

Cambridgeshire Green infrastructure Strategy Appendix 13 Health and Wellbeing

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Good health and well-being are benefits that can be realised when delivering Green Infrastructure in Cambridgeshire. This Appendix sets out relevant policies, strategies, guidance, baseline datasets and maps relating to Green Infrastructure and health and well-being. This information was used together with the seven Theme maps and the other factors which influence Green Infrastructure, e.g. planning and growth and economic development, to inform and develop the Strategic Network of Green Infrastructure.

1 Baseline information and datasets, including relevant policies

The importance of green infrastructure to the health and well being of the populace is well documented. The evidence base for ensuring healthy communities through design and planning is summarised in “Future Health: sustainable places for health and wellbeing” by the Commission for Architecture and the Built Environment (CABE).¹ The documents, campaigns and datasets below have informed the development of this Green Infrastructure Strategy.

Draft Cambridgeshire Joint Strategic Needs Assessment (JSNA)

A JSNA is the means by which Primary Care Trusts (PCTs) and local authorities describe the future health, care and wellbeing needs of the local populations and to identify the strategic direction of service delivery to meet those needs. The reason for conducting a JSNA is to develop the whole health and social care response so that it more closely meets the wants and needs of local people.

The aims of a JSNA are to:

¹ Future Health: sustainable places for health and wellbeing” Commission for Architecture and the Built Environment (CABE), 2009.

- Provide analyses of data to show the health and wellbeing status of local communities.
- Define where inequalities exist.
- Provide information on local community views and evidence of effectiveness of existing interventions which will help to shape future plans for services.
- Make specific recommendations based on the information and evidence collected.

The JSNA for Cambridgeshire: Phase 4 Summary² developed in 2010 includes a chapter on New Communities. The chapter is the executive summary taken from the full JSNA for new Communities² which includes a section on green spaces.

The Cambridgeshire JSNA confirms the important role of 'green spaces' when designing and planning for healthy communities. It states:

A "healthy community" would be one that prevented ill-health and promoted wellbeing. Building structures and transport systems that reduce or minimise air and noise pollution have demonstrable health benefits in terms of respiratory illness and stress related conditions. Providing adequate green space can promote physical activity with the subsequent benefits of reducing overweight and promoting mental health. (ibid. 19)

Numerous references to green spaces are made in section 7 'Out and about: transport, green spaces and the built environment'. Relevant text is extracted below and also included in the section on issues and opportunities:

A green space is usually used in the context of an area or plot in the built environment which is "open, undeveloped land with natural vegetation."³ These include parks, forests, playing fields, river corridors, play areas and cemeteries. Urban green spaces can range from linear parks, squares, and crescents to more intimate communal spaces such as allotment gardens or other communal spaces looked after by adjoining properties or community trusts.

There is increasing attention paid to the relationship between the amount and quality of green space in the living environment and peoples' health and wellbeing. A number of national and international studies suggest that exposure to green spaces, which may be experienced via various means including viewing natural settings, participating in recreational activities and undertaking nature-based therapy programmes, can be both psychologically

² Joint Strategic Needs Assessment for Cambridgeshire: Phase 4 Summary September 2010 NHS Cambridgeshire and Cambridgeshire County Council.

³ JSNA New Communities 2010 (Draft v 11) Final version forthcoming early 2011

³ Centres for Disease Control and Prevention. Health places terminology. <http://www.cdc.gov/healthyplaces/terminology.htm> (accessed 17 September 2009).

and physically restorative leading to improved mental and physical health and wellbeing.

Green spaces improve physical health

The first large-scale study that assessed the relationship between green spaces and physical health was done in Tokyo, Japan⁴. A prospective cohort study analysed the five year survival rates of a large cohort of senior citizens aged 75+ and measured the association from a baseline assessment performed five years earlier in the form of a questionnaire in which nine items affecting the residential environment were asked. These included space near the residence for taking a stroll, a park, and tree lined streets near the residence, and existence of a garden near the residence. Even after controlling for the effects of the residents' age, sex, marital status, and socio-economic status, the factor of walkable green streets and spaces near the residence showed significant predictive value for the survival of the urban senior citizens over the five year period. The authors concluded that "walkable green spaces near the residence significantly and positively influenced five year survival".

