



FORESIGHT

Tackling Obesities:
Future Choices – Obesogenic
Environments – Summary of
Discussion Workshops

Government Office for Science

Foresight

Tackling Obesities: Future Choices – Obesogenic Environments – summary of discussion workshops

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Introduction

The impact of the built environment on health, and in particular on obesity, was the subject of discussion at three multidisciplinary workshops held during 2006. This report summarises those discussions. The workshops were informed by a review of evidence on the impact of the built environment on obesity, undertaken for the Foresight project by the School of Environmental Science, University of East Anglia (<http://www.foresight.gov.uk/Obesity/Outputs/Index.html>).

These events brought together a unique collection of experts with a very wide range of perspectives. Notably, these experts had, until this time, largely worked in isolation. The discussions highlighted the critical importance of finding an effective mechanism for continuing such discussions between groups of professionals in a sustained series of strategic conversations and for a co-ordinated approach to change.

The workshops

The three workshops were designed to explore the impact of the built environment on obesity, and to consider possible solutions and strategies for improvement. A wide range of professionals contributed, including architects, town planners, policy makers and others from central and local government, the construction industry, non-governmental organisations (NGOs), researchers, academics, doctors and public health professionals.

1 Fat Cities: Can the Design of the Built Environment Help the Obesity Crisis? took place on 30 October 2006 and was hosted by EDGE.

[EDGE is a discussion forum of key figures from architecture, design, planning, civil engineering and construction dedicated to addressing political, social and professional issues relating to the built environment and seeking to stimulate interdisciplinary discussion and co-operation between all the professionals involved in the design and construction of the built environment.]

A note of the debate is at <http://www.at-the-edge.org.uk/debates/debate30/debate30.htm>

2 Joint Foresight/Commission for Architecture and the Built Environment (CABE¹) Workshop on Obesogenic Environments took place on 30 November 2006 and addressed the following questions:

- What are the opportunities for using the built environment to combat obesity?
- What barriers will we need to overcome if we are to maximise those opportunities, and how can we measure our success in creating a healthy environment?

3 Building Health took place on 4 December 2006 and was jointly hosted by the [National Heart Forum](#),² [Living Streets](#)³ and CABE. A meeting of practitioners and academics, it explored options for strengthening the current policy platform relevant to urban design and the public realm in relation to population levels of physical activity.

Discussions at all three workshops were informed by the concept of the obesogenic environment.

The obesogenic environment

Human physiology has evolved to be well adapted for times when food is scarce and relatively large amounts of energy are required to secure food and stay alive. Human beings ate food whenever it was available and conserved energy by moving only when necessary. Our ancestors are estimated to have expended about 1,000 kcal per day in physical activity. Effectively storing and conserving energy made evolutionary sense, but it is exposing a human predisposition to gain weight in a society where food is abundant and the average adult in sedentary employment only needs expend 300 kcal per day for physical activity.

The consensus of expert opinion supports the commonly held assumption that modern lifestyle changes have contributed to an energy imbalance, with readily available – and often energy-dense – foods tending to increase energy intake, and technological advances tending to reduce energy expenditure and physical activity.⁴

The term ‘the obesogenic environment’ was first coined in the 1990s as a hypothesis that might explain the current obesity pandemic. It is defined by Swinburn et al⁵ as the ‘sum of the influences that the surroundings, opportunities or conditions of life have on promoting obesity in individuals and populations’⁶ The term embraces the entire range of social and cultural and infrastructural conditions that impact on an individual’s ability to follow a healthy lifestyle. In earlier work, Swinburn and others described the environment in terms of micro-environments (e.g. home, school, neighbourhoods), which are influenced by broader ‘macro-environments’ (e.g. health and education systems, government policy and social attitudes and beliefs, or culture).⁷ The different ways in which these environments influence obesity-promoting behaviours among individuals are not well understood. Nevertheless, obesogenic environments are accepted as a significant driver behind the growth in obesity. A key element of the wider obesogenic environment is the built environment.



Obesity and the built environment

In the light of current concerns about the impact of the built environment on healthy lifestyles and obesity, perhaps it is appropriate to revisit the original notion of town planning as central to public health. Town planning as a 'profession' has its origins in the public health issues that arose in the 19th century during the industrial revolution. Lack of sanitation, poor water quality and overcrowding in towns were understood to lead to disease and poor health. This prompted the introduction of sanitation measures, such as improvements in sewage systems and clean water supplies, together with attempts to provide better-quality housing. It is interesting to compare the problems the town planners of the 19th century set out to address with the key public health issues of the 21st century.

