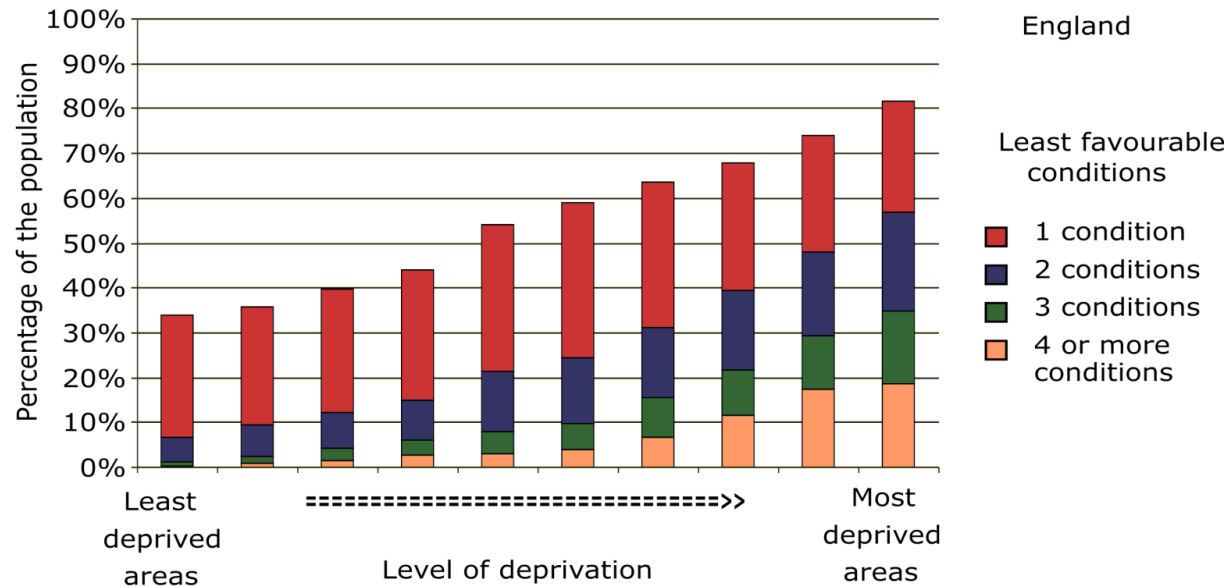
Ward-Thompson et al. (2012) showed that more green space is linked to less stress in deprived communities. *Evidence is particularly strong for positive associations between experience of natural environments and mental health.*



Researchers reported that changing and improving park signs can increase physical activity by seven to 12 percent. (Photo : Eduardo Munoz/Reuters)

<http://www.counselheal.com/articles/7242/20131018/study-finds-better-park-signs-can-increase-exercise.htm#ixzz3IEroJ32c>

