Promoting Health & Wellbeing Through Spatial Planning

How good planning and well-designed spaces can impact positively on people's health and wellbeing

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Contents

1. Introduction

This document provides advice and guidance on how the built environment and health are connected, and what planning and design principles can be put in place to support positive health and wellbeing outcomes. It is aimed at policy and strategy makers across a range of disciplines (including local planning authorities, public health, regeneration, transport planners, and infrastructure providers) to support Warwickshire County Council's (WCC) ambition to embed Health in All Policies (HiAP).

The links between planning and health are well documented. Health is determined by the accumulation of economic, social and environmental factors (figure 1). Similarly, decisions in planning are underpinned by the National Planning Policy Framework (NPPF), which aims to achieve sustainable development by meeting the same three key objectives - economic, social and environmental (figure 2).

Figure 1: Wider determinants of health model

NPPF 2019 Objectives

Economic - to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure.

Social - to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being.

Environmental - to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

Figure 2: National Planning Policy Framework (2019) Objectives

The NPPF's chapter on *Promoting Healthy Communities* states that planning policy should take account of local strategies to 'improve health, social, and cultural wellbeing for all sections of the community'. In Warwickshire this includes the Health and Wellbeing Strategy and the evidence base which underpins it - the joint strategic needs assessment (JSNA).

Warwickshire's Health and Wellbeing Strategy has been developed using the King's Fund's population health framework (figure 3). The health and planning agenda influences each of the four pillars of population health – through policy, planning, design, and infrastructure.

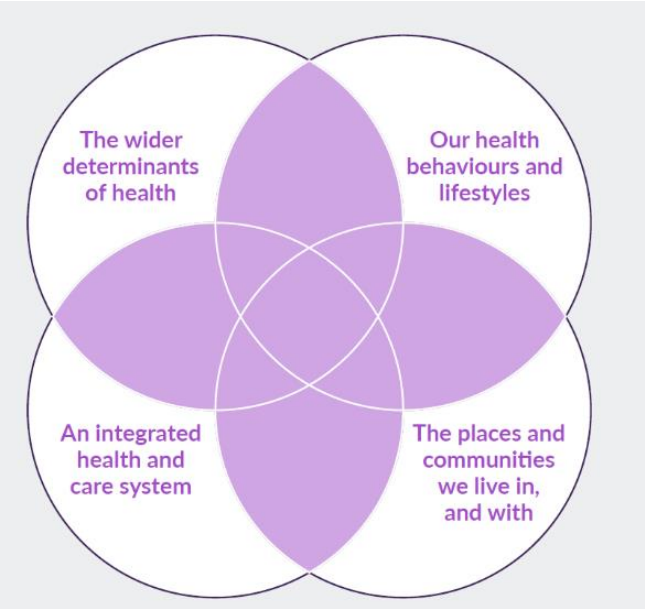


Figure 3: Population Health Pillars (Kings Fund, 2019)

Promoting positive health and wellbeing requires whole-system action. Figure 4 highlights the role of healthy neighbourhoods in supporting wellbeing, as well as how this fits within the wider health and care system.

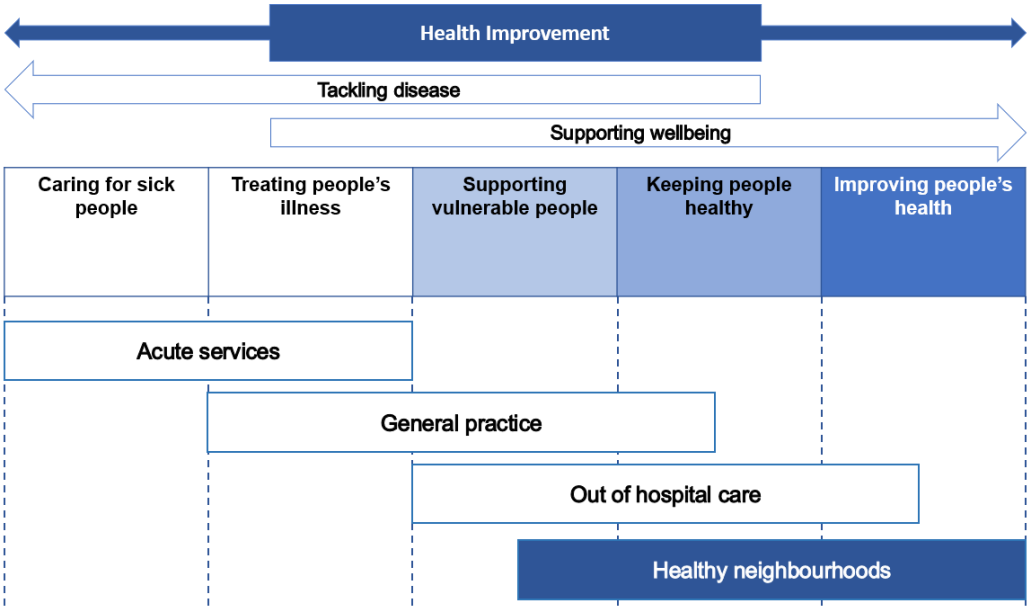


Figure 4: The neighbourhoods' role in health (adapted from Barton et al, 2003)

1.1. Health & wellbeing in local plans

The Town and County Planning Association (TCPA) undertook a review of health in planning policy in July 2018. It highlights areas in local plans where policy could be strengthened with reference to health and wellbeing.