The environment and disease 1856	The environment and disease 2006
Lack of sanitation	Sedentary lifestyles
Cholera	Poor diet
Water quality	Smoking
Tuberculosis	Traffic
Overcrowding	Obesity
Hunger	Coronary heart disease
Poor diet	Asthma
Infant mortality	

It is generally understood that the built environment has an influence on human behaviour and quality of life. This understanding is underpinned by a wealth of data. However, there is currently very little data that focuses specifically on the impact of the built environment on obesity. What evidence there is suggests that the built environment does have an impact on levels of activity, but that it is one of many influencing factors. The research evidence that exists has been systematically reviewed for Foresight ([Tackling Obesities: Future Choices – Obesogenic Environments. Evidence Review](#)) and a number of outstanding research questions raised.⁸

The Foresight evidence review highlights the limited evidence base and the methodological difficulties in managing such research studies. Most of the existing research has been conducted in the USA, Australia or Scandinavia, where different social and cultural norms and structures and different approaches to the planning and use of the environment make it difficult to extrapolate and apply the findings directly to the UK.

The challenge for researchers is to attempt to understand more clearly the ways (positive or negative) in which the built environment influences factors such as activity levels and body weight. Despite the current lack of a strong and detailed evidence base, it is acknowledged within public health disciplines that environmental modifications, including changes to planning and the design of the urban environment, may be a necessary precursor to improving the health of the population overall.

As a starting point, the participants at the workshops identified the key environmental determinants of energy balance.

Environmental determinants of energy balance

The workshops identified the following environmental trends and influences that effect energy balance:

- reduction in physical activity undertaken in the workplace and in the home
- leisure becoming increasingly sedentary and pursued within the home
- reduced emphasis on organised sport in schools
- energy-saving devices in public places (escalators, lifts, automatic doors etc.), which design out activity
- the tension between making environments accessible and promoting activity
- poor-quality and poorly maintained outdoor environments/public open spaces, discouraging use
- outdoor environments increasingly perceived as dangerous; an increasingly risk-averse society discouraging children from being active (risk, fear of litigation, road safety, stranger danger).
- urban design that favours the car and marginalises cyclists and pedestrians
- the greater availability of fast food and processed food as compared to healthy food, leading to 'food deserts'.

At the joint Foresight/CABE workshop, participants considered the key opportunities for and barriers to change in the built environment. These discussions revealed a number of important themes and messages.

Barriers and opportunities

Policy levers, incentives and regulation

New residential developments planned within the next ten years may involve tensions between ‘designing in’ activity and creating sympathetic environments to enhance the quality of life on the one hand, and the centrally set demands for specific housing-density levels on the other.

There will also be challenges for designers and planners in creating built environments that meet differing needs e.g. providing disability access as well as meeting the need to encourage more active lives. But such challenges also present design opportunities for architects and planners to help people engage with their built environment.

The importance of stronger levers and better co-ordination across a range of policy areas was mentioned in all of the workshop discussions. The ‘obesogenic’ drivers (a combination of lifestyle and environmental influences,) instrumental in shaping all aspects of modern societies and their lifestyles, are perceived to be very powerful. These drivers impact on individuals and communities, influencing everything from social norms (it is ‘normal’ to have a car, own a TV etc.), individual choices (including levels of physical activity, food and nutrition), to the shaping of the physical environments within which we all live and work.

The existing policy framework was not felt to be very successful in exerting any real pressure for change to these drivers. It was also felt that it increasingly reflected obesogenic social norms:

‘The biggest area of open space in the UK is the road network, but it is being managed entirely for cars. In order to achieve a 3 to 4 times expansion of active travel, the road network must be made to work more fairly’ (participant at the Foresight/CABE workshop)

Particular concern was expressed about the apparent disconnect between the NHS capital spending programme and health policy more generally:

‘Planning briefs for new hospitals and primary care buildings require good site, landscape and design features but also include requirements for maximum car parking’ (participant at the EDGE debate)

However, workshop participants felt that there was considerable scope for more creative use of local planning powers; for example, building in health impact assessments and involving public health professionals in the planning process.