# Health inequalities and the built environment



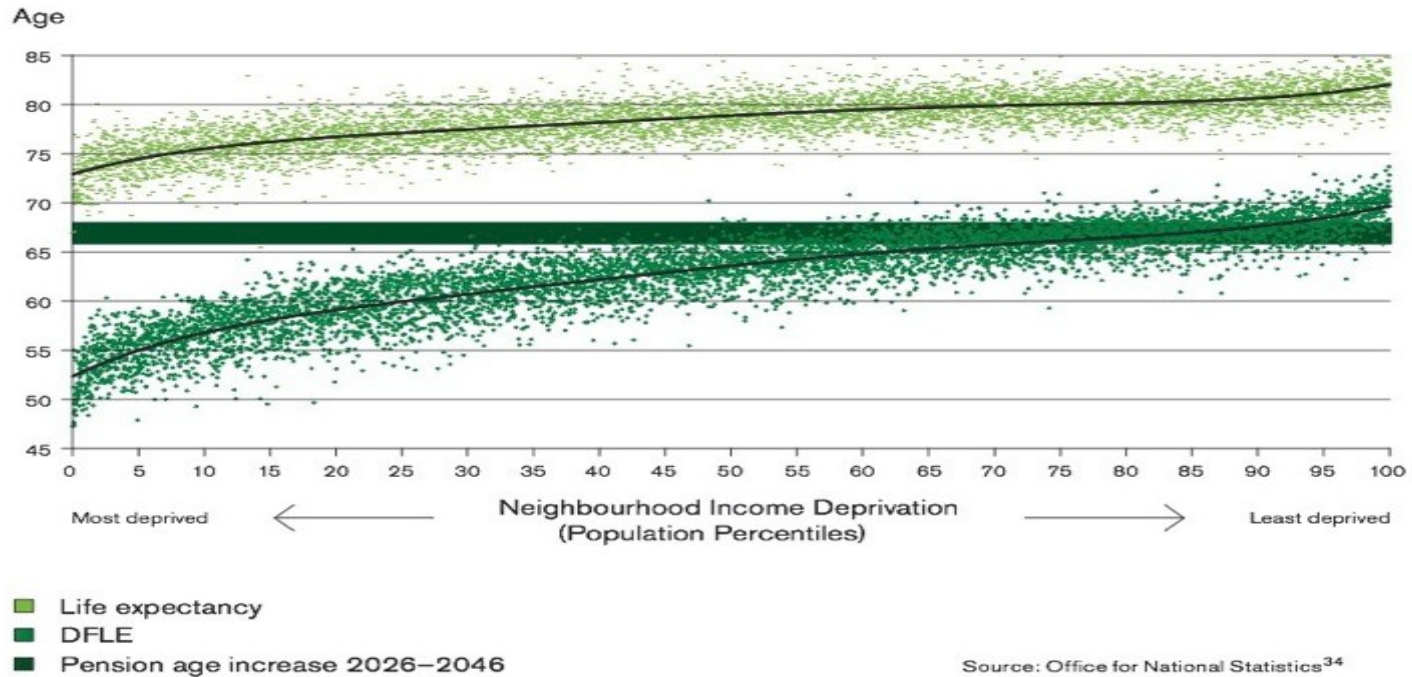
Note: Level of deprivation is determined by the Index of Multiple of Deprivation. Eleven environmental conditions or characteristics have been included: river water quality, air quality, green space, habitat favourable to biodiversity, flood risk, litter, housing conditions, road accidents, and presence of 'regulated sites' (e.g. waste management, industrial, or landfill sites, or sewage treatment works). For each of these conditions the population living in areas with, in relative terms, the 10 per cent least favourable conditions have been determined. Data range mainly from 2005 to 2008.

Source: Defra, Environment Agency, CLG

**20% of most affluent neighbourhoods in England have 5 times the amount of greenspace than the most deprived 10% neighbourhoods.**

# Health inequalities and the built environment

**Figure 1.1** Life expectancy and disability-free life expectancy (DFLE) at birth, persons by neighbourhood income level, England, 1999–2003