	Joint Health & Wellbeing Strategy in planning	**Health needs assessment in planning**	**Promoting sustainable transport**	**Requiring good design**	**Providing open space, play and recreation opportunities**	**Healthcare infrastructure provision**	**Using health impact assessment**	**Monitoring indicators and health (HIA)**
	Does the Local Plan reference the Joint Health & Wellbeing Strategy?	Does the Local Plan take into account the local health needs set out in the JSNA?	Does the Local Plan promote opportunities for active travel?	Does the Local Plan require good design in development?	Does the Local Plan provide opportunities for open space, play and recreation?	Does the Local Plan set out provision for healthcare infrastructure?	Does the Local Plan require an HIA when a planning application is submitted?	Are there indicators that can help to monitor health impacts and benefits?
North Warwickshire Borough								
Nuneaton & Bedworth Borough								
Rugby Borough								
Warwick District								
Stratford-on-Avon District								

Yes – or (as relevant) Yes, and with reference to health and wellbeing
Yes, but with no reference to health and wellbeing
No

2 Health and the built environment

2.1 Health in Warwickshire

Health in Warwickshire is reported as good compared to the England average, despite this there are large variations in health at place and ward levels. Life expectancy is a key indicator for general health and highlights this variation, or inequality in health between the most and least deprived deciles in Warwickshire.

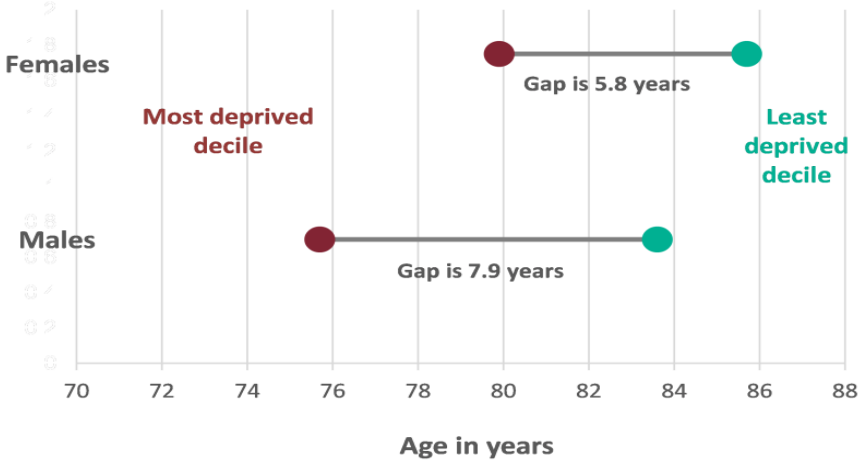


Figure 4: Life Expectancy (Public Health England, 2019)

