

VALE OF GLAMORGAN  
REPLACEMENT LOCAL DEVELOPMENT PLAN  
2021 - 2036

# PLANNING HEALTHY PLACES

June 2024



## BACKGROUND PAPER - BP36



# **Vale of Glamorgan**

## **Replacement Local Development Plan – 2021 to 2036**

### **Planning Healthy Places**

**June 2024**



**GIG**  
**CYMRU**  
**NHS**  
**WALES**

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**This document is available in Welsh / Mae'r ddogfen hon ar gael yn Gymraeg**

# Planning Healthy Places

## 1. OVERVIEW

This *Planning Healthy Places* technical paper provides the policy context, background evidence and data that supports the health and well-being strategic and detailed policies. It has been prepared by the Public Health team at Cardiff and Vale University Health Board for the Vale of Glamorgan Council.

## 2. INTRODUCTION

Health is '*a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity*' (World Health Organisation, 1948) (1).

Health is inextricably linked to well-being, social and economic conditions, the physical environment we live in, individual health behaviours and skills, wider environmental factors and inequities in power, money and resources. Access to healthcare is also important, but only a very small part of what enables people to remain healthy throughout their lives (2).

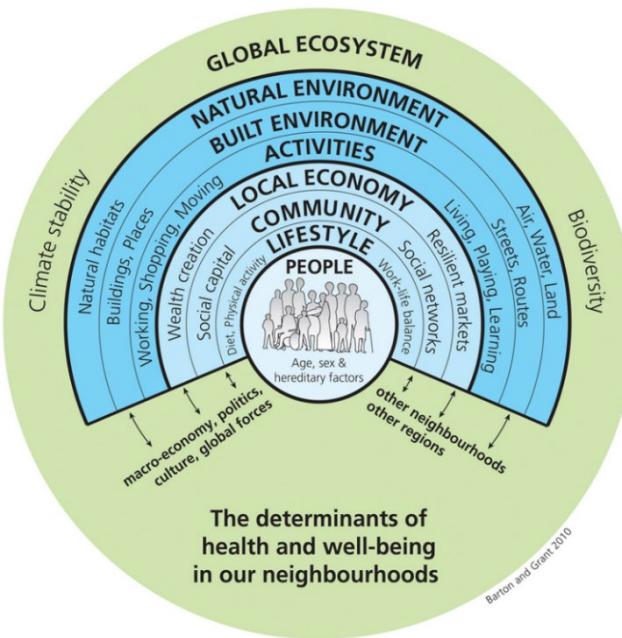
The built and natural environment (buildings, homes, places, streets, routes, land, watercourses, natural habitats) and the activities undertaken in these (living, working, learning, playing, shopping, travelling, moving) determines the health and well-being of the population (3). Access to green open spaces, to healthy food, to opportunities for being active, to clean air, to well-designed buildings that promote well-being and to supportive services delivered from local facilities all help people and communities to maintain and improve their health and well-being.

## 3. PLANNING AND HEALTH

Spatial planning has an important role in facilitating and enabling health and well-being (4) (5) and addressing health inequalities<sup>1</sup> through influencing and shaping urban and rural environments. The Health Map (6) (Figure 1) illustrates the impact and the influencing factors of the built and natural environment on health and well-being.

<sup>1</sup> Health inequalities are the unfair and avoidable differences in health status seen within and between countries. There is a social gradient between health and illness: the lower the socio-economic position, the worse the health. Also, poorer health status is generally observed in more deprived communities (2)

Figure 1 The Health Map



Source: H Barton and M Grant: 'A health map for the local human habitat'. *Journal of the Royal Society for the Promotion of Health*, 2006, Vol 126(6), 252-253

[https://www.researchgate.net/publication/6647677\\_A\\_health\\_map\\_for\\_the\\_local\\_human\\_habitat](https://www.researchgate.net/publication/6647677_A_health_map_for_the_local_human_habitat)

#### 4. PLANNING POLICY CONTEXT

National planning policy identifies the role that the planning system can play in shaping the social, economic, environmental and cultural factors that influence health and well-being.

- *Planning Policy Wales Edition 12* (7) has a focus on promoting healthier places and includes facilitating accessible and healthy environments as a key planning principle and as a National Sustainable Placemaking Outcome. Planning can influence and deliver (5) (8):
  - infrastructure that prioritises walking and inclusive cycling
  - road safety measures that reduce vehicle speed and accidents
  - accessible and well-maintained green infrastructure, open green and blue spaces
  - a food growing and food retail environment that enhances access to healthy food choices
  - local facilities that enable access to community, healthcare and social care services
  - low levels of air pollution
  - a range of homes, according to population need, that are insulated, warm, naturally lit, energy efficient and well-ventilated and have adequate kitchen facilities, cycle storage and access to outdoor spaces.

Through delivering the above and influencing the built and natural environment, planning can improve health and well-being and reduce health inequalities.

- *Future Wales: the national plan 2040* (9). The plan provides a framework for the provision of new infrastructure/growth and seeks to address key national priorities through the planning system, including improving the health and wellbeing of communities. It includes the following outcomes:
  - A Wales where people live and work in connected, inclusive and healthy places
  - A Wales where people live in distinctive regions that tackle health and socio-economic inequality through sustainable growth.