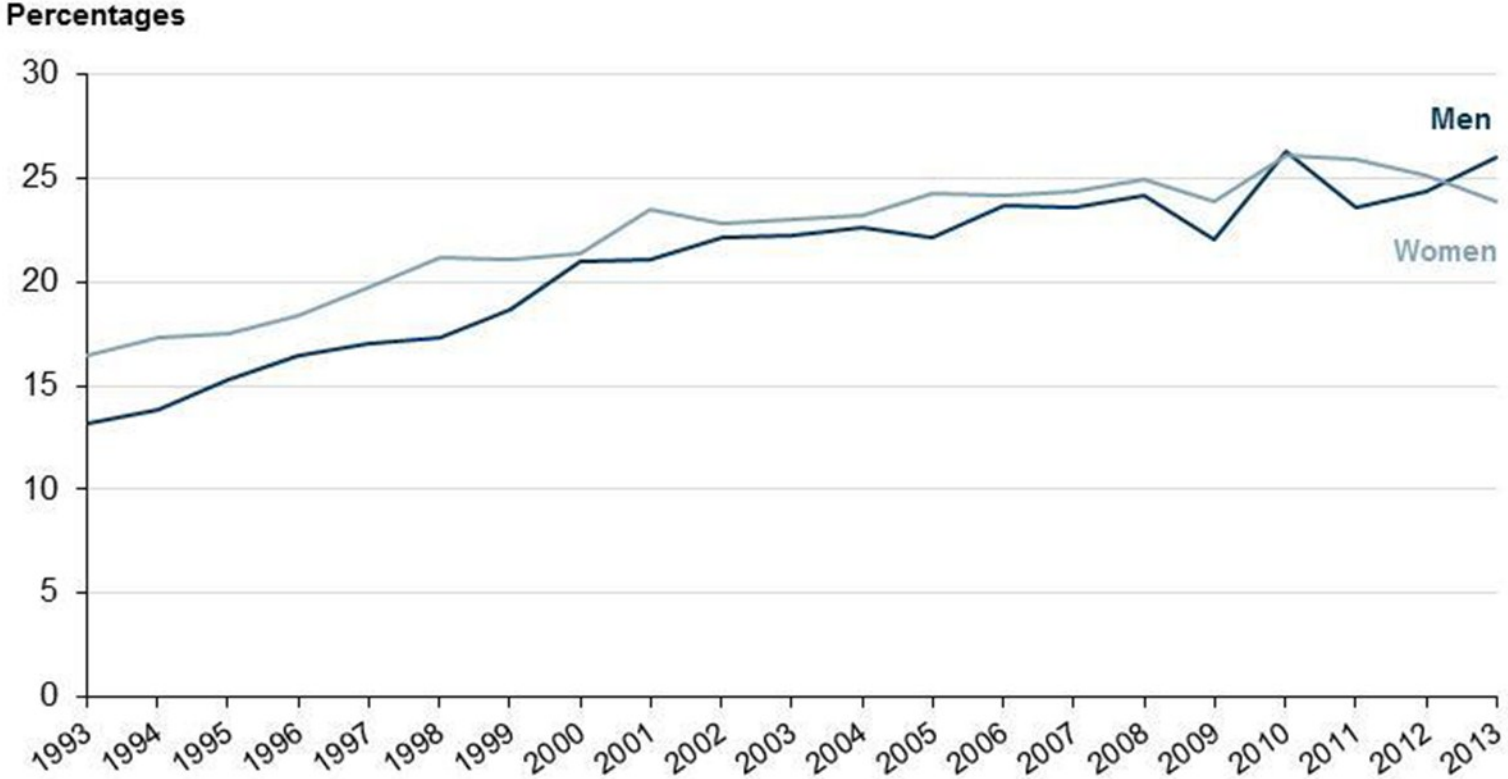


# Obesity and healthy weight environments

---



**Figure 2.3 - Obesity prevalence of adults (16+) in England 1993 to 2013**



Source: Health Survey for England 2014. Health and Social Care Information Centre

# Costs of obesity

---

Calculating the future costs of elevated BMI (£ billion /year) <i>Source: Foresight report on Tackling Obesity, 2007</i>	2007	2015	2025	2050
Total cost to the NHS of stroke, heart disease, diabetes and related diseases	17.4	19.5	21.5	22.9
NHS costs attributable to elevated BMI	4.2	6.3	8.3	9.7
Wider costs of elevated BMI (through lower productivity, etc)	16	27	37	50

---

## Cost of obesity for local authorities

---

- Care of house-bound residents suffering from obesity related illnesses (eg arthritis, heart disease, diabetes) and those requiring help towards walking aids and home adaptations may be considerable - and likely to increase in line with national predictions for obesity prevalence.
- PHE (work in progress, 2014) suggests that local authorities spend an estimated extra £352 million per year on providing formal care for severely obese people compared to healthy weight people.

Public Health England (online [www.noo.org.uk/LA/impact/economic](http://www.noo.org.uk/LA/impact/economic))