2.2 Health in planning

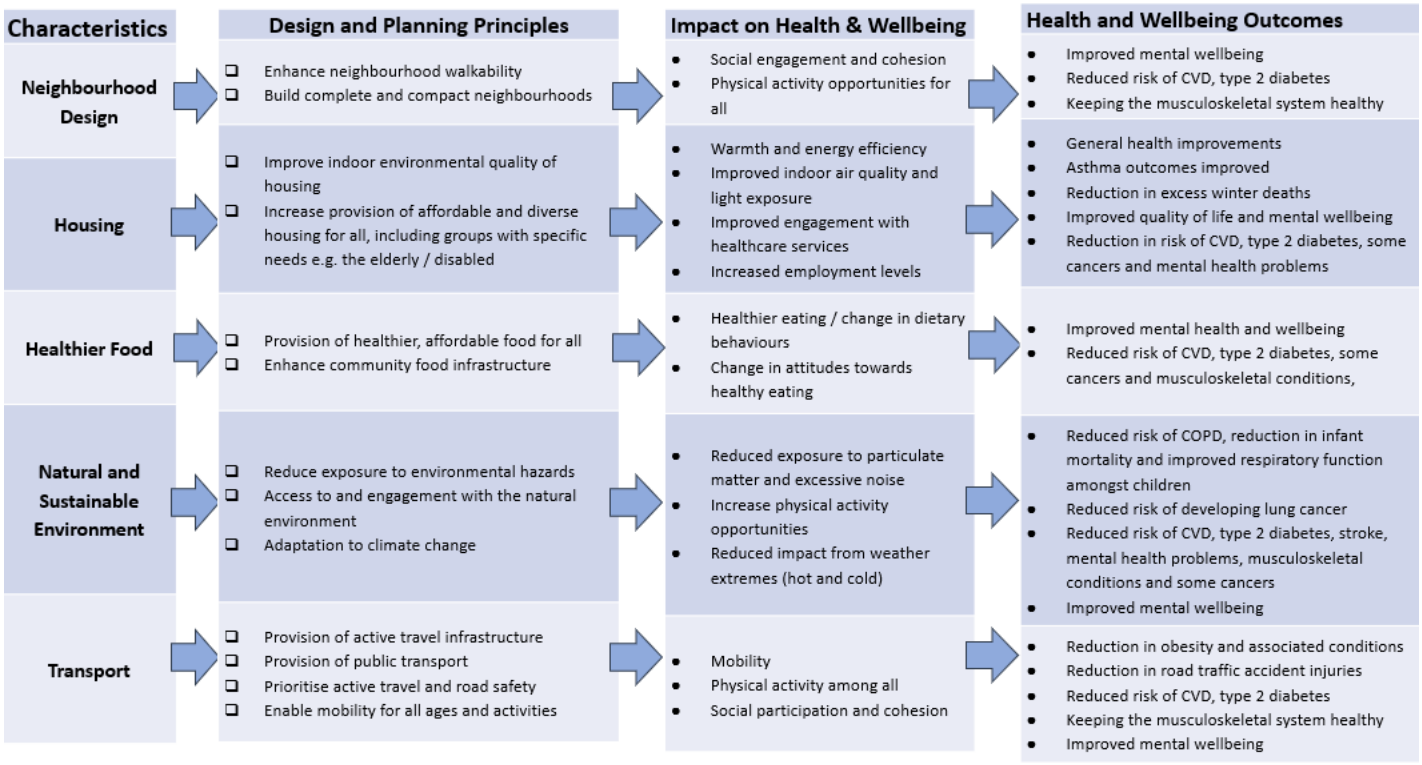
The NPPF places a duty on public health to provide advice and guidance on health and wellbeing matters, which includes:

- Providing the evidence base of the need of the local population
- Supporting vulnerable groups to access information
- Acting as liaison between local authority services and the NHS
- Promoting health and wellbeing for all

Public Health England (PHE) has developed a resource which looks at the quality and quantity of evidence available on the associations between the built environment and health outcomes (Public Health England, 2017). The resource, Spatial Planning for Health, focuses on five aspects of the built environment:

- Neighbourhood design
- Housing
- Healthier food environment
- Natural and sustainable environment
- Transport

For each of the five aspects Public Health England has produced a series of diagrams which illustrate the quality and quantity of evidence. The literature for this report is available here. The table below summaries some of the findings from the tool.



The NPPF places importance on the use of specific standards, such as the Design Council's Building for Life 12 principles. We believe that these principles should be at the foundation of housing developments as they promote good design, which can foster healthy, active, and sustainable communities. Our ambitions recognise that more consideration needed at masterplanning stage of each development. Further evidence and information on each principle is available in Chapter 3.

Building for Life Principle	Checklist for Planners and Developers
(1) Connections	☐ Consult with the community to understand what is important to them and develop places in line with local health and wellbeing needs using the JSNA as evidence ☐ Design places with a good mix of housing to enable people to integrate into a community no matter what their living arrangements are ☐ Places should be well-connected to existing communities to support social cohesion and encourage walking and cycling ☐ Encourage the design of five-minute walkable neighbourhoods ☐ Incorporate measured miles signage within the design of the development
(2) Facilities and Services	☐ Design neighbourhoods with five-minute walkable distance to local amenities ☐ Speak with local infrastructure providers at the earliest possible stage to understand requirements and take account of key strategies and estate plans ☐ Consider placing restrictions on applications which would encourage the proliferation of hot food takeaways (particularly in areas with high obesity rates) ☐ Ensure that facilities and services are accessible by public transport, walking and cycling routes
(3) Public Transport	☐ Prioritise sustainable transport routes within all new strategic sites ☐ Prioritise walking and cycling routes to encourage active travel and reduce car dependency ☐ Design streets so that public transport can be accessed by those with restricted mobility and wheelchair and pushchair users ☐ Ensure bus stops are well-signposted and provide shade and cover