## 5. HEALTH POLICY AND STRATEGY CONTEXT

In addition to planning policy, the current health policy context influences the role of the built and natural environment on health and well-being:

- The *Well-being of Future Generations (Wales) Act 2015* (10). The Act provides a government wide policy framework centred on the sustainable development principle in Wales and enacts a '*Health in all Policies*' approach by making a '*Healthier Wales*' a required policy goal for all public bodies in Wales. This policy goal includes a section entitled 'Place-making and designing-in community health and well-being' and a sub-section 'Enable places to support the health and well-being of people and communities' (10).
- The Vale of Glamorgan Public Services Board Well-being Plan 2023-2028 (11). The plan is a requirement set out in the *Well-being of Future Generations (Wales) Act 2015* for public services to work together through Public Services Boards to improve the well-being of each Local Authority area and contribute to the seven national well-being goals. The plan focuses on addressing inequalities and improving health across the well-being objectives.
- The *Socio-economic Duty Equality Act 2010* (12). The Act came into force on 31<sup>st</sup> March 2021 in Wales and places a legal responsibility on particular public bodies to have due regard, when they are making strategic decisions, of the need to reduce inequality of outcome resulting from socio-economic disadvantage.
- The *Active Travel (Wales) Act 2013* (13) has enabled the building of new and improved infrastructure for walking and cycling and promoted walking and cycling as a mode of transport.
- The *Public Health (Wales) Act 2017* (14). The Act aims to address a number of specific public health concerns, and to create social conditions that are conducive to good health and where avoidable harms can be prevented. The Act included the requirement to produce a national strategy on preventing and reducing obesity (15) and to undertake health impact assessments on key decisions. The Health Impact Assessment (Wales) Regulations (16) are included under the Act.

## 6. HEALTH IMPACT ASSESSMENT (HIA)

Health Impact Assessment (17) is '*A combination of procedures, methods and tools by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population*'.

HIA (18) is viewed as '*a systematic, objective and practical assessment process that can help identify links across the wider determinants of health and well-being and any impacts of a policy, programme or project on the health and well-being of the population or specific group affected*'.

Planning Policy Wales (7) recognises that when used in the planning system, HIA can make a 'valuable contribution towards plan making' and ensure that health and well-being is maximised for the local population.

Undertaking health impact assessments during the design and determination of planning applications ensures that health and wellbeing, including health inequalities, are considered and addressed, resulting in the creation of healthy places that support residents' mental and physical health and wellbeing. HIA has successfully been used to demonstrate positive outcomes of policies and plans on the health and well-being of population groups on various topic areas including planning and health. Examples of HIAs are available on the Wales Health Impact Assessment Support Unit (19) website.

## 7. KEY DEMOGRAPHIC AND POPULATION HEALTH INDICATORS FOR THE VALE OF GLAMORGAN

This section outlines some key demographic and population health indicators for the Vale of Glamorgan. These issues are important factors to consider when planning new developments or regenerating areas so that healthy spaces are created for the population and that the focus remains on improving health and addressing health inequalities.

- There was increase in population of 4.4% between 2011 and 2021, a greater increase than for Wales as a whole (1.4%). The population is projected to grow by 3.9% between 2019 and 2039 (20).
- The population of the Vale is getting older, and is predicted to continue to do so. The population of the 65+ age group is estimated to have grown by 11.33% between 2014 and 2020 (20), with growth most prevalent in Western Vale.
- There is considerable socio-economic diversity in the Vale of Glamorgan, with some communities falling within the most 10% most deprived areas in Wales.

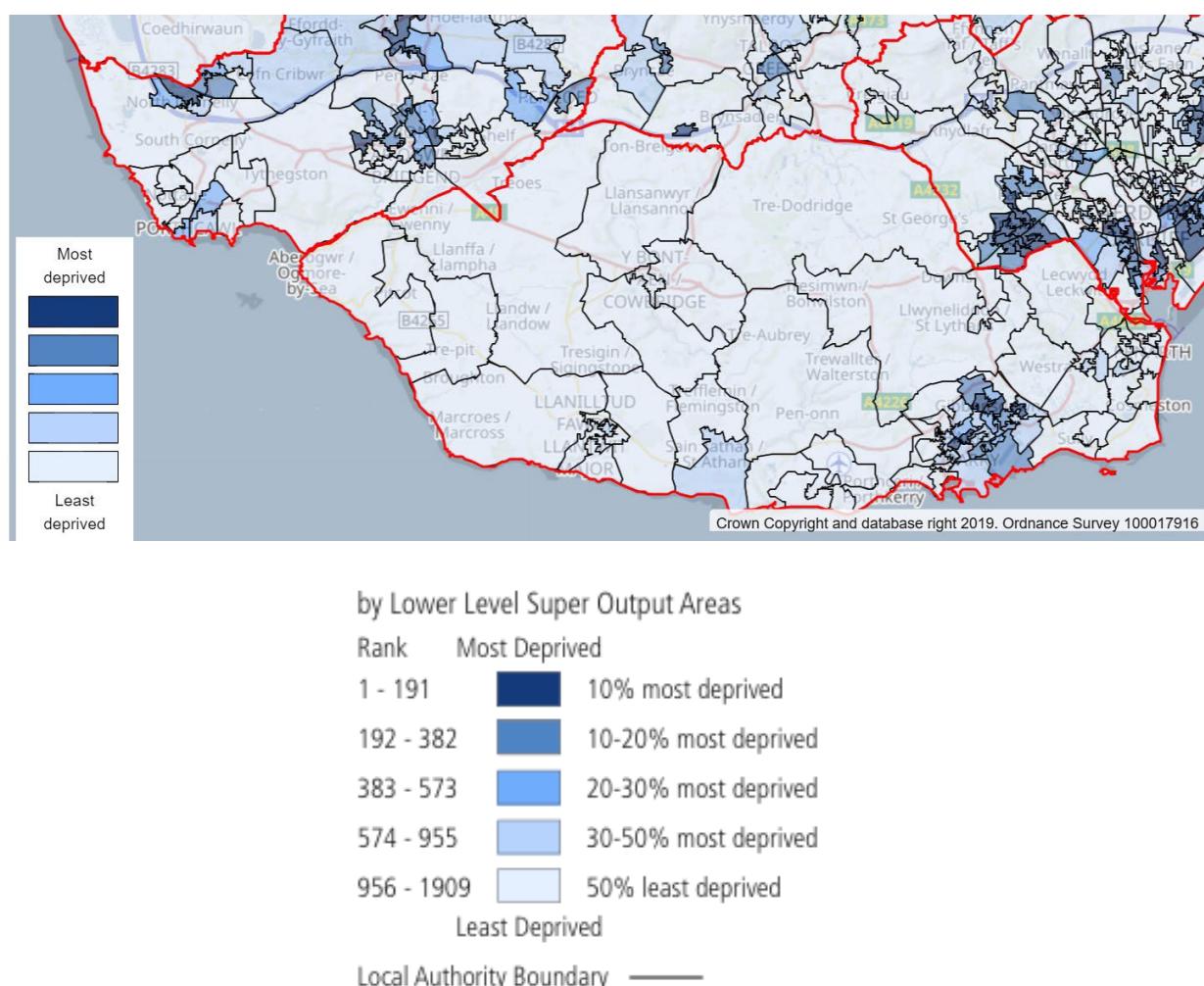
## 8. INEQUALITIES IN THE VALE OF GLAMORGAN