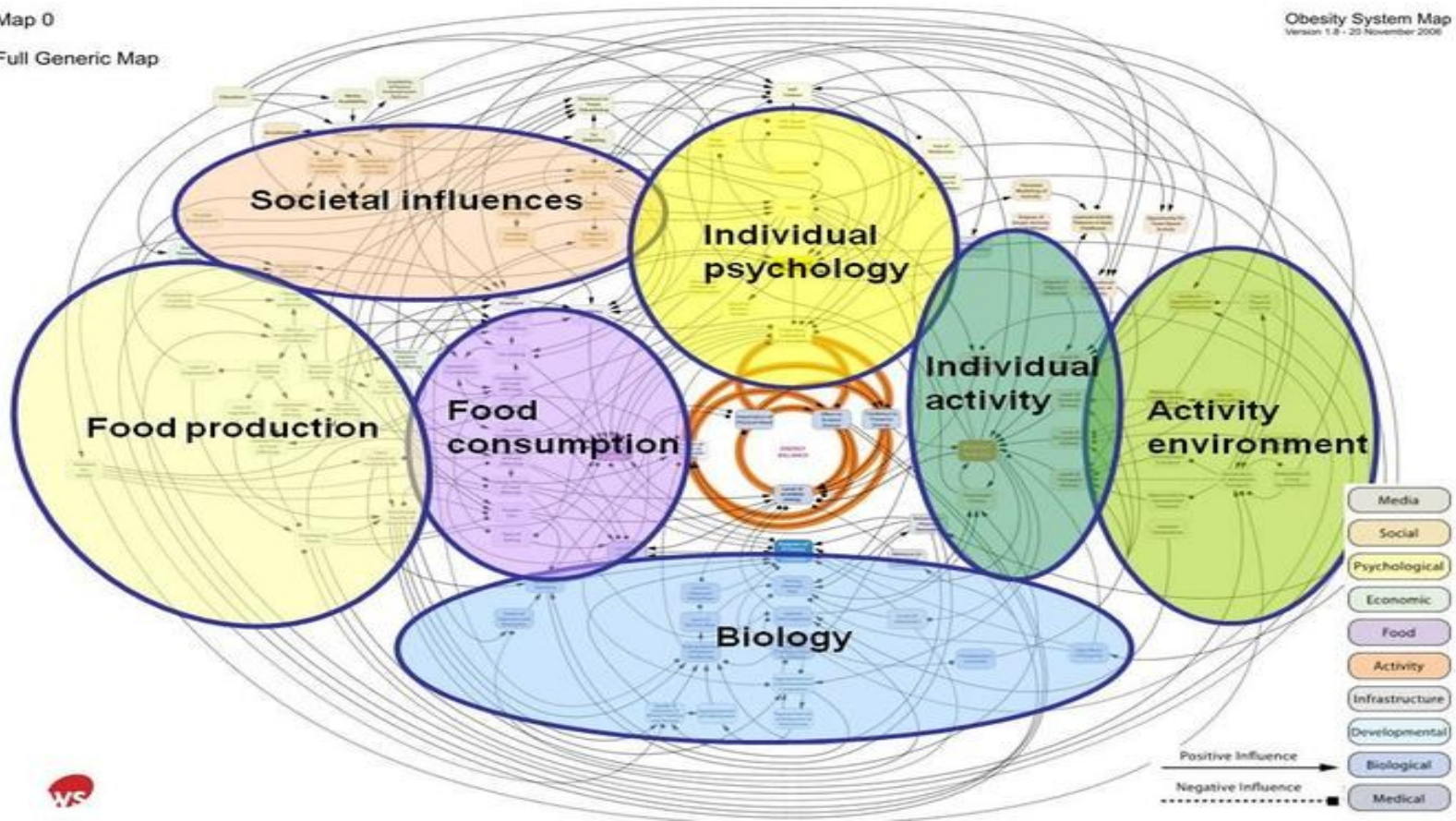
---

# Obesity: the activity environment, part of the problem and the solution?

Map 0

Full Generic Map

Obesity System Map  
Version 1.0 - 20 November 2006



<http://hdvchpediatricobesity.wikispaces.com/About+child+obesity>



# Built environment and physical activity

---

## Physical activity:

- Physical activity = lifestyle factor for long-term health and to tackle obesity.
- people who regularly use active transport gain health benefits

Characteristics of neighbourhood design can influence **individual behaviour** and take up of physical activity, for instance:

- High connectivity
- mixed neighbourhoods
- Land use mixture
- public transport, pedestrian facilities or proximity
- Green spaces, signage
- Neighbourhood aesthetics used to design-in walking and cycling in our daily lives
- 

(Saelens, Sallis and Frank, 2003; Booth, Pinkston and Carlos Poston, 2005; Warburton Nicol and Bredin 2006; Lake and Townshend, 2006; Andersen, Wedderkopp, Pucher, Buehler, Bassett and Dannenberg, 2010; Kristensen, Moller, Froberg, and Cooper, 2011; Rhodes and Nasuti, 2011; de Nazelle et al., 2011; DoH, 2011; Mytton, Townsend, Rutter and Foster, 2012; Audrey, Procter and Cooper, 2014; White et al., 2013)

---

# Built environment and physical activity: warning

---

- Supportive built environment is **not enough** on its own to ensure physical activity but it does facilitate it
- But note: an unsupportive built environment is an **effective deterrent** of physical activity and exacerbates social exclusion

Source: (TRB, 2005)

Inactivity 'kills more than obesity'

<http://www.bbc.co.uk/news/health-30812439>

---







Re-emergence of planning to  
promote healthier environments and  
behaviour change

# Re-emergence of the planning process to promote healthy weight environment

---

Have we got the right national and local policies, processes, guidance and partnerships?