	Install cycle parking at bus and train stations to encourage users to actively travel to and from sites Prioritise routes that provide access to key services e.g. hospitals and employment sites
(4) Meeting Housing Requirements	Prioritise design that maximise the opportunity for vulnerable groups and older people to maintain their independence e.g. by delivering a proportion of lifetime homes Meet the local requirements set out for affordable homes (ideally between 30-40%) Favour the design of houses with eco-design and sustainable energy features Encourage the use of local materials on sites to support sustainable development Ensure housing design has access to natural light, is well ventilated, and meets enhanced standards to prevent unacceptable noise pollution
(5) Character	Consult local communities about what they value in their neighbourhood Design places that uphold the distinctive character of the area, whilst favouring sustainable design principles
(6) Working with the site and its context	Design places that adhere to Natural England's accessible greenspace standards and use trees and green infrastructure throughout the development Consider sustainable construction and how climate change may impact a site e.g. flood risk, sustainable urban drainage etc. Consider local air quality and discourage over-development in air quality management areas (AQMA)
(7) Creating well defined streets and spaces	Design-in measured miles signage to encourage people to be physically active and create high quality, attractive places to live Create a hierarchy of streets which are legible and with footpaths that are wide, flat and non-slip Encourage design which prioritises active travel and is not dominated by the car
(8) Easy to find your way around	Design places that are easy to navigate by foot and cycle and use measured miles signage to encourage people to actively travel Ensure accessibility for people living with a disability and consider the Department of Health's Dementia Friendly design principles
(9) Streets for all	Design places with active travel routes and ensure access for less mobile and elderly people, including wheelchair and pushchair users Consider dementia friendly design principles Priority should be given to pedestrians and cyclists, and public transport routes over cars Favour layouts that design-out crime
(10) Car parking	Design places where car parking does not dominate the street scene Designate places with cycle parking spaces and electric vehicle charging points
(11) Public & private spaces	Consider local needs for green gyms and children's play areas Ensure that places have adequate allotment infrastructure Favour place-making design that enables people to sit and rest in public spaces Design places with green and blue infrastructure
(12) External storage and amenity space	Design places with adequate waste and recycling storage to enable people to recycle sustainably

2.3 Health Impact Assessment – a tool for review

Health Impact Assessment (HIA) is a method which WCC recommend using to systematically examine the effect that a development may have on population and human health. Within HIA both the direct and indirect impacts on health and wellbeing should be reviewed. The table below provides a list of some of these impacts and is not exclusive.

Direct	Indirect (wider determinants)
• Death and premature death • Disease • Health related quality of life • Morbidity	• Transport • Air quality • Road safety • Neighbourhoods & facilities • Housing & urban planning • Green space • Crime and fear of crime • The urban environment and climate • Educational outcomes • Employment and income

The National Planning Policy Guidance (NPPG) references HIA as a useful planning tool stating that *'the impacts of major development proposals on the health and wellbeing of communities should be considered, for example through the use of Health Impact Assessments (HIA)'*.

The spring 2017 revisions across Environmental Impact Assessment (EIA) legislation clarify that 'population and human health' factors should be on the list of environmental topics considered by EIA. The EIA Directive does not seek to define the way in which topics are addressed and there is therefore no prescribed EIA definition for 'population and human health.'

The Institute of Environmental Management and Assessment (IEMA), Faculty of Public Health and Ben Cave Associates have produced a primer for an approach to take to look at health in Environmental Impact Assessment (IEMA, 2017). Within this they advise that planners and developers liaise with public health professionals to *provide influence through appropriately tailored information (e.g. in Joint Strategic Needs Assessments) which can contribute to the EIA or help identify potential mitigation measures.*

Warwickshire's Health and Wellbeing Board champion the use of HIA and carried out HIA on the policies within each district and boroughs Local Plan between the period 2014-2016. All five strategic HIA are now complete and available online. These should not negate the need for HIA to be carried out on major applications, as these will be more localised and look more into the detail of the design.

We recommend that developers use the London Healthy Urban Development Unit (HUDU) HIA tool, or the Wales HIA Support Unit (WHIASU) tool. WCC Public Health will assess HIA using the WHIASU Quality Assurance Review Framework, and suggest applicants familiarise themselves with this to understand the criteria HIA will be marked against.

3 Evidence to support healthy design

This section of the document builds upon the design principles outlined in Chapter 2 and provides evidence on the impact that the built and natural environment has on health and wellbeing.

3.1 Connections

Does the scheme integrate into its surroundings by reinforcing existing connections and creating new ones; whilst also respecting existing buildings and land uses along the boundaries of the development site? Can people travel from new to existing facilities?

- A lack of social relationships can have a similar detrimental effect on health as smoking and alcohol (Holt-Lunstad et al, 2010).
- Poorly designed places that lack connections can stop many vulnerable people from leaving the home for example, due to fear of crime in public spaces, or fear of traffic and may be a barrier preventing elderly people from reaching services and community groups (Allen, 2008).
- Well-connected places can improve social cohesion by providing opportunities for people of all ages, abilities, ethnic groups and social circumstances to meet and interact (Public Health England, 2014).
- Ensuring places are well connected to green spaces provides opportunities for people to exercise outside and walk and/or cycle to key services and facilities.
- Opportunities to develop social networks and participation in communities can act as protective factors against cognitive decline and dementia for those over 65 (Fabrigoule, 1995).
- Those who are social isolated are between two and five times more likely to die prematurely when compared to those with strong social ties (Marmot, 2011).

Social exclusion

Social exclusion is defined as the inability to participate fully in society. Being socially excluded can affect both the quality of life of individuals and the equity and cohesion of society as a whole (Levitas R et al, 2007).