One particular opportunity raised by a number of participants was the use of Section 106 (Town and Country Planning Act 1990), which provides a general power for planning authorities to obtain 'planning gain' (i.e. the principle of a developer agreeing to provide additional benefits or safeguards, often for the benefit of the community, usually in the form of related development supplied at the developer's expense). Currently, these powers tend to be used mostly for material planning considerations but might be used to lever real health planning gains at local level. Mention was made of the work of the [Healthy Urban Development Unit](#)⁹ in London, which, working within the context of the London Plan, has developed a series of tools to be used by urban planners and the NHS to extract the maximum health benefits for local people from developments from Section 106 agreements.

There have also been decisive shifts in relevant policy priorities, which emphasise the need to plan and build environments to promote public health and community well-being. However, these were widely considered by the expert contributors to the three debates to currently have insufficient leverage in themselves. Moreover, even where the policy framework is reasonably robust, for example, in relation to high-level strategic planning, embracing regional spatial strategies, local transport plans and local development frameworks, opportunities may be lost at the implementation level:

'Responsibility for implementing the regional spatial strategy is delegated to local levels where the focus is on micro-planning issues, building standards etc. Regions have no real power, but all the responsibility' (participant at the Building Health workshop).

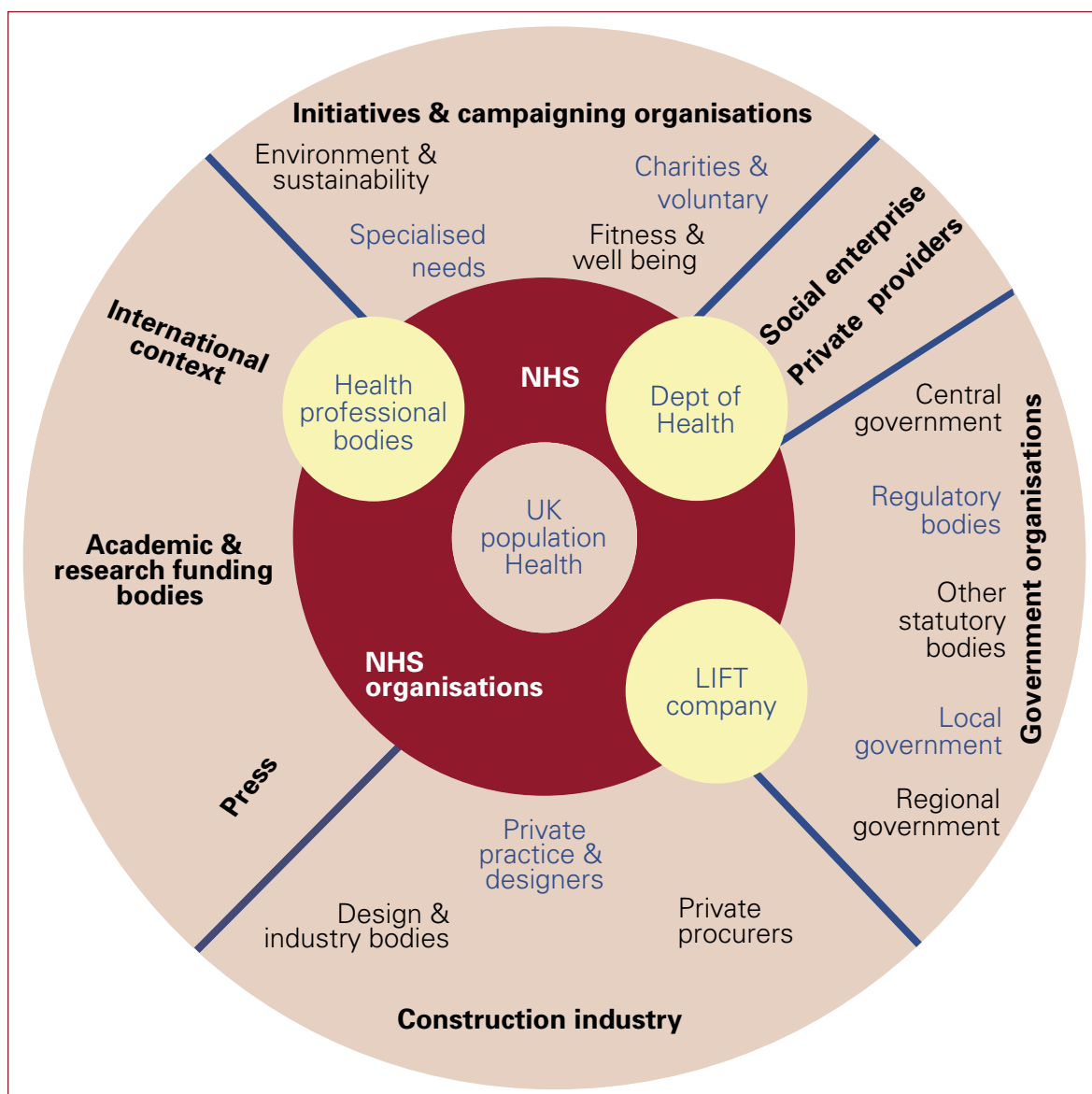
Participants felt that, currently, there were opportunities to learn from best practice, both from within the UK and abroad. Mention was made of, for example, the importance of [Planning Policy Guidance Note No. 6 \(1996\)](#),¹⁰ which aims to protect small town centres from lasting damage by large out-of-town retail (including food) developments through the introduction of a 'sequential' approach to site selection, which requires development within town centres, unless there is no suitable alternative.