- Section 8 of the National Planning Policy Framework (NPPF) includes creating healthy communities.
- Joint Health and Wellbeing Strategies and obesity strategies provide evidence on obesity to planners.
- Obesity evidence can be used to strengthen the argument for achieving a range of existing planning policy objectives (sustainable transport, climate change adaptation/mitigation, sustainable design, local economic growth and better-designed places).

But: no national planning policy guidance focusing specifically on reducing obesity and creating healthy weight environments.

---

# Planning Healthy Weight Environments – T CPA Guidance



## planning healthy-weight environments –

a T CPA reuniting health with planning project



Andrew Ross and Michael Chang



# Planning Healthy-Weight Environments

## Components of a healthy weight environment: an illustration



For full description of the elements please see Part 1

# Themes of a Healthy Weight Environment

---

- **Movement and access:** Walking and cycling environment; local transport services. (How is the use of walking, cycling and public transport services made easier than driving a car?)
  - **Open spaces, recreation and play:** Open spaces; natural environment; leisure and recreational spaces; play spaces. (How will new open spaces (and facilities such as playgrounds, food-growing schemes and nature walks) be managed and maintained? How will maintenance be funded?)
  - **Food:** Food retail (including production, supply and diversity); food growing; access. (What is the proposed retail/food mix, and is it likely to make healthier choices easier for residents?)
  - **Neighbourhood spaces:** Community and social infrastructure; public spaces. (Will there be spaces that enable people to meet each other and that are suitable for a range of uses, depending on community priorities?)
  - **Building design:** Homes; other buildings. (Does the design of the buildings encourage physical activity?)
  - **Local economy:** Town centres and high streets; job opportunities and access. (Does the proposal include employment, and does it prioritise creating infrastructure links to local areas of high unemployment?)
-

# The dilemma of ensuring viability and deliverability

---

Key issue: ability for developers and land owners to receive 'competitive returns' from their development as they "suffer" the cumulative burden of national and local design standards and policies (NPPF, para. 173-174).

Could a healthy-weight environment create more economically thriving spaces that add value to developments, as well as fulfilling national and local health policies? TCPA refers to evidence but more needed

- Retailers report an increase in trade of up to 40% when places are made more attractive for walking.
  - Places that are easier and more attractive to walk around (designed for so-called 'walkability') do better commercially (with an 80% increase in retail sales) and have higher housing values.  
(BUT be careful – could contribute to inequalities! )
-

# Partnerships: how can public health teams support planners?

	<b>Local (Spatial) Plan development</b>	<b>Development management</b>
<b>Role of local public health teams</b>	<p>Work with planners to advise on drafting of Local Plans and policies on how to maximise health gain (for example promote active travel; access to green space; etc). Work with local NHS to ensure NHS infrastructure requirements are identified</p> <p>Ensure that appropriate references are made in plans from other statutory local (health) strategies – Joint Health and Wellbeing Strategy</p> <p>Undertake a Health Impact Assessment on the emerging policies and plan</p> <p>Support planners to prepare for/present evidence at an examination in public</p>	<p>Work with planners (and developers) – especially at pre-application stage to influence emerging masterplan designs to ensure key local health issues are addressed, and outline requirements for section 106/CIL to support health and health infrastructure requirements</p> <p>Assess or prepare a Health Impact Assessment</p> <p>Support local planners in any planning appeals which may arise</p>
<b>Public Health England (PHE)</b>	<p>Work with local public health teams to advise and support (usually at PHE Centre level and only if requested)</p> <p>Provide national guidance and support (for example Obesity and the Environment briefings)</p>	<p>Work with local public health teams to advise and support (usually at PHE Centre level and only if requested)</p>

Fig. 1 An overview of public health involvement in planning

Source: Public Health England's Healthy People, Healthy Places programme

# How are local authorities promoting healthy living environments?

---

- Sandwell and West Midlands Healthy Urban Group – Partnership working
  - Bristol protocol - HIA process
  - Plymotion - Integrated transport/active travel
  - Waltham Forest – Healthy eating
  - Torbay – Greenspace Strategy
  - Let's Walk Bedminster - Community project
-