These findings have been corroborated by other cohort studies. A large Dutch study looked at the health of over 10,000 people in the Netherlands and compared it both with the degree of urbanity and the amount of green space in the living environment.⁵ The global health indicators used in the study were the number of symptoms experienced in the last 14 days and perceived general health measured on a five point scale running from "very good" to "very bad". The analysis performed suggested that the amount of green space in the living environment has a strong relationship with self-reported health. Separate analyses were conducted for socioeconomic status and it was found that the lower socioeconomic status groups appeared to be more sensitive to the amount of green in the living environment. The study also found that for housewives and the elderly, the relationship between the amount of green space and the number of symptoms is stronger than for the population in general. Extrapolation from this analysis assuming a causal relationship between green space and health, suggest that 10% more green space in the living environment leads to a decrease in the number of symptoms that is comparable with a decrease in age by five years.

An Australian review examined the empirical, theoretical and anecdotal evidence exploring the link between health and nature and concluded that

4 Takano T et al. Urban residential environments and senior citizens' longevity in megacity areas: the importance of walkable green spaces. *J Epidemiol Community Health*. 2002;56:913-918.

5 De Vries et al. Natural environments – healthy environments? An exploratory analysis of the relationship between greenspace and health. *Environment and Planning*. 2003;35:1717-1731.

“contact with nature positively impacts blood pressure, cholesterol, outlook on life and stress reduction”.⁶

Green spaces and mental health

The evidence to suggest a direct beneficial effect on mental health by exposure to the natural environment is compelling. This effect is thought to arise from what is known as the attention-restoration theory.⁷ This argues that natural environments lead to an individuals' attention and fascination (effortless attention) being drawn to more natural environments which in turn have a restorative effect from stress. In a study which compared stress recovery against different kinds of environmental exposure, natural settings were perceived by the participants as having the highest overall restorative effectiveness.

Studies on hospital inpatients which compared those with a window view of a brick wall against those with a view overlooking a park and trees reported that patients with a view of a green space reported shorter post-operative hospital stays, received fewer negative evaluative comments in nursing notes and received fewer analgesics.⁸ Similar studies carried out in a prison environment in the mid-western USA demonstrated the association between viewing nature and positive wellbeing outcomes. These inmates had a lower frequency of stress-related symptoms including illness of the digestive tracts and headaches.⁹

A survey of garden users in a children's hospital founded that users felt more relaxed and less stressed after visiting the garden, refreshed and rejuvenated and more able to cope and more positive.¹⁰ Nearly half of the visitors observed spent fewer than five minutes in the garden which suggests that even short visits were beneficial.

Does the presence of green space increase physical activity?

It has long been known that being physically active has positive health effects. People are inclined to undertake physical activity in aesthetically appealing environments. Natural environments are perceived to be more aesthetically appealing than built-up environments. Therefore, it has been suggested that natural environments may stimulate people to undertake

6 Maller C et al. Healthy nature healthy people: 'contact with nature' as an upstream health promotion interventions for populations. Health Promotion International. 2006; 21(1):45-54.

7 Herzog et al. Reflection and attentional recovery as distinctive benefits of restorative environments. Journal of Environmental Psychology. 1997; 17(2):165-170.

8 Ulrich R. View through a window may influence recovery from surgery. Science. 1984; 224:420-421.

9 Moore E. A prison environment's effect on health care service demands. Journal of Environmental systems. 1981; 11:17-34.

10 Sustainable Development Commission. Health, place and nature. How outdoor environments influence health and wellbeing: a knowledge base. 2008. Whitehall place, London

healthy physical activities such as walking or cycling, and to spend more time on them.

