Towns Fund Delivery Partner

EVIDENCE IN YOUR TIP – HEALTH AND WELLBEING

OVERVIEW

This document sets out some key evidence towns can call upon to support links between the built environment and health and wellbeing. The aim is to provide a brief overview and introduction for different environmental factors that influence health to help towns evidence the health benefits of their projects or support the overall approach in their vision and strategy.

Key evidence for different health determinants (such as access to open space and nature, accessibility and active travel, air quality, access to work and training) are discussed as well as consideration of which population groups may especially benefit from interventions on specific health determinants. We also provide you with handy further guidance links to go into more detail on your projects.

The following health determinants are discussed:

PLACE

- Access to open space and nature
- Accessibility and active travel

PEOPLE

- Crime reduction and community safety
- Social inclusion
- Social cohesion
- Access to work and training

ENVIRONMENT

- Air quality
- Noise
- Climate change

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PLACE

ACCESS TO OPEN SPACE AND NATURE (GREEN SPACE & BLUE SPACE)

Access to open space and nature can improve community resilience and cohesion, reduce greenhouse gases, reduce health inequalities, enhance our living environment and improve mental health (particularly for children)[1].

Urban green spaces (parks, vegetation, and street trees) have beneficial effects on health, such as improved mental health, reduced cardiovascular morbidity, obesity and risk of type 1 diabetes, and improved pregnancy outcomes[2].

The proximity, size and the amount of green space available to people in urban areas:

- influences physical and mental health outcomes;
- supports physical activity;
- benefits restoration, mood and self-esteem;
- reduces stress;
- increases life satisfaction; and
- supports community cohesion through social contact[3].

Natural spaces support and facilitate social interaction, providing indirect benefits for mental health by increased sense of community belonging[4]. Often, the most deprived people experience the poorest quality outdoor environments and suffer disproportionately from a lack of equitable access to green spaces[5] [6]. The health benefits of urban green space may have particular relevance for economically deprived communities, children, pregnant women, and senior citizens[7].

Access and proximity to blue space (coastlines, rivers, lakes) has also been shown to influence general health and mental health[8] [9]. Blue space can support health by providing space for physical activity, reducing stress and improving mood. There is also evidence that those with greater social disadvantage may visit blue space less often[10]. Interventions such as improved access to bathing waters, waterfront developments and promenades and conversions of former docks could be considered.

Public Health England recently published a guide to improving access to green and blue space[11]. This is a great resource which can help you to boost your TIP with regards to health and wellbeing in open spaces.

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ACCESSIBILITY AND ACTIVE TRAVEL

Accessibility to and the provision of public services such as health, education and community facilities have been found to have a direct positive effect on health[12]. To promote health, consideration should be given to the number of pedestrian routes, the number and links between destinations, and the time taken to travel. Access to local facilities such as shops, schools, health centres and places of play for children are important for health and well-being due to the physical activity taken in getting there as well as the social interaction on the way there or at the facilities[13]. Groups impacted by disability and older people may experience greater barriers to accessing health and social care services [14].

UK Guidelines[15] state that every week, adults should accumulate at least 150 minutes of moderate intensity activity; or 75 minutes of vigorous intensity activity; or even shorter durations of very vigorous intensity activity; or a combination of each.

Transport infrastructure and the environment have an effect on people's participation in physical activity[16]. Higher activity levels are linked to being close to physical activity facilities as well as living in areas which:

- have good public footways and are easy to walk around;
- have high levels of perceived safety; and
- provide exercise equipment, and good quality parks and playgrounds[17].

Transport systems designed to promote active travel such as cycling and walking can reap health benefits by increasing physical activity, reducing morbidity from air pollution and reducing the risk of road traffic accidents by decreasing the number of journeys undertaken using motor vehicles[18].

People living in walkable neighbourhoods tend to be more physically active; less obese; and have lower levels of blood pressure and reduce risk of hypertension [19] [20]. Effects of walkability on physical health have also been shown for children[21].

The positive effects of physical activity on physical health has been summarised by the Department of Health[22] which stated that *'Regular physical activity can reduce the risk of many chronic conditions including coronary heart disease, stroke, type 2 diabetes, cancer, obesity, mental health problems and musculoskeletal conditions. Even relatively small increases in physical activity are associated with some protection against chronic diseases and an improved quality of life.'*

Public Health England[23] has reported that people with lower socioeconomic status, older people, people with disabilities, women, minority ethnic groups (specifically Bangladeshi and Pakistani women) are particularly vulnerable to physical inactivity[24]. Although all groups are shown to benefit from regular exercise, the benefits to children and the elderly are particularly emphasised[25] [26] [27].

The National Institute for Health and Care Excellence have published a number of guidance documents that discuss how the physical environment can be designed to support physical activity for different age groups and settings[28].

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PEOPLE

CRIME REDUCTION AND COMMUNITY SAFETY

The effects of crime on health include both being an actual victim of crime and perceptions about community safety (i.e., fear of crime and feeling that your neighbourhood is unsafe)[29].