# Conclusion: few issues to consider for health and built environment policy-making (planning policy/planning decisions)

---

## **Evidence base (for academics and research councils)**

- Methodological challenges to ensure robustness of the evidence
- Generalisability vs local relevance to inform local plans, planning decisions
- Change the way research priorities are set, to challenge medical paradigms and the instrumental mindset of cost effectiveness
- Ensure that planners inform scope of research questions, projects
- Translate the evidence so it can be material consideration in planning decisions

## **Delivery mechanisms for spatial planning**

- NPPF needs to give planning for health a higher priority
- develop integrated policy-making across professions at local level
- Local plan: address the issue of viability (long term impact of new development on health)
- Joint Strategic Needs Assessments/ Health and Wellbeing strategies to inform local plan and vice versa
- Consider health impact assessment in other forms of assessments

## **Politics**

- Public health seen as left of centre/health diplomacy needed
  - Leadership at local level
  - Realise the co-benefit of health agenda (transport, housing, education, sustainable development)
-

# References

---

**Useful resource: Barton, Thompson, Burgess and Grant (eds) (2015). The Routledge Handbook of Planning for Health and Well-being, London: Routledge.**

- Aboelata, 2004. The built environment and health - 11 Profiles of Neighborhood Transformation, Prevention Institute: Oakland, CA.
  - TRB (2005) Does the built environment influence physical activity? : examining the evidence /
  - Committee on Physical Activity, Health, Transportation, and Land Use, Transportation Research Board, Institute of Medicine of the National Academies, Washington DC.
  - Dahlgren G, Whitehead M. 1991. Policies and strategies to promote social equity in health. Stockholm: Institute for Future Studies.
  - Marmot, Sir M. (2010). Fair Society, Healthy Lives – The Marmot Review. London: Department of Health.
  - Jackson, R., Dannenberg, A. and Frumkin, H, (2013). Health and the Built Environment: 10 Years After, American Journal of Public Health Vol. 103, No. 9 : pp. 1542-1544.
  - Barton, H. (2009). Land use planning and health and well-being. Land Use Policy 26S S115–S123.
  - Murray, L. et al. (2013). 'UK health performance: findings of the Global Burden of Disease Study 2010'. The Lancet, 2013, Vol. 381 (9,871), 997-1020. [www.thelancet.com/journals/lancet/article/PIIS0140-6736\(13\)60355-4/fulltext#article\\_upsell](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)60355-4/fulltext#article_upsell)
  - The Institute of Health Equity (2013). Review of the social determinants and the health divide in the WHO European region. Copenhagen: WHO Europe.
  - Crew, D. (2007). The tenants' dilemma – warning: your home is at risk if you dare complain. Liverpool: Citizen Advice Bureau.
-

# References

---

- Crisis (2011). Homelessness: a silent killer a research briefing on mortality amongst homeless people, Crisis.
  - Healy, J. D. (2003). Excess winter mortality in Europe: a cross country analysis identifying key risk factors. *Journal of epidemiology and community health* 57(10), 784-789.
  - Liddell, C. and Morris, C. (2010). Fuel poverty and human health: a review of recent evidence . *Energy Policy* 38 (6), 2987-2997.
  - Harker, L. and Shelter (2006). *Chance of a lifetime: the impact of bad housing on children's lives.* London: Shelter.
  - CABE (2010a). *Community green: using local spaces to tackle inequality and improve health,* London: CABE.
  - CABE (2010b). *Urban green nation: building the evidence base.* London: CABE.
  - Croucher, L. et al. (2007). *The links between greenspace and health: a critical literature review,* Stirling: Greenspace Scotland.
  - Pretty, J. et al. (2007). *Green exercise in the UK countryside: effects on health and psychological wellbeing, and implications for policy and planning.* *Journal of environmental planning and management* 50(2), 211-231.
  - Clark, P. et al. (2013). *Greening dementia: a literature review of the benefits and barriers facing individuals living with dementia in accessing the natural environment and local greenspace.* Worcester: Natural England.
  - Maas, J. et al. (2009). *Morbidity is related to a green living environment.* *Journal of epidem. and comm. Health* 63 (12), 967-973.
-