### 8.1 Health Inequalities

Health inequalities are the unfair and avoidable differences in health status seen within and between communities. There is a social gradient between health and illness: the lower the socio-economic position, the worse the health. Also, poorer health status is generally observed in more deprived communities (2).

Over the last ten years, health has deteriorated and health inequalities widened in the Vale (21). Three LSOAs are Barry are ranked in the 10% most deprived areas in Wales, and a further 7 LSOAs, all in Barry, are ranked in the 10-20% most deprived in Wales. Figure 2 (22) illustrates the areas experiencing the poorest health.

*Figure 2: Welsh Index of Multiple Deprivation 2019. Health Domain. Vale of Glamorgan*



Source: Stats Wales. WMID Maps from 2019. Map of health deprivation [WIMD - Explore \(gov.wales\)](https://wmid-explore.gov.wales)

## **8.2 Life expectancy**

The gap in life expectancy (21) between the least and most deprived populations in the Vale has been generally increasing in recent years for both males and females, suggestive of growing inequality.

In 2018-2020:

- Life expectancy in the Vale was 83.3 years for all females and 79.6 years for all males
- The difference in life expectancy for females was 7.8 years and for males 8.3 years between least and most deprived areas illustrating those in more deprived areas have seen their life expectancy declining, while it has increased in more advantaged areas.

## **8.3 Healthy life expectancy**

Healthy life expectancy (years of life lived in good health) (21) differs greatly between the least and most deprived areas. Those living in the most deprived areas experienced poorer health for longer and die at a younger age

In 2018-2020:

- Healthy life expectancy was 64.7 years for females and 61.9 years for males
- Gap in healthy life expectancy at birth (comparing least to most deprived fifth), for females was 19.3 years and for males 17.9 years

This inequality in health leads to people in the most deprived areas often experiencing more complex conditions, needing to access health and social care more frequently, and having a poorer quality of life.

## **8.4 Environmental inequalities**

Environmental inequalities (4) impact on health and well-being and enforce health inequalities. There is a gradient in the distribution of environmental disadvantages with those living in the most deprived neighbourhoods more exposed to environmental conditions that negatively affect health, for example, air pollution, damp and poorly insulated housing, living near major roads, and lack of green spaces. Additionally, the unhealthiest high streets are likely to be located in more deprived areas with the highest number of fast food outlets, betting shops, more littering and fouling, noise and air pollution, unhealthy retail outlets, crime and fear of crime and road traffic accidents (2).

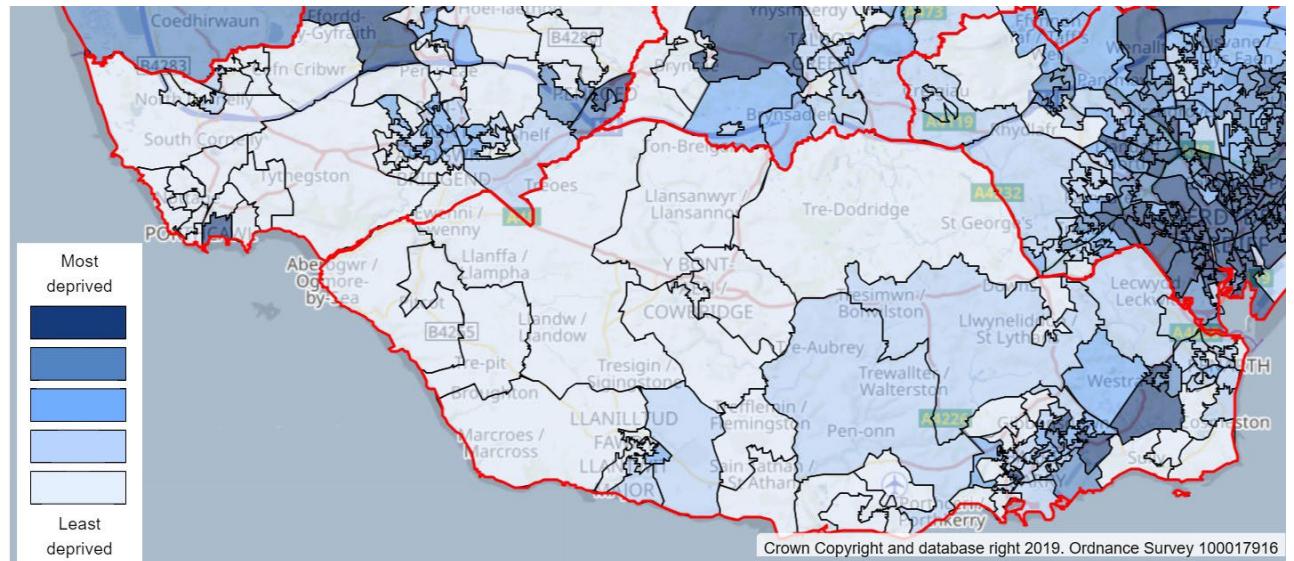
Figure 3 illustrates that there are inequalities in terms of the physical environment<sup>2</sup> across the Vale. The most deprived areas in relation to physical environment are