'[What can be done to prevent the] current planning policy and cultural *Zeitgeist*, which normalises the building of private gyms and swimming pools in out-of-town areas, to which people drive and which are unaffordable for those whose health needs are greatest?' (participant at the Foresight/CABE workshop).

Implementation and complex delivery systems

There are a number of stakeholders, including central and local government, NGOs, business and the charitable sector, who have roles and responsibilities in this area (see Figure 1). Although this reflects the nature of the issue, it also increases the complexity of delivery and implementation. Participants also suggested that the proliferation of local, national and international policies aimed at different aspects of ‘the problem’ created greater complexity, and emphasised that it was critical to create effective joined-up action at all levels. This could help mitigate the risk of unintentional negative impacts from:

Figure 1: Key players for designing a healthier built environment^{11,12}





'... well-meaning but uncoordinated and fragmented initiatives' (participant at the EDGE debate)

Time was spent during all three workshops discussing the role of local authorities in providing community leadership and exerting strong co-ordination at local level. The perception is that currently:

'although local authorities have the power to promote well-being, they do not seem to know what to do' (participant at the Building Health workshop)

The challenge relates to the development of new levers, to better use of existing levers, as well as to enhanced local leadership, awareness-raising and resource development to enable agencies with responsibilities in this area to use existing powers more effectively:

'We need to ask ourselves whether the health status of populations in northern Europe and Scandinavia is better at this point in time because of strong political leadership and better local capacity to execute' (participant at the Foresight/CABE workshop)

Encouraging routine physical activity

A number of concerns were expressed about the 'cultural and policy fixation on sport' as a means of achieving better health. The goal should be to create opportunities for integrating physical activity into all aspects of daily life, including leisure time, the workplace and domestic travel. In this regard, the impending 2012 Olympics is seen both as a challenge and an opportunity. Will the new developments in the Thames Gateway provide a laboratory to explore healthy urban design and community development and set a standard for good practice, or will the focus be on sports facilities and overspill housing?

It was also stressed by participants in the workshops that organised sport and the use of purpose-built facilities such as private gyms are not the only route to increased activity. We should not lose sight of the potential for more frequent normal day-to-day activity and community-based activities, such as dancing, walking, doing chores, gardening and DIY, to help people increase their overall activity levels. It is in this context that a sympathetic built environment that encourages people to get out and be active is significant.



Other factors influencing behaviours

Participants agreed that change cannot be brought about without the consideration of the behavioural factors that influence how people use the built environment. There is evidence to suggest that, even when there is optimal co-ordination between contemporary design, policy making and health through effective planning, this may not lead automatically to healthy lifestyle change and healthy behaviours becoming the norm.¹³ Time pressures are a major obstacle in persuading individuals to embrace transport modal shifts, as are concerns about safety, particularly of cycling. These all appear to act as deterrents to making healthy choices. Planning new environments to promote health and to tackle obesity in isolation from the breadth of other influencing factors is unlikely to be successful. It is essential that design is used to make the healthy choice not only available, but also the easy and convenient choice.

Participants in the workshops observed that there is a possibility that, where transport schemes have been designed to reduce congestion and carbon emission e.g. bypasses, ring roads, park-and-ride schemes and cycle lanes, they may have actually contributed to the decline in active travel.