# References

---

- Andersen, L. B., Wedderkopp, N., Kristensen, P. L., Moller, N. C., Froberg, K. and Cooper, A. (2011). Cycling to School and Cardiovascular Risk Factors: A Longitudinal Study. *Journal of Physical Activity and Health*, 8, 1025-33.
  - Audrey, S., Procter, S. & Cooper, A. (2014). The contribution of walking to work to adult physical activity levels: a cross sectional study. *International Journal of Behavioural Nutrition and Physical Activity*, 11, 37.
  - Barton, H. (2009). Land use planning and health and well-being. *Land Use Policy* 26S S115–S123.
  - Bristol City Council (2011a). Bristol Development Framework Core Strategy, adopted June 2011. Bristol: Bristol City Council.
  - Carmichael, L., Barton H., Gray S., Lease H. & Pilkington P. (2012). Integration of health into urban spatial planning through impact assessment: identifying governance and policy barriers and facilitators. *EIA Review*, 32 (1), 187-194.
  - Chaix, B. (2009). Geographic life environments and coronary heart disease: a literature review, theoretical contribution, methodological updates and a research agenda. *Annual review of Public Health*, 30, 81-105.
  - Commission for the Architecture and the Built Environment (2010). Improving the design of new housing: What role for standards? London: CABE.
  - Commission for the Architecture and the Built Environment (2010). Improving the design of new housing: What role for standards? London: CABE.
  - Cummins, S. & Macintyre, S. (2005). Food environments and obesity - neighbourhood or nation? *International Journal of Epidemiology*, 35, 100-4.
-

# References

---

- Cummins, S., Petticrew, M., Higgins, C., Findlay, A. & Sparks L. (2005). Large-scale food retailing as health intervention: quasi-experimental evaluation of a natural experiment. *J. Epidemiol Community Health*, 59, 1035-40.
  - Dahlgren, G. and Whitehead, M. (1991). Policies and strategies to promote social equity in health. Institute for Future Studies, Stockholm: Mimeo.
  - De Nazelle, A., Nieuwenhuijsen, M. J., Anto, J.M., Brauer, M., Briggs, D., Braun-Fahrlander, C., ... Lebet, E. (2011). Improving health through policies that promote active travel : a review of evidence to support integrated health impact assessment. *Environment International*, 37, 766-77.
  - Department of Health (2011a). Start active, stay active: a report on physical activity for health from the four Home countries' Chief Medical Officers, London: DoH.
  - Department of Health (2011c). Healthy Lives, Healthy People: A call to action on obesity in England. London: DoH.
  - Evans, G. W. (2003). The built environment and mental health. *Journal of Urban Health: Bulletin of the New York Academy of Medicine* 80(4), 536-55.
  - Foster, S., Wood, L., Christian, H., Knuijna, M. & Giles-Corti, B. (2013). Planning safer suburbs: do changes in the built environment influence residents' perceptions of crime risk? *Social Science and Medicine*, 97, 87-94.
  - Galea, S., Ahern, J., Rudenstine, S., Wallace, Z. Vlahov D. (2005). Urban built environment and depression: a multilevel analysis. *J Epidemiol Community Health*, 59, 822-7.
  - Giles-Corti, B., Wood, G., Pikora, T., Learnihan, V., Bulsara, M., Van Niel, K., ...Villanueva, K. (2011). School site and the potential to walk to school: the impact of street connectivity and traffic exposure in school neighborhoods. *Health and Place*, 17, 545-550.
-

# References

---

- Guite, H. F, Clark, C., & Ackrill, G. (2006). The impact of the physical and urban environment on mental well-being. *Public Health*, 120, 1117-26.
  - Halonen, J., Hansell, A., Gulliver, J. et al. (2015). Road traffic noise is associated with increased cardiovascular morbidity and mortality and all-cause mortality in London. *European Heart Journal*. DOI: 10.1093/eurheartj/ehv216 - See more at: [http://www.lshtm.ac.uk/newsevents/news/2015/road\\_traffic\\_noise\\_associated\\_with\\_deaths\\_and\\_strokes.html#sthash.nFL1cmpy.dpuf](http://www.lshtm.ac.uk/newsevents/news/2015/road_traffic_noise_associated_with_deaths_and_strokes.html#sthash.nFL1cmpy.dpuf)
  - Jackson, L. E. (2003). The Relationship of urban design to human health and condition. *Landscape and Urban Planning* 64(4), 191-200.
  - Kihal-Talantikite, W., Padilla, C., Lalloué, B., Gelormini, M., Zmirou-Navier, D. & Deguen, S. (2013). Green space, social inequalities and neonatal mortality in France. *BMC Pregnancy and Childbirth*, 13, 191.
  - Lake, A., & Townshend, T. (2006). Obesogenic environments: exploring the built and food environments. *Journal of the Royal Society for the Promotion of Health*, 126(6), 262-267.
  - Leslie, E., & Cerin, E. (2008). Are perceptions of the local environment related to neighborhood satisfaction and mental health in adults? *Preventive Medicine*, 47(3), 273-278.
  - Miles, R., Panton, L. B., Jang, M. & Haynes, E. M. (2008). Residential context, walking and obesity : two African-American neighborhoods compared. *Health and Place*, 14, 275-86.
  - Mytton, O., Townsend, N., Rutter, H. and Foster, C. (2012). Green space and physical activity: an observational study using health survey for England data. *Health and Place*, 18, 1034-41.
  - National Institute for Health and Care Excellence (2008). *Physical Activity and the Environment – NICE guidelines PH8*. London: NICE.
-