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<sup>2</sup> The physical environment domain of the WMID contains three sub domains – air quality, flood risk and green space (58)

those that have high levels of air pollution, less access to green spaces and being located in a flood risk area.

*Figure 3: Welsh Index of Multiple Deprivation 2019. Physical Environment Domain. Vale of Glamorgan*



by Lower Level Super Output Areas

Rank      Most Deprived

1 - 191	10% most deprived
192 - 382	10-20% most deprived
383 - 573	20-30% most deprived
574 - 955	30-50% most deprived
956 - 1909	50% least deprived

Least Deprived

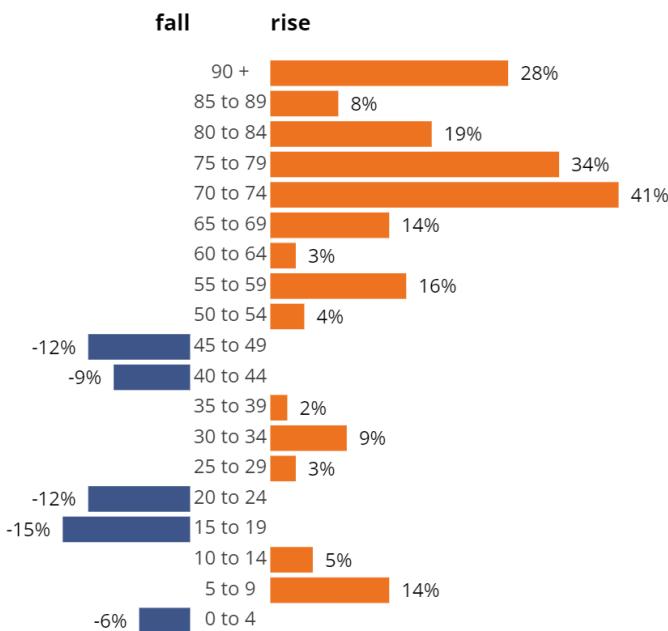
Local Authority Boundary —

Source: Stat Wales. WMID Maps from 2019. Map of physical environment deprivation [WIMD - Explore \(gov.wales\)](https://wimd-explore.gov.wales)

## 9. POPULATION CHANGE

Figure 4 (23) illustrates the population change between censuses in 2011 and 2021. The age groups from 50 years and upwards all increased over this period, with the 70-74 year group having significant growth.

Figure 4: Population change (%) by age group in Vale of Glamorgan, 2011-2021



Source: Office for National Statistics. How the population changed in the Vale of Glamorgan: Census 2021

Notable growth is projected for the population aged 65-84 and 85 and over. Between 2019 and 2039 it is estimated that the population aged 65-84 will grow by 5,266 people and the population aged 85 and over by 2,904 people (20).

An ageing population can put additional pressure on health and social care services, with increasing levels of frailty, conditions such as dementia and increased falls. It can also increase the need for appropriate housing for older people to provide the opportunity for independent and supported living.

Having mobility and social support are both key to healthy ageing, and the built environment plays a key role in creating age-friendly spaces (24). Age friendly spaces include the following (25):

- Pedestrian friendly walkways in open spaces, free from obstructions with smooth surfaces;
- Outdoor seating available, particularly in parks, transport stops, and public spaces. Spaced at regular intervals, and safe to access;
- Sufficient pedestrian crossings, allowing enough time to cross (crossing speed of 0.8m per second is recommended)
- Separate cycle and walk ways
- Accessible transport options
- Adequate and accessible public toilets

- Well maintained green spaces
- Affordable housing where older people feel safe
- Opportunities for social interaction
- Designing dementia friendly environments (26)

## 10. LONG TERM HEALTH CONDITIONS

Although 74% of the population of the Vale of Glamorgan (27) reported their health as good or very good in 2021-22:

- 47% reported experiencing a long term illness, with 19% having 2 or more long term illnesses.
- 15% reported having musculoskeletal complaints, 10% heart and circulatory complaints, 10% respiratory conditions, 11% mental health conditions.

The following sections highlight key health conditions which are directly impacted by, or can be improved by, the natural and built environment.

### 10.1 Obesity

In Wales in 2021-22 (28), 62% of adults were overweight or obese, of which 25% were obese. In the Vale of Glamorgan, 57% of adults were overweight or obese, of which 21% were obese, with some communities experiencing far higher levels. Among children (29), nearly 25% across Wales are overweight or obese by the time they start primary school; in 2022/23 in the Vale of Glamorgan over a fifth of children (22%) aged 4 to 5 were overweight or obese.

Being overweight or obese (30) significantly increases the risk of developing chronic diseases including cardiovascular disease (CVD), cancers, diabetes, musculoskeletal illnesses and chronic respiratory disease.