People from socially excluded groups experience poor health outcomes across a range of indicators including self-reported health, life expectancy and morbidity (SETF, 2010 DoH). Groups more likely to be socially excluded include:

- The elderly
- Children and young people
- People living on a low income
- People living with a physical or mental health disability
- BAME groups
- LGBTQ+
- People who are homeless

Actively engaging with these groups when consulting on design will help them to develop sustained social contact within their neighbourhoods.

Building for Life Principle	Checklist for Planners and Developers
(1) Connections	□ Consult with the community to understand what is important to them and develop places in line with local health and wellbeing needs using the JSNA as evidence □ Design places with a good mix of housing to enable people to integrate into a community no matter what their living arrangements are □ Places should be well-connected to existing communities to support social cohesion and encourage walking and cycling □ Encourage the design of five-minute walkable neighbourhoods □ Incorporate measured miles signage within the design of the development

3.2 Facilities and services

Does the development provide (or is it close to) community facilities, such as shops, schools, workplaces, parks, play areas, pubs or cafes? Can people travel from new to existing facilities?

- Obesity is a complex problem that requires action from individuals and society across multiple sectors (Public Health England, 2013). One important action is to modify the environment so that is does not promote sedentary behaviour or provide easy access to energy-dense food.
- Residents of highly walkable neighbourhoods and have lower body weights than their counterparts in less walkable neighbourhoods (Foresight Report, 2007).
- The five-minute walkable neighbourhood (in which all basic amenities can be reached with a five-minute walk) should be the basic building block of community building and should be promoted in a form adaptable to planning at neighbourhood, local, town, city and regional level (CABE, 2007).
- Creating opportunities for walking and cycling can be beneficial to other NPPF and wider policy objectives by supporting:
    - the local economy by increasing footfall to local businesses
    - a reduction in carbon emissions by lowering car use and associated pollution and congestion
    - a reduction in noise from road traffic and road traffic accidents
    - opportunities for everyone to socially interact and experience and enjoy the outdoor environment
- Regular green space visits are associated with improvements in mental wellbeing and exercising outside is associated with greater feelings of revitalisation and increased energy levels (Thompson et al., 2001).
- Marmot recommends improving the availability of healthier food and access to shops stocking healthy food within walking distance from peoples' homes and places of work (2011).
- Children's food choices are strongly influenced by the availability and affordability of different types of food in the places the live, play and study. Studies show that density, accessibility and clustering of hot food takeaways is associated with higher rates of childhood obesity and lower fruit and vegetable consumption (Marmot, 2011).
- Patient access to health services can be impacted by:
    - availability and physical accessibility of transport
    - cost of transport
    - inaccessible location of health services
    - services delivered at times which reduce the opportunities for patients to attend

Building for Life Principle	Checklist for Planners and Developers
(2) Facilities and Services	Design neighbourhoods with five-minute walkable distance to local amenities Speak with local infrastructure providers at the earliest possible stage to understand requirements and take account of key strategies and estate plans Consider placing restrictions on applications which would encourage the proliferation of hot food takeaways (particularly in areas with high obesity rates) Ensure that facilities and services are accessible by public transport, walking and cycling routes

3.3 Public transport

Does the scheme have good access to public transport to help reduce car dependency?

- Nobody should face disadvantage from accessing sustainable transport modes because of where they live.
- Developments can help support access to public transport schemes, in turn reducing car dependency and associated carbon emissions.
- Taking public transport such as buses and trains can also encourage active travel to and from services, which can help to promote and maintain active lifestyles (Besser, 2005).
- People make decisions about their mobility based on the demands of their daily lives, and the cost and convenience of different transport options.
- Developments have the potential to maximise the opportunities to encourage walking, recommendations include; improving the pedestrian environment, developing car-free zones and improving signal timings for pedestrians (Ryley, 2008).
- Transport related air pollution impacts most on the disadvantaged which results in increased risk of respiratory diseases and other illness. People in the 10 per cent most deprived areas in England experience worst air quality, suffering for example 41 per cent higher concentrations of nitrogen dioxide than the average (Walker, 2003).
- People living in the most deprived areas are more likely to suffer from multiple long-term conditions which can be exacerbated by poor air quality.
- In economic terms, the cost-benefit analysis of Natural England's Walking for Health Scheme (2009) found that the scheme delivered 2,817 Quality Adjusted Life Years (QALY) at a cost of £4,008 per QALY. This is well below the National Institute for Health and Care Excellence (NICE) threshold for cost effectiveness of £20,000–£30,000 per year.

Building for Life Principle	Checklist for Planners and Developers
(3) Public Transport	☐ Prioritise sustainable transport routes within all new strategic sites ☐ Prioritise walking and cycling routes to encourage active travel and reduce car dependency ☐ Design streets so that public transport can be accessed by those with restricted mobility and wheelchair and pushchair users ☐ Ensure bus stops are well-signposted and provide shade and cover ☐ Install cycle parking at bus and train stations to encourage users to actively travel to and from sites ☐ Prioritise routes that provide access to key services e.g. hospitals and employment sites

3.4 Meeting local housing requirements

Does the development have a mix of housing types and tenures that suit local requirements?