# References

- Nielsen, T. & Hansen, K. (2007). Do green areas affect health? Results from a Danish survey on the use of green areas and health indicators. *Health and Place*, 13, 839-50.
- O'Campo, P., Salmon, C., and Burke, J. (2009). Neighbourhoods and mental well-being: What are the pathways? *Health and Place*, 15(1), pp. 56-68.
- O'Mullane, M. (ed.) (2013). *Integrating Health Impact Assessment with the policy process*. Oxford: Oxford University Press.
- Phillips, D. R., Siu, O., Yeh, A.G.O. & Cheng, K. H. C. (2005). The impact of dwelling conditions on older persons' psychological well-being in Hong Kong; the mediating role of residential satisfaction. *Soc. Sci. Med.*, 60, 2785-97.
- Pucher, J., Buehler, R., Bassett, D. R. & Dannenberg, A.L. (2010). Walking and cycling to health : a comparative analysis of city, state, and international data. *American Journal of Public Health*, 100, 1986-92.
- Rhodes, R. E. & Nasuti, G. (2011). Trends and changes in research on the psychology of physical activity across 20 years: a quantitative analysis of 10 journals. *Preventive Medicine*, 53 (1-2), 17-23.
- Saelens, B. E., Sallis, J. F. & Frank, L. D. (2003). Environmental correlates of walking and cycling: findings from the transportation, urban design, and planning literatures. *Ann Behav Med*, 25, 80-91.
- Spielman, S., Yoo, E.-H. & Linkletter, C. (2013). Neighbourhood contexts, health, and behaviour: understanding the role of scale and residential sorting. *Environment and Planning B: Planning and Design*, 40, 489-506.
- Teedon, P., Gillespie, M., Lindsay, K. & Baker, K. (2014). Parental perceptions of the impacts the built environment has on young children's health: a qualitative examination and lay assessment amongst residents in four Scottish communities. *Health and Place*, 28, 50-57.

# References

---

- Town and Country Planning (2014). Special Issue Reuniting Health with Planning. *Town and Country Planning*, 83, 11.
  - Turrell, G., Haynes, M., Wilson, L.-A. & Giles-Corti, B. (2013). Can the built environment reduce health inequalities? A study of neighbourhood socioeconomic disadvantage and walking for transport. *Health and Place*, 19, 89-98.
  - Warburton, D., Nicol, C. & Bredin, S. (2006). Health benefits of physical activity: the evidence, *CMAJ*, 174, 801-9.
  - Ward-Thompson, C., Roe, J., Aspinall, P., Mitchell, R., Clow, A., Miller, D. (2012). More green space is linked to less stress in deprived communities: Evidence from salivary cortisol patterns, in *Landscape and Urban Planning* 105 (3) 15, 221–229.
  - White, M., Alcock, I., Wheeler, B. & Depledge, M. (2013). Would you be happier living in a greener urban area? A fixed-effects analysis of panel data. *Psychological Science*, 24, 920-928.
  - Wismar, M., Blau, J., Ernst, K. & Figueras, J. (eds) (2007). *The Effectiveness of Health Impact Assessment: scope and limitations of supporting decision-making in Europe*. Copenhagen, Denmark: World Health Organization Regional Office for Europe.
  - World Health Organization (2008). Air quality and health, fact sheet 313. <http://www.who.int/mediacentre/factsheets/fs313/en/>
-