In terms of the impact of the burden of overweight and obesity on society, costs to the health system and the economy are rising significantly (31). It has been estimated that, if rates of overweight and obesity continue to rise, by 2050, this will cost the NHS in Wales £465 million per year, with a cost to society and the economy of £2.4 billion.

An individual's weight is influenced by a range of factors, beyond personal choice.

### 10.2 Diabetes

There has been a steady increase in the number of adults with diabetes in Wales, an increase of almost 60,000 people (40%) over a period of 12 years to 2021/22; this increase is mostly due to an increase in Type 2 diabetes.

Deprivation is a factor in diabetes prevalence together with increasing age (32).

Approximately, 10% of the total NHS Wales budget is spent on treating people with diabetes, with £105 million spent on drugs used to manage diabetes in 2022/23. Diabetes-related hospital stays cost £428 million in 2021/22 (32).

Estimates for Wales vary but if current trends continue, by 2035/36 there will be an increase of 22% in the number of people living with diabetes compared to 2021/2022; the worst-case high-count model estimates an increase of 32% (32).

### **10.3 Mental health**

In Wales (27), 11% of adults reported a mental health condition (33) in 2021-22, and 11% in the Vale of Glamorgan. Inequality is a key determinant of mental ill health and mental ill health leads to further inequality. The estimated cost of mental ill health to society is £7.2 billion per year.

Where someone lives can have an impact on their mental health (34). It is reported that the majority of people with a mental health condition have lived in housing that has made their mental health worse. The evidence has strengthened on the negative impacts of cold homes on mental health (35). 28 per cent of young people in the UK are likely to be at risk of multiple mental health symptoms due to living in a cold home, compared to four per cent of children living in adequate warmth. Becoming unable to heat a home doubles the risk of adults developing new mental health conditions and triples the risk of these getting more severe if people already had mild mental health conditions, even after controlling for other socio-economic variables.

The quality of the wider built environment is also a determining factor for mental health, with noise, pollution levels, quality of greenspace and access to services having an impact (34).

### **10.4 Dementia**

It is estimated that around 5,000 people in Cardiff and the Vale of Glamorgan have dementia (36). As at July 2024, around 1,000 people with a diagnosis of dementia according to their GP records are living in the Vale, with many more people undiagnosed. This figure is projected to increase due to an ageing population, as outlined in section 9 above.

## 11 PLANNING HEALTHY SPACES

Spatial planning provides opportunities to (36) (37) create healthy places and spaces and consider how all of these factors interact to create social cohesion:

- provide active environments that support walking and inclusive cycling, and active travel
- creating walkable environments and communities
- facilitating access to well-maintained and safe open green and blue spaces
- create open green and blue spaces for recreation and play
- create healthy food environments (food retail and food growing)
- provide community and social infrastructure that supports the delivery of local healthcare, community and social services
- design and provide high quality streets and spaces
- promote and deliver buildings, including homes, that support health and well-being
- providing well designed, safe, warm and affordable homes
- creating attractive public realm spaces
- improving environmental quality (air quality, noise, etc)

### 11.1 Creating active and supportive environments to improve health

Being physically active (38) can reduce the risk of major illnesses, such as coronary heart disease, stroke, type 2 diabetes and cancer and lower the risk of early death by up to 30%. Research shows that physical activity can boost self-esteem, mood, sleep quality and energy and lower the risk of many of the long-term chronic conditions as well as stress, depression, dementia and Alzheimer's disease. The recommendation is for adults to be active every day and aim to do at least 150 minutes of physical activity over a week, through a variety of activities. Children and young people (aged 5 to 18 years) should aim for an average of at least 60 minutes of moderate or vigorous intensity physical activity a day across the week (38).

The Vale of Glamorgan compares well with other local authorities across Wales in terms of the population being active. However (28):

- A third of people are not active for 150 minutes per week
- Almost a quarter of people do less than 30 minutes of physical activity per week.

Deprivation is a key factor in relation to levels of activity, with 47% of the most deprived fifth of the population reaching sufficient levels as opposed to 62% for the least deprived fifth (39).

Features of the built environment that have an impact on physical activity include (37) (40):

- walkable communities
- active travel (walking, cycling or wheeling) routes
- location, density and diverse activities
- network of multi-functional open spaces
- high quality streets and spaces
- physical access to public services, employment, local fresh food
- safety and security
- open and green spaces
- air quality and noise
- active buildings inside and out
- public transport options.

### **11.1.1 Walking and cycling**

In 2018/19 it was estimated that 11% of people in the Vale of Glamorgan travelled by bicycle once a month, while 25% walked every day for travel. Feeling safe/unsafe is commonly reported as an issue/barrier to cycling and participation reduces with age and increasing deprivation.

Walking is a simple but powerful way to improve health, and can also be a social activity. Cycling is an ideal way to improve health and well-being, just two short trips or about 30 minutes of daily cycling is enough to start to improve the cardiovascular system. Health benefits include weight management, enhanced mental health, increased strength, and environmental benefits from a zero -carbon emissions form of transport.

The design of routes should ensure that active travel is considered to be at least as important as motorised travel, and should be integral to planning and design from the outset. These four design principles should be followed when creating active travel routes:

- Direct – pedestrians and cyclists prefer to have a direct route as possible, without having to stop or slow down.
- Safe – routes need to be of sufficient width, and ideally separated cycle and pedestrian surfaces
- Comfortable – well lit, minimal conflict between other route users, smooth and well-maintained
- Attractive – feel secure, have good urban design, integrate with and complement surroundings

### **11.1.2 Opportunities to play**

Access to high quality play opportunities is critical for the health and well-being and development of children. Play as spontaneous and creative behaviour can improve community relationships and increase social connections, improve cardiovascular

health and decrease risk of heart disease, counter depression and improve mental well-being (41). Play is important to all children in the development of their physical, social, mental, emotional and creative skills (42).