Common language and wider awareness of public health

Discussions suggested that there was a need for a common language to enable more effective communication between the different professional communities. In particular, to:

- raise awareness e.g. in the construction community of the impact of the built environment on health
- formulate commonly understood definitions to enable efficient measurement and evaluation
- increase the effectiveness of multidisciplinary approaches to professional training.

Greater recognition is needed of the importance of multidisciplinary approaches to training professionals who work on the built environment and in public health. The great environmental public health initiatives of the 19th century were a product of multidisciplinary effort. Participants felt that this was primarily because, in the 19th century, individual specialisms had not yet developed and the 'silo thinking' of today had not therefore been evident. There was strong support for the development of a common framework, within which public health and built environment professionals are enabled to work together as modern 'urban doctors' to find innovative and joined-up solutions to meet the public health challenges of the 21st century.

All of the workshop participants, in particular those in the EDGE debate, where most of the participants were from the design and construction sectors, felt that the need for multidisciplinary working and strategic thinking was an opportunity to broaden the professional training for planners, designers and architects and also for public health professionals.

Vital to creating a wider awareness of public health is the invigoration of 'a public health mindset' among architects, planners, engineers and other built environment professionals. A strategic approach to creating this mindset might include:

- the development and promotion of interim process and outcome measures
- the development of public health occupational standards for built environment professionals
- the development of learning networks across the disciplines involved in the seminars.



Evidence and evaluation

Contributors cited the need for better and more consistent data collection, with a commitment to building in opportunities for measurement and evaluation at the development stage. There is a particular need to establish a consistent approach to the evaluation of planning policy as a matter of routine practice and to promote multidisciplinary methodologies for doing this, including rapid appraisal, health impact assessment and action research. The huge investments in the built environment currently being made and major national developments such as the Olympics site and infrastructure provide critical opportunities to develop existing knowledge about what works, as long it is ensured that the evaluation covers not just the functionality and the economics of such projects, but also the impacts, both short and long term, on health, quality of life, activity levels etc.

It was widely accepted that there is a need to build up a more robust evidence base in the next 5–10 years through prospective studies focused on distinct populations, for instance, on children and young people. This will be of particular value in providing a more comprehensive set of baseline data as well as helping increase understanding of what may be needed to encourage healthy lifestyles and identify innovations that may hold promise.

Links to climate change and sustainability

'Obesity is to public health what climate change is for the environment' (Tim Lang, UK Public Health Association conference March 2007)

Like climate change, obesity is not a problem we can ignore. Workshop participants suggested that action to tackle climate change may also lead to useful health outcomes. For example, increased active use of the environment would also help to improve health and quality of life, particularly for the poorest sections of the population.

Numerous additional opportunities for challenging current trends were identified by workshop participants. These can be seized if a lateral approach is taken and, particularly, if there is recognition at the national and local levels and among key professional groups of the need to make links in the round for public health, social inclusion and sustainability issues, recognising that both human behaviour and urban design need to be addressed to create the required behavioural changes. In this context, energy emission legislation may provide the single best indirect opportunity to challenge the social norms and individual behaviours that interact with obesogenic factors in the built environment.

Best practice – case studies

While the scientific evidence base is currently limited, evidence and case studies are available from other countries that may be of value. Internationally, there are signs that local government, town planners and public health officials are beginning to work together to make it easier for people to access community space with more opportunities for walking and cycling. In the Netherlands, where it is estimated that there are as many bicycles as people, there are 6,500 *Woonerven* – safe local streets where traffic is limited to eight miles per hour.¹⁴ In China, city governments pay commuters to cycle to work. In Curitiba, Brazil, programmes have been put in place to create an eco-efficient and healthy city. The number of parks and pedestrian zones has increased and 200 km of bike path run through the city. Builders get tax breaks if their projects include green space, of which there is now 52 m² per person, and residents recently planted 1.5 million trees along city streets.¹⁵ In Finland, where the obesity rate during the 1980s was twice as high as ours, an assertive set of public health measures, including environmental modifications, has ensured that the country has escaped the escalating obesity rates now seen in Britain.¹⁶

However, while case studies from elsewhere are useful, there was agreement that it would not be possible simply to import these options into the UK. It was suggested that ‘every geography has its own history’ and that modification would be necessary to take account of these complex factors.