There is however no clear relationship between the amount and availability of green spaces and physical activity. Studies conducted in the Netherlands and more recently in East Anglia, did not find a relationship between the amount of green space in the living environment and whether or not people were physically active.^{11,12}

Positive associations have however been shown to be influenced by the specific type of green space and physically active behaviour. Some of these factors include distance to footpath networks, network distance to newsagents and other local amenities, and perceptions of footpath condition, which were all significantly associated with the likelihood of participation in recreational walking.¹³ Attractiveness of the streetscape was one of the most important features related to increased levels of walking and cycling.¹⁴ An attractive streetscape included trees, wide grassy verges, parks, private gardens, diverse and interesting natural sights. This would correlate with NICE guidance which suggests that people are more likely to walk or cycle if there is an attractive streetscape with well-maintained and unobstructed pavements.¹⁵

Is there a synergistic effect of green exercise?

Both physical activity and exposure to nature are known separately to have positive effects on physical and mental health. Research has gone on to examine whether there is a synergistic benefit in adopting physical activities while being exposed to nature.

The national association for mental health, Mind, commissioned a study that compared groups taking part in two walks in contrasting environments – one in a county park which had a varied landscape of woodlands, grasslands and lakes, and the other took place in a large indoor shopping centre.¹⁶ Participants were asked to complete identical questionnaires immediately before and after each walk. Those on the natural walk reported significant improvement in self-esteem, depression, anger, tension, confusion, fatigue, and vigour compared to the participants in the shopping centre walk.

11 Hillsdon et al. The relationship between access and quality of urban green space with population physical activity. *Public Health*. 2006; 120:1127-1132.

12 Mass J et al. Physical activity as a possible mechanism behind the relationship between green space and health: A multilevel analysis. *BMC Public Health*. 2008; 8:206.

13 Giles-Corti B et al. Increasing walking: how important is distance to, attractiveness and size of public open space. *American Journal of Preventative Medicine*. 2005; 28:169-176.

14 Pikora T et al. Developing a framework for assessment of the environmental determinants of walking and cycling. *Social Science and Medicine*. 2003; 56:1693-1703.

15 National Institute for Health and Clinical Excellence. *Physical Activity and the Environment*. PH-8. January 2008.

16 Mind. *Ecotherapy – the green agenda for mental health*. 2007.

Overall the green walk improved mood by an average of 13% whereas measures for the indoor walk show that on average mood was unaffected.

Other studies report that participants who run through urban parks report more psychological benefit than street joggers.¹⁷ Participants who were exposed to different images whilst on a treadmill report that natural scenes significantly increased self-esteem in addition to that gained simply by taking the exercise and had the greatest effect on lowering blood pressure. These, and similar findings have led Mind to conclude that green exercise was more enjoyable, more therapeutic, and had a positive effect on mental health and wellbeing.

Green spaces and neighbourhood social ties

The history of public spaces as areas for relaxation, providing places to rest and meet people have been well-documented.¹⁸ The evidence available indicates that natural features within urban environments can encourage greater use, facilitate higher levels of social contact and social integration.

Studies in inner-city USA investigating the accessibility and use of public spaces report that the presence of trees and grass is related to the use of the space, the amount of social activity that takes place within them and the proportion of social to non-social activities they support.¹⁹ Results consistently indicate that natural landscaping encourages greater use of outdoor areas by residents. Spaces with trees attracted larger groups of people, as well as more mixed groups of youths and adults, than did spaces devoid of nature.

Community gardening

Community gardens are increasingly part of the urban fabric. Anecdotal evidence from community members and local organisations suggest that these have a number of positive health benefits including improved access to food, increased physical activity, improved sense of security in local communities and increased social capital.²⁰

One study collected data on the perceived health impacts of community gardening in Toronto, Canada through participant observation, focus groups and interviews²⁰. The community gardens studied varied greatly in size from a large field to a narrow space between a building and the road, and in organisation from allotment gardens to community worked gardens.

17 Pretty et al. A countryside for Health and Wellbeing: the physical and mental health benefits of green exercise. 2005.

18 Sullivan WC et al. The fruit of urban nature: vital neighbourhood space. *Environment and Behaviour*. 2004; 36(5):678-700.

19 Coley R et al. Where does community grow? The social context created by nature in urban public housing. *Environment and Behaviour*. 1997; 29(4):468-494

20 Wakefield S et al. Growing urban health: community gardening in south-east Toronto. *Health Promotion International*. 2007; 22(2):92-101.