- As the population continue to age the ability to remain in your own home for longer and to receive care in the right place is vital for allowing continued independence in older age.
- Developments and new housing can be built so as to be flexible and allow people to grow in their homes. They can take account of the needs and requirements of all people in the community, including people with disabilities, special needs, and the elderly, people with mental health and wellbeing problems and young people e.g. Lifetime Homes.

- The quality and provision of housing has a significant impact on health and wellbeing. The variety of housing design will maximise the independence of vulnerable residents including young people, people with disabilities, older people, homeless people and other vulnerable adults.
- A study using a survey of English Housing and census data by Glasgow University (2011) concluded four main types of benefits as a result of mixed tenure communities:
    - Economic & Service Impacts: Better quality public services, better quality private services, increased local economic activity
    - Community Effects: Enhanced social interaction, sense of community, reduction in turnover
    - Social Effects: Reduction in anti-social behaviour, better upkeep of properties, greater optimism about jobs
    - Overcoming Social Exclusion: Reduction in area stigma, more local pride, diverse social networks
- Lower socioeconomic groups are more likely to be housed close to airports, highways and busy roads, meaning that these groups are likely to experience more nuisance from noise and pollution than other groups.
- Marmot's recommendations also remind us of the need to reduce health inequalities and mitigation of climate change and this is achievable through the improved energy efficiency of housing across the social gradient. This should result in a reduction in fuel poverty in deprived areas and a decrease in energy related emissions, which should help tackle climate change.

Building for Life Principle	Checklist for Planners and Developers
(4) Meeting Housing Requirements	☐ Prioritise design that maximise the opportunity for vulnerable groups and older people to maintain their independence e.g. by delivering a proportion of lifetime homes ☐ Meet the local requirements set out for affordable homes (ideally between 30-40%) ☐ Favour the design of houses with eco-design and sustainable energy features ☐ Encourage the use of local materials on sites to support sustainable development ☐ Ensure housing design has access to natural light, is well ventilated, and meets enhanced standards to prevent unacceptable noise pollution

3.5 Character

Does the scheme create a place with a locally inspired or otherwise distinctive character?

- Deteriorating feature of an urban environment such as dilapidation, vandalism and litter are disproportionately found in disadvantaged areas and lead to a sense of insecurity on streets, in parks and in play areas, meaning that the more vulnerable use them less, which can lead to reduced physical activity and social interaction.
- CABE, the Commission for Architecture and the Built Environment, have championed the careful consideration of character in the design of new development.
- Natural England: Landscape Character Assessment, which applies the principles of character assessment to large geographical areas, was pioneered by the Countryside Commission, now part of Natural England.
- Historic Towns Forum: The Historic Towns Forum has provided information on design of new development in context that can be downloaded by members from their website.

- Manual for Streets: The Department for Transport have provided guidance through Manual for Streets since 2007, with a follow-up publication in 2010. This includes character assessment as a step within Context Appraisal for new developments.

Building for Life Principle	Checklist for Planners and Developers
(5) Character	□ Consult local communities about what they value in their neighbourhood □ Design places that uphold the distinctive character of the area, whilst favouring sustainable design principles

3.6 Working with the site and its context

Does the scheme take advantage of existing topography, landscape features (including water courses), wildlife habitats, existing buildings, site orientation and microclimates?

- To help reduce health inequalities and mitigate climate change there must be good quality open and green spaces across the social gradient (Marmot, 2011).
- Living in a deprived neighbourhood increases the chances of living in an area with poor environmental conditions and exposure to social and environmental characteristics that increase health risks. 20% of the most affluent wards in England have five times the amount of green space than the most deprived 10% of wards (Public Health England, 2014).
- Green infrastructure helps to mitigate climate change, reduce air, water and noise pollution, provides spaces for play, increases community cohesion, provides economic benefits, delivers networks for walking, cycling and active transport, delivers distinctive landscape and design, enhances habitats and ecological connectivity and provides space for local food production and farming (TCPA, 2014).
- Integrating green infrastructure into all residential and commercial developments makes for a healthy community at work and home.
- By retaining and enhancing existing natural features within a development plus enabling access to and through these features will enable business and residential communities to take an active part in caring for nature. This could actively encourage walking to work along green pathways, taking work breaks outside and being able to see nature from the workplace, adding to organisations response towards their corporate social responsibility.
- Good quality green space can foster better community cohesion and promote social inclusion. Community open space can enhance social ties, provide a sense of community and can promote social integration within disadvantaged communities. Studies have shown that:
    - Green spaces improve air and noise quality in urban areas (DH, 2008)
    - Trees can cut particulate pollution by as much as 25% (Lancaster University, 2003)
    - Trees and vegetation help to reduce traffic noise by absorbing and deflecting sound (HTA, 1982).
    - Areas with higher levels of greenspace helps lower the risk of flooding
    - Urban green spaces with trees can give a localised cooling effect of 1°C-2°C in an area.
- Place should seek to achieve the Accessible Natural Greenspace Standard (Natural England, 2010) that everyone, wherever they live, should have an accessible natural greenspace:
    - Of at least 2 hectares in size, no more than 300 metres (5 minutes' walk) from home;
    - At least one accessible 20 hectare site within two kilometres of home;

- One accessible 100 hectare site within five kilometres of home; and
- One accessible 500 hectare site within ten kilometres of home; plus
- A minimum of one hectare of statutory Local Nature Reserves per thousand populations.