Provision for teenagers in parks and public spaces is usually considered in terms of skate parks, MUGAs (multi-use game areas) and other pitches and BMX or pump tracks. These facilities and outdoor spaces tend to be used more by boys and men: (43)

- Skateboard GB data indicates that 85% of skateboarders are male, 15% female
- MUGAs are used more by boys and men.

This inadvertent absence of provision for play for teenage girls impacts on the rights of girls and on their sense of belonging, on activity levels and the consequential impact on physical and mental health (44).

Research (44) in Yorkshire and Glasgow highlighted that

- parks do not meet the needs of the majority of girls: 68% saying there is nothing for them to do, 50% reporting there are no sporting activities for them
- 49% of girls don't feel safe to exercise in parks compared to 26% of boys
- 80% of women and girls who used parks felt uncomfortable in their chosen park
- 22% teenage girls felt safe in their chosen park.

Planning for play can shape physically healthy habits, improve daily movements, interactions, and experiences, and encourage social interaction and collaboration. Spatial planning (41) can play an important role in creating environments that encourage and enable play through:

- identifying population needs for different environments for play at different life stages
- providing safe spaces for play, especially for girls and women
- providing inclusive open and green/blue spaces
- ensuring location, density and the diverse activities provided address health and environmental inequalities.

## **11.2 Creating a healthy food environment (food retail and food growing)**

The Vale compares better than many other local authorities across Wales in terms of the population eating healthily. However (28) only 35% (Wales 29%) are eating the recommended five portions of fruit and vegetables a day, and some do not eat any fruit or vegetables.

Poor diet is a key preventable risk factor to ill-health, contributing to lower life expectancy and earlier onset of ill-health. Poor diet and being overweight or obese can lead to a range of physical health issues, and can also result in a number of

psychological problems. People most at risk of diet-related ill health include the disabled, those on lower incomes, those in deprived areas, those from some minority ethnic backgrounds and vulnerable people such as the homeless (45).

The effects of poor diet are unevenly distributed, with individuals from the lowest socioeconomic areas having double the prevalence of obesity, compared to the least deprived.

Access to a food environment that promotes healthy food choices is known to improve health, support the maintenance of a healthy weight and reduce the risks of developing long term health conditions (5). It is an essential part of a multi-component approach to reducing levels of overweight and obesity that also considers, for example, individual behaviour change, food preparation and food served in schools, workplaces and NHS settings. The evidence suggests (5):

- Increased access to healthy, affordable food for the general population is associated with improved healthier food purchasing behaviour and improved dietary behaviours (such as, increased fruit and vegetable consumption)
- Increased access to unhealthier food retail outlets is associated with increased weight status in the general population and increased obesity and unhealthy eating behaviours among children living in low income areas
- Access to urban agriculture appears to improve attitudes to healthier food, increases opportunities for physical activity and social connectivity and increases fruit and vegetable consumption.

### **11.2.1 Hot food takeaways**

Some research suggests that the concentration or clustering of takeaways in centres can dominate the retail environment, limiting the number of units available for healthier food choices and resulting in an over-exposure of unhealthy food takeaway uses which may influence behaviour (46). Density of fast food outlets varies across Wales (47). In August 2024 in Wales the mean was 1.12 fast food outlets per 1,000 population. In the Vale of Glamorgan, the density of fast food outlets was 0.96 per 1,000 population, but one MSOA (incorporating the town centre of Barry) has density as high as 2.82 per 1,000 population. Recent unpublished data for 2023, suggests that the density of outlets in some areas of the Vale increased from 2018 to 2023.

Overall, there is some evidence around the association between exposure to hot food takeaways and obesity but results are mixed. However, there is good evidence that there are higher numbers of hot food takeaways in more deprived areas (46) and children who spend time in deprived neighbourhoods tend to eat more fast food and are *more likely* to be overweight or obese (48). Hot food takeaways are often co-located with other potentially less healthy land uses, such as betting shops,

gambling and shisha bars and the availability of alcohol; these factors can influence the health of local communities (49).

### **11.2.2 Food growing environment**

There is growing evidence of the benefits of food growing to health and well-being. Gardening and food growing can reduce stress and stress related conditions and help to achieve and maintain a healthy weight (50). Access to allotments and adequate garden space appears to result in numerous positive physical and mental health related impacts and outcomes (5).

Spatial planning has opportunities to influence the food environment by (3) (5):

- Avoiding over-concentration of hot food takeaways in town centres or high streets, particularly in areas of deprivation
- Understanding the density of hot food takeaways across the Vale and its communities and utilise policy, if appropriate, to restrict any increase
- Supporting access to retail outlets selling healthier foods and decrease exposure to unhealthy food environments
- Ensuring shops/markets that sell a diverse offer of food choices are easy to access by walking, cycling or public transport
- Enhancing opportunities for food growing and prevent the loss of food growing spaces in developments
- Providing households with access to space to grow food – for example, gardens, roof or communal gardens, allotments.

### **11.3 Enabling access to green infrastructure, open spaces and blue spaces<sup>3</sup>**

Access to green infrastructure, open spaces and blue spaces impacts on physical and mental health and well-being, social contact, cohesion and integration, crime levels and education. It is estimated that parks and green spaces save the NHS £111 million every year due to the health benefits they provide.