Community gardens that were situated near the homes of the gardeners involved were used regularly and consistently, whereas gardens in areas not immediately adjacent to the housing of participants were not frequented as regularly. The gardens were most active in the evenings. Important themes that arose from the interviews include better access to fresh food, greater physical activity, and improved mental health. The participants also expressed their belief that community gardens benefit the community as a whole, by improving relationships among people, increasing community pride, and serving as an impetus for broader community improvement and mobilisation. Some concerns identified include insecure tenure and concerns about personal safety.

Lessons from Cambourne

Cambourne is a new settlement 10 miles west of Cambridge comprising three villages (Lower, Great and Upper Cambourne) that is divided by two shallow green valleys radiating out from the settlement centre. Its projected size is 4,250 households with a density of 32 dwellings per hectare. The Master Plan and Design Guide envisions a sustainable, self-sufficient settlement in the country with urban amenities with a specific aim which takes into account the natural environment and the creation of attractive public spaces.²¹ An evaluation of the implementation of this master plan was undertaken by reviewing existing reports and surveys and conducting a new survey of 55 stakeholders including local residents and developers.²²

The evaluation suggests that while not all the objectives of the master plan have been met, Cambourne is considered by residents and developers alike to have delivered on its goal of creating attractive, user-friendly and well-integrated green spaces throughout the settlement. It is now home to more wildlife than the farmland it was built upon. There is an 80 acre country park with lakes and a 20 acre eco park. The woodland is natural and greenways between the houses create a sense of space. There are two allotments with an active society attracting families interested in growing their own food. The landscape designers used the original woodlands to create pleasant walks which act as short cuts from housing to the centre of the village. The green space is managed by the Wildlife Trust. This is considered to be one of the main factors for its success. Residents report frequent use and appreciation of the green spaces both in terms of the physical attractiveness and character it provides to the community and its function as areas for rest and relaxation and physical activity.

One major issue identified in the report has been the lack of connectivity to surrounding villages and countryside. There are three footpath links to the

21 Randall Thorp Chartered Landscape Architects. Cambourne New Settlement. <http://www.randallthorp.co.uk/Cambourne-New-Settlement-Landscape-Arch.html> (accessed 17 September 2009).

22 Platt S. Lessons from Cambourne. Cambridge Architecture Research. 2007. <http://www.carl.co.uk/downloads/Cambourne.pdf>

south; however one is blocked two metres from the Cambourne boundary. It is also more difficult to reach footpaths to villages in the north since walking around the traffic interchange into Cambourne is inhospitable and uninviting. Residents also report problems regarding pedestrian connections within Cambourne due to the availability of detailed maps (as the layout is constantly changing) and the lack of street plans showing road names and footpaths on local display boards.

The report is generally favourable to the developers' actions with regards to the incorporation of green spaces in the new settlement although it recommends that any new settlement should have good pedestrian and cycle links to all local footpaths and bridleways and these rights of ways needs to be established well in advance of construction.

What is this telling us?

Transport planning can enhance health by promoting active transport, facilitating social interaction, and improving access to green spaces, fresh food and other amenities and services that promote health. Good transport planning can also reduce the risk of injury to road users and pedestrians and minimise air pollution.

Aspects of the built environment such as energy efficiency, ventilation and safety features of houses have a direct impact on health. High quality building can be health promoting.

People are more likely to walk and cycle in natural, attractive spaces. The overall "quality" of the green space – function, safety, accessibility, and physical attractiveness – is an important theme in the frequency and consistency of its use. Exposure to green spaces is good for health in and of itself, can improve mental wellbeing and in some cases may stimulate more social contact.

Access and size of green space alone is not enough to influence physical activity. Specific factors which contribute to increasing physical activity include an attractive streetscape which includes trees, parks, gardens and diverse and interesting natural sights.

Community gardening can serve as a mechanism for combating social isolation and promoting social cohesion by contributing to the development of social networks. It also brings about positive health benefits which include improved access to food and increased physical activity. Factors which promote the use of community gardens include safety, proximity to user's homes and secured tenure.