‘Is there a need for ‘a new localism?’ (participant from the EDGE debate)

‘We don’t need individual opportunities or case studies from elsewhere in Europe, but a real cultural change, driven by evidence gained in real time here in the UK, for example, from a town or a city that pilots an approach to tackling obesity, combined with significant investment. We need to stop tinkering at the margins’ (participant at the Foresight/CABE workshop)

Some specific examples of seemingly effective practice in the UK include:

- **active streets** – the introduction of a traffic-free cycle and walking path alongside the A259 between Seaford and Newhaven in East Sussex has seen an increase in usage from 17,000 trips in 2004 to 63,000 in 2005; 59% of users believed the creation of the route had helped them to increase their level of physical activity.¹⁷
- **active workplaces** – when Glaxo-SmithKline moved to its new corporate HQ in Brentford, it implemented a cycling strategy which guaranteed employees a parking space only if they cycled to work. Provision of secure parking facilities, showers and lockers saw the number of registered cyclists increase from 50 to 400.¹⁷

- **strategic networks** – the World Health Organisation Healthy Urban Planning Network develops guidance to support cities across Europe in taking forward healthy urban planning objectives. A local Healthy Urban Planning Group will bring together city planners, transport planners and public health specialists to steer the development of healthy urban planning. Brighton & Hove and Belfast are both involved in [Healthy Urban Planning Groups](#) in the UK.¹⁸
- **remodelling of shared space** – Blakett Street in the centre of Newcastle upon Tyne was remodelled in 2001 to allow pedestrians and cyclists to move freely among the delivery traffic, taxis and high volume of buses that regularly move through this urban space. There are no physical barriers or formal pedestrian crossings, yet injury accident rates have declined, despite an increase in the volume of pedestrians.¹⁹
- **planning and designing** – Aylesbury Vale District Council, the Ernest Cook Trust, Taylor Woodrow and other developers created Fairford Leys, a new village of 1,900 homes with community facilities, shops and housing from high-density starter homes to family houses to ensure that the population was representative of all life stages. The hope was that a built environment that responded to the needs of all life stages would create a good quality of life and encourage people to move house within the community as their needs changed.²⁰

Conclusions

There was a clear view in all the workshops that the continuing challenge is to understand the complex interrelationships between all the drivers affecting obesity prevalence in the UK, not just the built environment. Good-quality empirical data on the impacts of the built environment on obesity, and in particular about the ways in which the built environment may facilitate the achievement of good-quality, healthy environments for local populations is critical to the development of soundly based future strategies.

While acknowledging that the current evidence base is not particularly robust, participants in all three workshops felt there were sound public health reasons for taking action now, rather than waiting for the development of a definitive evidence base. While it might currently not be possible to identify the specific weight outcomes from existing initiatives, it is possible to be certain that broader health benefits are available from these actions.

There was an enthusiasm emerging from the three debates for a more 'ecological' approach to public health policy, embracing all the different drivers of the obesity epidemic, physical, physiological, social and environmental. There are potential synergies with climate change and sustainability, where solutions offer the prospect of multiple additional health benefits. To be successful, it is vital that a multi-layered and multi-stakeholder approach is taken in developing prevention and intervention strategies. The discussions also highlighted the need for greater collaboration and communications between the built environment and public health communities.

It was suggested that there is a need for a new planning framework, with health embedded in it right from the early stages. A key requirement appears to be setting out clear expectations of developers, with clear standards for a 'healthy development' supported by better regulation and stronger enforcement powers. However, participants also noted scope to make better use of existing powers and to improve the sharing of effective practice so as to raise awareness of what can be achieved.

The discussions highlighted 'natural opportunities' to test the effectiveness of these ideas by building health into current and future planned urban and rural developments, providing exemplars of a 'healthy built environment'. Rigorous evaluation of these projects would improve the evidence base and future policy development.

As most commentators remarked during the discussions, obesity is becoming normalised, even as the trends accelerate and the evidence grows. The economic and social benefits of acting on this issue are seen to be striking compared with

the many problems that will occur if nothing is done. There appears to be no time to lose.

Finally, contributors articulated the characteristics of a healthy environment:

- **attractive, well-designed**
- **high-quality infrastructure**
- **people-focused**
- **healthy choices are the easy ones**
- **human-powered, not motorised**
- **accessible for all – supports wide mix of people and activities**
- **economically vibrant.**

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- 18 World Health Organisation Healthy Urban Planning Network Healthy Urban Planning Group (<http://www.euro.who.int/healthy-cities>).
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- 20 <http://www.fairfordleys.com>