The Vale of Glamorgan is a rural county with green space, agricultural land and blue spaces throughout. However, proximity and equal access to green space varies across the county with parts of Barry in particular not having good access to natural green space, some MSOAs in Barry are ranked in the 30-50% most deprived in Wales across the physical environment domain (51) (see Environmental Inequalities section).

The link between green space and well-being is well established (5). Access to, and engagement with, the natural environment is associated with positive health

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<sup>3</sup> Parks, open spaces, playing fields, woodlands, wetlands, road verges, allotments and private gardens are examples of green infrastructure while sustainable drainage systems, swales, wetlands, rivers and canals and their banks and other watercourses are often referred to as blue infrastructure (3)

outcomes including improved physical and mental health and reduced risk of cardiovascular disease, risk of mortality and other chronic conditions. Additionally, living near green spaces can improve health, regardless of social class and access to recreational infrastructure, such as parks and playgrounds, is associated with reduced risk of obesity among adolescents and increase in physical activity. For children and older adults, improving the appearance of parks can increase usage and increase physical activity rates of both groups.

Improving access to green infrastructure and spaces also contributes to reducing exposure to environmental hazards and air pollution, improving air quality, reducing the impact of climate change, protecting against flooding and erosion, and increasing social participation among older adults (3). Green and blue infrastructure and the choice of trees can also mitigate the extent of heat stress during heatwaves experienced by residents (52).

Spatial planning provides opportunities to improve access to green infrastructure, open spaces and blue spaces by

- Protecting and enhancing access
- Including access to green infrastructure, open spaces and blue spaces in development and regeneration plans
- Monitoring levels of, and maintenance of, green infrastructure, open spaces and blue spaces

## **11.4 Housing**

In the UK, people spend approximately 66% of their time in their homes and more vulnerable people (such as the young, the elderly and those with long-term conditions) might spend up to 100% of their time indoors (53).

Poor quality housing, including issues such as mould, lack of warmth, energy inefficiency, noise and lack of access to green spaces is linked to physical and mental ill-health (5). Just over half of all households in the UK are living in energy inefficient housing (35). Living in cold homes increases blood pressure, the risk of a heart attack, and the risk of developing winter infections, and respiratory problems. Arthritis, grip strength and sickle cell anaemia can all be made worse by living in cold conditions and a reduction in dexterity leads to an increased risk of falls in the home. Additionally, those who are living with Dementia and Alzheimer's disease have a high risk of mortality in the winter (35).

Children's lung function and brain development can be negatively impacted by living in a cold home, resulting in impaired cognitive development and lower school attainment (35).

The cost to the NHS in Wales (54) of poor quality housing is estimated to be around £95 million per year, and £1 billion cost to society (distress, economy, welfare, finances).

Good quality, warm, well maintained and affordable housing is associated with numerous positive health and well-being outcomes. Insulated, warm, naturally lit and well-ventilated homes and buildings can help improve general health and well-being, reduce respiratory conditions, improve mental health and reduce health inequalities (5). Provision of diverse forms and types of housing has been associated with increased physical activity. The provision of mixed land use and affordable housing is strongly associated with improved safety perceptions in the neighbourhood, particularly among individuals from low income groups. Homes that have adequate kitchen facilities, cycle storage and access to outdoor spaces also contribute to overall well-being (55).

Spatial planning (3) (5) has opportunities to ensure housing design and construction improves health and well-being by

- Ensuring the provision of warm, affordable, energy efficient homes
- Ensuring natural lighting and good ventilation is provided
- Ensuring the provision of safe, accessible housing for those with sensory or physical impairments and/or limited mobility and with consideration of dementia friendly environments (26)
- Ensuring new homes are linked to the walking and cycling infrastructure
- Maximising green infrastructure opportunities
- Providing cycle parking/storage

## **11.5 Air quality**

Air pollution is a major cause of avoidable ill health and deaths with the people most at risk from poor air quality being the very young, the very old and those already suffering with ill health. Transport currently contributes 14% of all carbon emissions in Wales (20).

Analyses of local air pollution, multiple deprivation and health data in Wales has found that air pollution concentrations (notably NO<sub>2</sub>) are highest in the most deprived areas exacerbating health inequalities and contributing to an increased prevalence of pollution-related health problems, such as lung disease and lung cancer, heart disease and stroke both for people living in these areas and those travelling through them (56).

More deprived areas in the Vale of Glamorgan are exposed to higher rates of harmful Nitrogen Dioxide (NO<sub>2</sub>) pollutant than other areas (20).

It has been estimated that approximately 66% of carcinogenic chemicals emitted into the air are released in the 10% most deprived wards (4). Poor air quality is also linked to an increased risk of developing neonatal complications, of poor birth outcomes and childhood mortality (5). There is a correlation between higher rates of NO<sub>2</sub> and poor health outcomes for children and young people. Children living in

highly polluted areas are four times more likely to have significantly reduced lung function in adulthood (20).

The cost to society from air pollution has been estimated to be around £1bn per year (56).

Evidence indicates that living in an area with clean air can lead to positive changes in people's health behaviour. Improved air quality is associated with increased physical activity among older adults (5).

Spatial planning provides opportunities to improve air quality through (57):

- Retaining and establishing green infrastructure
- Promoting active travel and sustainable transport
- Providing a fully integrated transport system
- Developing well-connected, active and social communities
- Reducing traffic congestion and emissions
- Introducing clean air zones and 20mph zones.

## **11.6 Access to community, health and social care services from local facilities**

Access to and availability of services delivered in good quality local facilities promotes health and reduces health inequalities, in addition to being essential for economic, social, cultural and environmental sustainability. Health and social services, libraries, shops, schools and arts, leisure and community activities provided from well-positioned and well-designed facilities can result in positive impacts on health and well-being (55)

Building and regenerating complete and compact neighbourhoods with local services at the centre also contributes to increasing physical activity levels, safer roads and enhanced social participation (5).