Healthy Lives, Healthy People: Our strategy for public health in England (White Paper) November 2010

Healthy Lives, Healthy People: Transparency in Outcomes: Proposals for a Public Health Outcomes Framework (Department of Health Consultation Document) December 2010

In November 2010, the Government published the White Paper 'Healthy Lives, Healthy People' setting out its long-term vision for the future of public health in England. The aim is to create a 'wellness' service (Public Health England) and to strengthen both national and local leadership.

The paper outlines the factors that influence public health over the course of a lifetime, including access to and use of green spaces, in an effort to ensure that they are better understood and acted upon in an integrated, joint manner. It argues that integrating public health into local government will allow that to happen as services will be planned and delivered in the context of the broader social determinants of health, such as poverty, crime and pollution. The NHS, social care, the voluntary sector and communities will be expected to work together to achieve better public health.

On the issue of Green Infrastructure, the White Paper stresses the importance of protecting green spaces, promoting community ownership of green spaces and improving access to land so that people can grow their own food (e.g. community gardens and orchards).

The related DoH consultation document proposes a new Outcomes Framework for public health at national and local levels. The framework will be evidence-driven, taking into account the different needs of different communities. It will set out how the DoH will measure success in public health both nationally and locally.

The Outcomes Framework is organised in five domains: health protection and resilience, tackling the wider determinants of ill health, promoting healthy choices and healthy lifestyles, preventing ill health, and focusing on premature mortality and the health of the most vulnerable.

In Domain 2 'Tackling the wider determinants of ill health: tackling factors which affect health and wellbeing' it sets out a series of indicators that affect health outcomes and that will require the combined efforts of all public services to address and improve. 'Access and utilisation of green space' is one of these proposed indicators.

Fair Society, Healthy Lives: A Strategic Review of Health Inequalities in England Post-2010.

'Fair Society, Healthy Lives' was published by The Marmot Review Team, chaired by Professor Sir Michael Marmot at the request of the Secretary of State for Health. It was the culmination of a year-long independent review into health inequalities in England and included a specific section on air quality and green spaces:

Air quality, green spaces and health inequalities

There is clear evidence of the adverse effects of outdoor air pollution, especially for cardio-respiratory mortality and morbidity. It is estimated that each year in the UK, short-term air pollution is associated with 12,000 to 24,000 premature deaths. Poorer communities tend to experience higher concentrations of pollution and have a higher prevalence of cardio-respiratory and other diseases. Sixty-six per cent of carcinogenic chemicals emitted into the air are released in the 10 per cent most deprived wards.

Creating a physical environment in which people can live healthier lives with a greater sense of well-being is a hugely significant factor in reducing health inequalities. Living close to areas of green space – parks, woodland and other open spaces can improve health, regardless of social class. Numerous studies point to the direct benefits of green space to both physical and mental health and wellbeing.

Green spaces have been associated with a decrease in health complaints blood pressure and cholesterol, improved mental health and reduced stress levels, perceived better general health, and the ability to face problems. The presence of green space also has indirect benefits: it encourages social contact and integration, provides space for physical activity and play, improves air quality and reduces urban heat island effects.

Strategy to tackle health inequalities in Cambridgeshire 2009-11

The Cambridgeshire Health and Wellbeing Officer Group (HWBG), who developed this Strategy, sit within Cambridgeshire Together structures as a supporting group for the Community Wellbeing Thematic Partnership. The HWBG links closely with district level Health Partnerships, which report into the relevant Local Strategic Partnerships.

The Cambridgeshire Health Inequality Strategy provides direction for addressing health inequalities across the county stating that:

In Cambridgeshire overall health and life expectancy are well above the national average but within this picture there are marked geographical and socio-environmental health inequalities in the county. These are closely linked with wider Index of Multiple Deprivation scores. Geographically the inequalities are present in both urban and rural areas, and are more

concentrated in Fenland, the north and east of Cambridge city, North Huntingdon and the north of East Cambridgeshire, where lower levels of skills, income and greater health inequalities than the rest of the rural or urban economy are experienced. (Cambridgeshire's Vision 2007-2021). However specific vulnerable population groups such as Travellers, older people, people with disabilities, people who are on low incomes or unemployed and homeless people are found across the county.