The Healthy People 2020[30] report on crime and violence states that *'repeated exposure to crime and violence may be linked to an increase in negative health outcomes. For example, people who fear crime in their communities may engage in less physical activity and may report poorer self-rated physical and mental health'.*

The direct effects of crime include physical injuries and permanent disability and often longer lasting mental health, emotional and social difficulties. A report on Measuring National Wellbeing[31] has identified crime as a key indicator in determining well-being, noting that fear of crime was only weakly correlated with actual crime rates and that other community safety issues such as urban neglect and social cohesion affect fear of crime.

The design of the built environment can also influence levels of crime and perceptions of community safety with design that promotes 'eyes on the street' (natural surveillance) and interventions, such as street lighting, helping to reduce crime and anti-social behaviour.

Older people and women are identified as being particularly likely to suffer as a result of perceptions of community safety and fear of crime[32]. Young people aged 16-24 years in the UK are more likely to be victims of violent crime[33]. Thus, the risk of crime and the perceptions of safety are both important for improving healthy lifestyles.

ACCESS TO WORK AND TRAINING

The Marmot Review 10 Years On (2020)[34] reiterates the importance of employment as being protective of health; *"Being in good employment is usually protective of health while unemployment, particularly long-term unemployment, contributes significantly to poor health…. Unemployment and poor-quality work are major drivers of inequalities in physical and mental health."*

Employment is related to social and psychological well-being; a study commissioned by the Department of Work and Pensions[35] found that "*work meets important psychosocial needs in societies where employment is the norm*" and that "*work is central to individual identity, social roles and social status*".

The Marmot Review 10 Years On (2020)[36] review also emphasised that reducing health inequalities in training and education are also important for both physical and mental health. Learning at work is beneficial for employee wellbeing, specifically increasing people's ability to cope with stress, improved feelings of self-esteem; hope; and purpose[37]. Young people are particularly vulnerable to the negative mental health effects resulting from unemployment[38].

SOCIAL INCLUSION

Social exclusion results from unequal access to resources, opportunities and rights, typically as a result of poverty or belonging to a minority group. Social exclusion can operate at different levels including the individual, household, group, community, country and global levels[39]. Social exclusion can result from many factors for example, unemployment, financial hardship, youth or old age, ill-health, poor housing, and poorer education. Factors, which themselves are associated with poorer health and wellbeing.

The Ministry for Housing, Communities and Local Government (MHCLG) has set out the concept of 'lifetime neighbourhoods' to address social exclusion through the built environment[40] describing lifetime neighbourhoods as "*those which offer everyone the best possible chance of health, wellbeing, and social, economic and civil engagement regardless of age. They provide the built environment, infrastructure, housing, services and shared social space that allow us to pursue our own ambitions for a high quality of life. They do not exclude us as we age, nor as we become frail or disabled.*"

Lifetime neighbourhoods should aim to be accessible and inclusive; aesthetically pleasing and safe (in terms of both traffic and crime); easy and pleasant to access; and a community that offers plenty of services, facilities and open space. Lifetime neighbourhoods impact health and wellbeing as they are likely to foster:

- a strong social and civic fabric, including volunteering and informal networks,
- a culture of consultation and user empowerment between citizens and decision-makers, and
- a strong local identity and sense of place.

A range of case studies are discussed, which can help towns start to think about inclusion, and health and wellbeing in relation to their projects.

SOCIAL COHESION

Social cohesion refers to the quality of social relationships, as well as trust, feelings of connectedness, and solidarity within communities and wider-society[41]. This is closely related to levels of inequality or exclusion within a given community.

The physical environment can directly influence social capital, as social networks rely on high quality, accessible spaces where people can meet to pursue their hobbies and interests and interact socially. This includes transport infrastructure, which enables residents to integrate within and move outside of their own community. Social cohesion has been shown to positively correlate with a reduced fear of isolation and positive mental health. In contrast, inequalities within a population and crime and safety can erode social cohesion within a community[42]. Social cohesion can influence biological responses to stress and physically reduces isolation which is associated with poorer physical and mental health[43].

Social capital can influence the self-management of chronic diseases, either through resource exchange (e.g., caregiving, transportation to medical appointments) or through effects on health-related behaviours (e.g., exercise, alcohol use)[44]. Young people also '*accrue indirect benefit from their parents having wider and higher quality social support networks*' [45].

Some population groups are believed to be at particular risk of social exclusion, including black and minority ethnic (BME) groups, disabled people, lone parents, older people, carers, asylum seekers and refugees and ex-offenders[46].

ENVIRONMENT

AIR QUALITY

A Public Health England review[47] of interventions to improve outdoor air quality and public health found clear evidence that air pollution is the largest environmental risk to the health of the public in the UK. The review found that:

- It is estimated that between 28,000 and 36,000 deaths each year are attributed to human made air pollution in the UK;
- There is a close association with cardiovascular and respiratory disease, including lung cancer;
- There is emerging evidence that other organs may also be affected, with possible effects on dementia, low birth weight and diabetes; and
- It concluded that the most impactful interventions for public health would be those that reduce emissions of air pollution at source.