Spatial planning (3) (5) has opportunities to improve access to services by:-

- Ensuring provision of local facilities for the delivery of community, health and social services
- Providing community facilities that are easy to get to by walking, cycling and public transport
- Providing community facilities at an early stage within new developments to help people feel connected
- Work with services to deliver appropriate and accessible facilities.

## **11.7 Dementia Friendly Environments**

Evidence demonstrates that good quality housing, and well designed and planned environments that enable people with dementia to live independently and safely

have a substantial impact on their quality of life and can help them live well for longer (26). Enabling people with dementia to stay active can be achieved through well planned and designed environments, which will benefit them both physically and mentally. Two-thirds of people with dementia live in mainstream housing rather than specialist housing (37), so there is a need to create homes that are dementia friendly.

The importance of dementia-friendly design in creating a supportive and nurturing environment has been highlighted in many studies. The RTPI guidance (26) 'Dementia and Town Planning' outlines how good planning can create better environments for people with dementia, and a dementia-friendly environment will also benefit others. The 'Dementia-friendly housing guide' (37) by the Alzheimer's Society provides guidance on delivering a dementia-friendly approach to housing. Environmental design principles include:

- Familiar – functions of spaces and places is obvious.
- Legible – clear signage and hierarchy of street types
- Distinctive – a variety of landmarks and practical features to distinguish places
- Accessible – services and facilities within walking distance, easy and obvious entrances to spaces
- Comfortable – well-defined open space, with toilets, seating, shelter and lighting
- Safe – wide, non-slip footways, development oriented to avoid dark shadows or bright glare, avoid shared spaces e.g. pedestrian/cycle paths

## 12 SUMMARY

Spatial planning has a role to play in ensuring the built and natural environment supports health and well-being and reduces health inequalities. Figure 5 summarises some of the design principles and their links to health and wellbeing.

*Figure 5: Associations between design and planning principles and health and well-being*

Characteristics	Design and planning principles	Impact on health and wellbeing	Health and wellbeing outcomes
<b>Neighbourhood design</b>	<ul style="list-style-type: none"> <li>Enhance neighbourhood walkability</li> <li>Build complete and compact neighbourhoods</li> </ul>	<ul style="list-style-type: none"> <li>Social engagement and cohesion</li> <li>Physical activity opportunities for all</li> </ul>	<ul style="list-style-type: none"> <li>Improved mental wellbeing</li> <li>Reduced risk of cardiovascular disease</li> <li>Reduced risk of type 2 diabetes</li> <li>Keeping musculoskeletal system healthy</li> </ul>
<b>Housing</b>	<ul style="list-style-type: none"> <li>Improve indoor environmental quality of housing</li> <li>Increase provision of affordable and diverse housing for all, including groups with specific needs eg. elderly or disabled</li> </ul>	<ul style="list-style-type: none"> <li>Warmth and energy efficiency</li> <li>Improved indoor air quality and light exposure</li> <li>Improved engagement with healthcare services</li> <li>Increased employment levels</li> </ul>	<ul style="list-style-type: none"> <li>General health improvements</li> <li>Asthma outcomes improved</li> <li>Reduction in excess winter deaths</li> <li>Improved quality of life and mental wellbeing</li> <li>Reduction in risk of cardiovascular disease, type 2 diabetes, some cancers, and mental health problems</li> </ul>
<b>Healthier food</b>	<ul style="list-style-type: none"> <li>Provide healthier, affordable food for all</li> <li>Enhance community food infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>Healthier eating and change in dietary behaviours</li> <li>Change in attitudes towards healthy eating</li> </ul>	<ul style="list-style-type: none"> <li>Improved mental health and wellbeing</li> <li>Reduced risk of cardiovascular disease, type 2 diabetes, stroke, some cancers, and musculoskeletal conditions</li> </ul>
<b>Natural and sustainable environment</b>	<ul style="list-style-type: none"> <li>Reduce exposure to environmental hazards</li> <li>Enable access to, and engagement with, the natural environment</li> <li>Adaptation to climate change</li> </ul>	<ul style="list-style-type: none"> <li>Reduced exposure to particulate matter and excessive noise</li> <li>Increased physical activity opportunities</li> <li>Reduced impact from weather extremes (hot and cold)</li> </ul>	<ul style="list-style-type: none"> <li>Reduced risk of chronic obstructive pulmonary disease, reduction in infant mortality and improved respiratory function among children</li> <li>Reduced risk of developing lung cancer</li> <li>Reduced risk of cardiovascular disease, type 2 diabetes, stroke, mental health problems, musculoskeletal conditions, and some cancers</li> <li>Improved mental wellbeing</li> </ul>
<b>Transport</b>	<ul style="list-style-type: none"> <li>Provide active travel infrastructure</li> <li>Provide public transport</li> <li>Prioritise active travel and road safety</li> <li>Enable mobility for all ages and activities</li> </ul>	<ul style="list-style-type: none"> <li>Mobility</li> <li>Physical activity among all</li> <li>Social participation and cohesion</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in obesity and associated conditions</li> <li>Reduction in road traffic accident injuries</li> <li>Reduced risk of cardiovascular disease and type 2 diabetes</li> <li>Keeping musculoskeletal system healthy</li> <li>Improved mental wellbeing</li> </ul>

Source: Associations between design and planning principles and health and well-being. Adapted by McKinnon et al (53) from Public Health England's *Spatial planning for health* (5)

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