Of the 4 strategic aims, the most relevant to the Green Infrastructure strategy are:

- Decreasing the inequalities of access that impact on health and wellbeing
- Preventing the creation of new health inequalities associated with new growth

Natural England's Health Campaign

Health is one of the four main themes on which Natural England is currently campaigning and the work of WfH (Walking for Health²³) is an integral part of this campaign. Growing medical evidence shows that access to the natural environment improves health and wellbeing, prevents disease and helps people recover from illness. It also can help tackle childhood obesity, coronary heart disease, stress and mental illness.

Index of Multiple Deprivation 2007

The Index of Multiple Deprivation²⁴ (IMD) is a detailed measure of deprivation in England that provides a relative ranking of areas across England according to their level of deprivation. It contains seven domains (indicators) which relate to income deprivation, employment deprivation, health deprivation and disability, education skills and training deprivation; barriers to housing and services; living environment; deprivation and crime. These are weighted and combined to create the overall IMD 2007.

The Index of Multiple Deprivation 2007 is based on the small area geography known as Lower Super Output Areas (LSOAs). LSOAs have between 1000 and 3000 people living in them with an average population of 1500 people. In most cases, these are smaller than wards, thus allowing the identification of small pockets of deprivation and allowing direct comparison between geographical areas. There are 32,482 LSOAs in England. The LSOA ranked 1 by the IMD 2007 is the most deprived and that ranked 32,482 is the least deprived. As such, there is a strong correlation between high IMD scores and poor health and health inequalities.

²³ <http://www.wfh.naturalengland.org.uk/>

²⁴ <http://www.imd.communities.gov.uk/>

There are 365 LSOAs in Cambridgeshire. Three LSOAs in Cambridgeshire are within the most deprived quintile (20%) of the 32,482 LSOAs in England. All three are located in Wisbech, north Fenland. A further ten are within the most deprived quartile (25%); six in Fenland, three in the city of Cambridge and one in Huntingdonshire. At the other end of the scale, 156 of Cambridgeshire's 365 LSOAs (43%) lie within England's least deprived quintile. Only one of these LSOAs is in Fenland.

Overall South Cambridgeshire is the least deprived district in Cambridgeshire; all but one LSOA lie within the least deprived 50% of LSOAs nationally. However, the city of Cambridge is the second most deprived district notably as a result of concentrations of deprivation in the north and east of the city.

All the domains of the deprivation index are relevant to health as they are factors that have an impact on health care or are 'determinants of health'. The Health Deprivation and Disability Domain identifies areas with relatively high rates of people who die prematurely or whose quality of life is impaired by poor health and/or disability across the whole population.

Health deprivation is mostly concentrated in Fenland, where almost 20% of the population is above 65 years of age. Three wards within Wisbech are in the most deprived national quintile. There are also concentrations of health deprivation in the city of Cambridge located to the north and east of the city, and in market towns such as Ely, Huntingdon and St Neots. By comparison, 184 of Cambridgeshire's 365 LSOAs (i.e. 50%) are in the least deprived national quintile and these are generally in the south and west of the county.

Further information can found in documents produced by the Cambridgeshire County Council Research Group:

- Deprivation in Cambridgeshire - Index of Multiple Deprivation 2007
- Deprivation in Cambridgeshire - Individual Indices of Deprivation 2007
- Child Well-Being Index 2009

2 What this information tells us?

Access to green spaces and opportunities for outdoor physical exercise are shown to improve health and physical and mental well being. In addition to providing access to destinations and reducing reliance on car journeys, the rights of way network and other access land represents a central asset in encouraging both organised and informal public exercise programmes. The availability of circular routes is particularly important at an everyday level for promoting regular exercise and healthier lifestyles.

Yet, the health and wellbeing of Cambridgeshire's residents varies greatly, with clearly defined geographic concentrations of poor health and inequality. Whilst Cambridgeshire has a wealth of green spaces, many areas of the county have limited access to green infrastructure and poor 'green' connectivity to the countryside and between towns and villages.

Improving and expanding the county's Green Infrastructure resources can help to address these health inequalities.