Further recommendations for access to green space (Natural England 2010):

1. Planning and design for outdoor sport and play (PAD) – advises 6 acres of recreational space is required for every 1000 people
2. Towards a level playing field – toolkit for calculating the number of playing fields in an area
3. The woodland trust woodland access standards – no person should live more than 500 meters from at least one area of accessible woodland of no less than two hectares in size
4. The national society of allotment and leisure gardens (NSALG) – national allotment standard for a minimum of 20 standard plots of 250 square meters per 1,000 households

Support and advice on Green Infrastructure can be obtained from WCC Ecology (ecologyplanning@warwickshire.gov.uk).

- Less green space in a living environment is associated with a greater risk of anxiety and depression, feelings of loneliness and perceived shortage of social support (Maas, 2009).
- Accessing green space significantly lowered people's stress levels and improved concentration and mood (Roe et al 2013).
- Other research has identified trends in reduced hospital admissions for mental illness, the reduction being associated with more green space, even after controlling for levels of deprivation and population density (Wheater, 2007).
- Exercising outdoors in natural and green spaces such as parks; woods and canal sides for example, can bring about positive effects to health and well-being in addition to the improved health outcomes that are observed during indoor exercise and particularly for those with long term conditions (Coon, 2011).
- Mitchell & Popham (2008) published that people living closer to green space in England had lower death rates and less heart disease.
- The National Ecosystem Assessment (2011) found that observing nature and participating in physical activity in green spaces plays an important role in positively influencing human health and well-being. Exercise in green places is associated with positive health outcomes, which exceed those experienced from exercising in environments lacking nature (i.e. indoors).
- A study by Bell, Wilson and Liu (2008) found that children who live close to green spaces have higher levels of physical activity and are less likely to experience an increase in Body Mass Index over time.

Building for Life Principle	Checklist for Planners and Developers
(6) Working with the site and its context	☐ Design places that adhere to Natural England's accessible greenspace standards and use trees and green infrastructure throughout the development ☐ Consider sustainable construction and how climate change may impact a site e.g. flood risk, sustainable urban drainage etc. ☐ Consider local air quality and discourage over-development in air quality management areas (AQMA)

3.7 Creating well defined streets and spaces

Are buildings designed and positioned with landscaping to define and enhance streets and spaces and are buildings designed to turn street corners well?

- In order to define and enhance spaces and streets, walking to increase physical activity will also act as social policing; therefore installing urban miles will help local people increase the likelihood of walking from one location to another.
- Physical activity levels vary according to age, gender, disability, ethnicity and socioeconomic status. National policies, including 'Choosing activity: a physical activity action plan' (DH 2005, NICE 2013), are designed (either implicitly or explicitly) to impact on physical activity levels. 'Choosing activity' asserts that a 'culture shift' is needed if physical activity levels in England are to increase and building an environment that supports people in more active lifestyles' is required.
- As well as encouraging physical activity, creating well defined streets and spaces can reduce crime and anti-social behaviour. The Home Office report on Safer Places (2004) stated that in new developments, unnecessary and ambiguous spaces may encourage crime and anti-social behaviour. Instead, streets can be divided into functional areas such as quiet communal gardens and circulation space.

Building for Life Principle	Checklist for Planners and Developers
(7) Creating well defined streets and spaces	☐ Design-in measured miles signage to encourage people to be physically active and create high quality, attractive places to live ☐ Create a hierarchy of streets which are legible and with footpaths that are wide, flat and non-slip ☐ Encourage design which prioritises active travel and is not dominated by the car

3.8 Easy to find your way around

Is the scheme designed to make it easy to find your way around?

- Installing urban miles can help local people understand the effort required in terms of time to walk from one location to another.
- Physical activity not only contributes to wellbeing, it is essential for good health (DH 2004, NICE 2013).
- Increasing physical activity levels in the population will help prevent or manage over 20 conditions and diseases. This includes coronary heart disease, diabetes, some cancers and obesity. It can help to improve mental health. It can also help older people to maintain independent lives.
- A Living Streets report highlights that improvements to the walking environment can increase the economic value of, and economic activity within, an area. This can be reflected by the sale price of residential properties and the rental price of retail premises (Sinnett et al. 2011), a clear incentive for developers to ensure a sustainable environment that promotes physical activity.
- The Department for Transport have estimated that a 20% increase in cycling by 2015 would result in decreased mortality valued at £107 million. Potential savings to the NHS are estimated at £52 million due to reduced illness, with a further £87 million saved by employers through reducing absences from work (DFT, 2011).