The main health-damaging air pollutants released by road traffic are coarse particulate matter[48] (PM_{10}) and nitrogen dioxide (NO_2). An evidence and policy review by the UK Health Alliance on Climate Change (2018)[49] notes that transport is a major cause of air pollution. In 2016, emissions from road transport accounted for 12% of PM_{10} and $PM_{2.5}$ in the UK and were the third largest source after industrial processes and combustion in residential, public, commercial and agricultural sectors. Furthermore, road transport is responsible for 80% of NO_2 levels near roadsides.

Whilst there is no clear evidence of a safe level of exposure (below which there is no risk of adverse health effects), there is widespread acceptance for adverse effects of air pollution on health. There is consensus that lowering levels of NO_2 and particulate matter will bring additional health benefits.

The Department for the Environmental, Food and Rural Affairs (DEFRA)[50] found that, in England, there is a tendency for higher relative mean annual concentrations of nitrogen dioxide NO_2 and PM_{10} in the most deprived areas of the country.

This can largely be explained by the high urban concentrations driven by road transport sources, and the higher proportion of deprived communities in urban areas. A similar relationship is seen between exceedances of National Air Quality Standards and deprivation, where the greatest burden is on the most deprived communities, and very little on the least deprived.

A recent Public Health England[51] report has stated that children, older people, and people with chronic health problems such as pre-existing cardiovascular and respiratory conditions are the most vulnerable to air pollution [52] [53].

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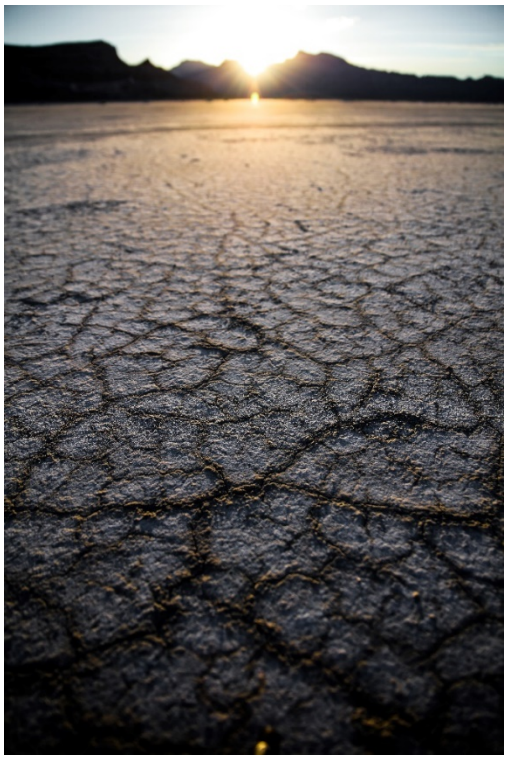
NOISE

Noise from environmental sources, in particular from road traffic, is increasingly accepted as influencing the health and well-being of individuals or populations[54]. The World Health Organization has stated that *"Environmental noise is a threat to public health, having negative impacts on human health and well-being".*[55]

The 2018 WHO Guidelines on Environmental Noise for the European Region[56] concluded that there was evidence for an association of road traffic and railway noise on cardiovascular disease and metabolic disorders, sleep disturbance, annoyance, and children's learning, with suggestive but weaker evidence for effects on mental health and birth weight.

Children, the elderly, shift workers, noise sensitive individuals, pregnant woman, and socio-economically disadvantaged individuals are also particularly vulnerable to noise[57] [58].

CLIMATE CHANGE



The most recent UK Climate Projections (UKCP18)[59] have stated that the UK should expect warmer temperatures, with a predicted increase of 0.7 °C to 4.2 °C in winter, and 0.9°C to 5.4°C, in summer, by 2070. Furthermore, by 2070 wetter winters and hotter, drier summers are forecast, with UK average changes estimated as -1% to +35% for winter, and -47% to +2% for summer, where positive values indicate more precipitation and negative values indicate reduced precipitation.

In the UK, climate change could have direct impacts on health such as heat-related effects, flooding, and poor air quality and indirect impacts such as fuel poverty, access to green space and disruption to services and access such as healthy food[60].

Increased temperature and heat waves increase mortality, particularly in the elderly (primarily as a result of respiratory and cardiovascular illnesses). Heat waves can also increase air pollution, which is associated with increased 'all-cause' mortality (all deaths, regardless of the cause), cardiovascular mortality and morbidity, and respiratory mortality and morbidity. Social deprivation is associated with greater risk for these illnesses, as well as increased risk for exposure to air pollutants.

Flooding can impact health in several ways including through illnesses associated with contamination or loss of water supply; by increasing healthcare demand; by disrupting healthcare supply; and by stress effects on mental health. Socially disadvantaged populations are more likely to be at risk from coastal flooding, with affluent populations more at risk from river flooding.

Certain people are expected to be the most vulnerable to climate change and this includes[61]:

- Poorly housed or non-mobile individuals;
- The population living in high risk places such as flood zones and coastal locations; and
- Socially isolated or those individuals otherwise unable to adapt to change.

Age, pre-existing medical condition/s and social deprivation are key factors that make people more vulnerable to experiencing the adverse health outcomes related to climate change impacts[62].

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