3 Spatial analysis

The key spatial dataset used was the Index of Multiple Deprivation 2007 (see above). The IMD contains health indicators that highlight geographic areas of health deprivation in Cambridgeshire. There is a strong correlation between high IMD scores and high levels of inequality and poor health. The following maps were all taken into consideration in the spatial analysis for health.

Figure 13.1 shows areas of relative deprivation in child health and wellbeing across Cambridgeshire.

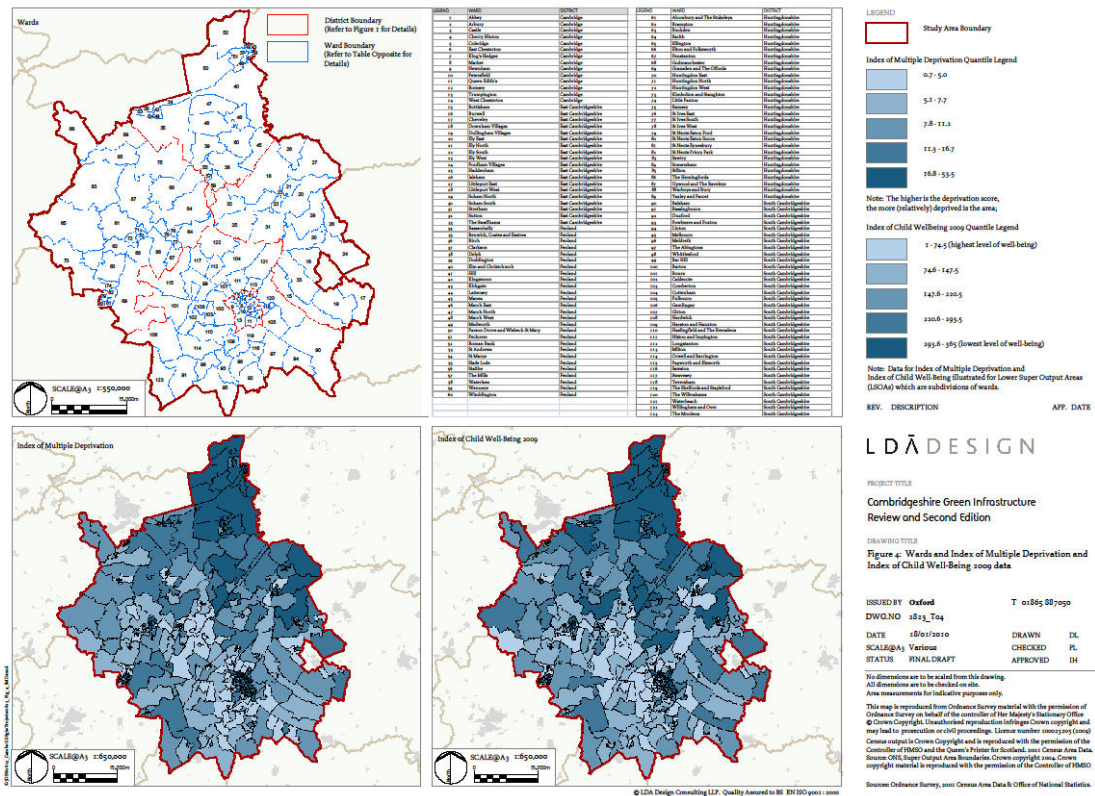


Figure 13.1 Wards and Index of Multiple Deprivation and index of child well-being 2009

Although there is a strong correlation between high IMD scores and health inequalities, baseline datasets of life expectancy, mental health, adult obesity and childhood (year 6) obesity were also mapped (shown in Figure 13.2). Areas with lower life expectancy, greater mental health issues and higher levels of adult and childhood obesity have a strong correlation with areas of high IMD scores. However, there are some areas of the county with higher levels of adult and childhood obesity that do not strongly relate to areas with high IMD scores. Although Green Infrastructure can have specific health benefits in areas with health inequalities, it can have benefits for health and wellbeing across all areas and populations in Cambridgeshire and highlights the importance of an infrastructure that provides access to all.