Building for Life Principle	Checklist for Planners and Developers
(8) Easy to find your way around	Design places that are easy to navigate by foot and cycle and use measured miles signage to encourage people to actively travel Ensure accessibility for people living with a disability and consider the Department of Health's Dementia Friendly design principles

3.9 Streets for all

Are streets designed in a way that encourage low vehicle speeds and allow them to function as social spaces?

- Although people are living longer they are spending much of their additional time in poor health. By designing places which are dementia friendly, supporting people with dementia to stay as physically and mentally active as they can and the local environment can either be enabling or disabling (RTPI, 2017).
- Promoting safe access for pedestrian and sustainable transport provision for residents is supported. Design and layout can facilitate direct, convenient and safe walking routes to town centres, local neighbourhoods, schools, local shops, services and public transport facilities.
- Priority for pedestrians can be beneficial as:
    - We continue to encourage a modal shift from cars to walking and cycling
    - Pedestrians are one of the most vulnerable residents (and the largest) in terms of both real and perceived threats to their safety and personal security; and
    - The quality of the local environment is of importance to pedestrians, and most particularly to children.

Building for Life Principle	Checklist for Planners and Developers
(9) Streets for all	Design places with active travel routes and ensure access for less mobile and elderly people, including wheelchair and pushchair users Consider dementia friendly design principles Priority should be given to pedestrians and cyclists, and public transport routes over cars Favour layouts that design-out crime

3.10 Car parking

Is resident and visitor parking sufficient and well-integrated so that it does not dominate the street?

- A review of evidence by Healthy Active by Design (2015) found that neighbourhoods with limited on street parking in commercial areas, and therefore greater pedestrian emphasis, had less single-occupant car travel for non-work purposes.
- The review also reported that car-park dominated centres constrain pedestrian activity and limit social interaction and opportunities to improve community cohesion.
- Abundant car parking discourages active travel (Healthy by Design (2015).
- Neighbourhoods can be designed to minimise the need to travel by private car, and to maximise opportunities for active travel.

Building for Life Principle	Checklist for Planners and Developers
(10) Car parking	□ Design places where car parking does not dominate the street scene □ Designate places for cycle parking spaces and electric vehicle charging points

3.11 Public and private spaces

Will public and private spaces be clearly defined and designed to be attractive, well managed and safe?

- Designing-out crime and designing-in community safety should be central to the planning delivery of new developments (Home Office, 2004).
- Open, well connected spaces allow for surveillance via social policing and reduce the number of hidden places which could encourage anti-social behaviour (Home Officer, 2004).
- Warwickshire is rich in country parks, local parks, greenways, meadows, canals and many more green spaces that are underutilised. Some of the smaller parks and green spaces in the county have very limited parking or places to store bikes to encourage people to actively travel to green spaces.
- Outdoor gyms, or 'green gyms' offer free to use equipment and can be accessed by all. They can provide a cost-effective resource for increased use of parks and park-based physical activity, particularly in densely populated areas and in parks where few facilities exist (Cohen et al 2012).
- Many people however do not have the space or opportunity to garden and grow their own fruit and vegetables. Allotments bring a number of benefits to both individuals and the wider community and over 70% of people believe that spending time in their gardens is important for their quality of life. Regular gardening activity has been shown to reduce the risk of dementia by 36% (Thrive 2009).
- In urban areas in particular, allotments and community gardens offer a retreat and escape and can build self-esteem, be calming and relieve stress. Communal gardening improves opportunities for greater social interaction and cohesion, with support for each other (Milligan et al 2004). They can also facilitate the development and strengthening of local social ties and networks, promoting a sense of community (Hope and Ellis 2009).
- Growing food on allotments allows individuals and communities to reduce their carbon footprint, by reducing the energy used to process and distribute their food (Hope and Ellis 2009).

Building for Life Principle	Checklist for Planners and Developers
(11) Public & private spaces	□ Consider local needs for green gyms and children's play areas □ Ensure that places have adequate allotment infrastructure □ Favour place-making design that enables people to sit and rest in public spaces □ Design places with green and blue infrastructure

3.12 External storage and amenity space

Is there adequate external storage space for bins and recycling as well as vehicles and cycles?

- Build to BREAAM standards
- Ensuring adequate storage for cycles is vital to remove the possible barrier that lack of or difficulty with storage may have on a persons' decision to cycle
- Our environment is an important factor in determining our health and wellbeing, and in order to live more sustainably recycling needs to be maximised. Recycling facilities can be a key feature of place-based design and can provide adequate storage, which may induce behaviour change without impacting on household space.

Building for Life Principle	Checklist for Planners and Developers
(12) External storage and amenity space	☐ Design places with adequate waste and recycling storage to enable people to recycle sustainably

4 Conclusion

This document has provided an overview of how the environment and health are interconnected, and ways in which the design of places and spaces can promote positive health and wellbeing outcomes.