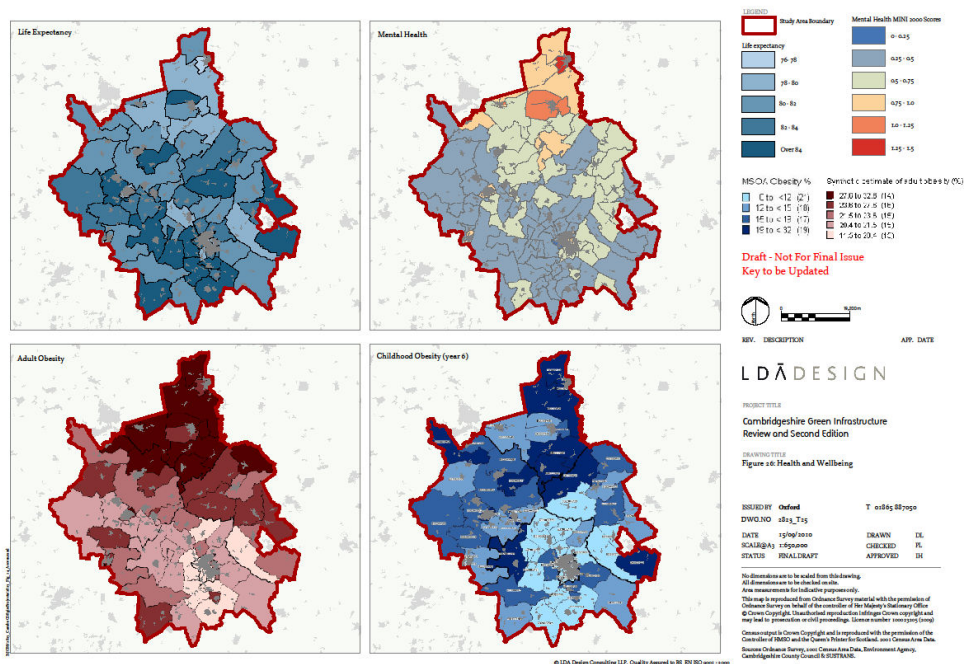


Figure 13.2 Health and Wellbeing in Cambridgeshire (life expectancy, mental health, adult obesity and childhood obesity)

4 Issues and Opportunities

As outlined in detail above, green infrastructure offers many opportunities to improve health and well being in Cambridgeshire. The draft 'Joint Strategic Needs Assessment: New Communities 2010' summarises the key opportunities.

- Exposure to green spaces is good for health, can improve mental wellbeing and it may stimulate more social contact.
- Living close to green space reduces mortality. Planning for green space could therefore help to reduce the inequalities of life expectancy experienced between socio-economic groups.
- Transport planning can enhance health by promoting active transport (such as cycling and walking), facilitating social interaction, improving access to green spaces, fresh food and other amenities as well as services that promote health.
- Good transport planning can reduce the risk of injury to road users and pedestrians and minimise air pollution.
- People are more likely to walk, cycle and play in natural, attractive spaces. The overall 'quality' of the green space – its function, safety, and accessibility, emotional and physical attractiveness with diverse and interesting natural sights is an important theme in the frequency and consistency of its use.
- Community gardening can serve as a mechanism for combating social isolation and promoting social cohesion by contributing to the development of social networks. Positive health benefits include improved access to food and increased physical activity. Factors which promote the use of community gardens include safety, proximity to users' homes providing natural surveillance and secured tenure.

The JSNA also makes specific recommendations for how to maximise green infrastructure opportunities when planning for new communities in Cambridgeshire.

- There should be a mixture of formal and informal green spaces, which should include considerations for community gardens and allotments that are close to residential areas, accessible, well-maintained and well connected to existing networks of strategic spaces and walking routes such as green chains.
- There should be consultation with residents of new communities, at the earliest opportunity, about the provision of community resources including

green space provision, a clear allocation of responsibilities in managing these resources and a mechanism to ensure that locally agreed monitoring is implemented and the results acted upon.

Health and access to green spaces are linked. As demonstrated by the IMD maps, there are significant inequalities in health outcomes experienced across populations in Cambridgeshire. It is important to take this into account when planning and prioritising initiatives related to green space and infrastructure.