

# Maximising health and well-being opportunities for spatial planning in the COVID-19 pandemic recovery



Liz Green, Sue Toner, Laura Evans, Lee Parry-Williams, Tom Johnson,  
Gemma Christian, Cheryl Williams, Sumina Azam and Mark A Bellis.

January 2022

## Suggested citation:

Liz Green, Sue Toner, Laura Evans, Lee Parry-Williams, Tom Johnson, Gemma Christian, Cheryl Williams, Sumina Azam and Mark A Bellis. (2022). Maximising health and well-being opportunities for spatial planning in the COVID-19 pandemic recovery. Cardiff, Public Health Wales NHS Trust.

## Acknowledgements:

We would like to thank the following for their individual and collective contributions as part of the Strategic Advisory Group for this work.

- Ed Huckle, UK Health Security Agency;
- Mark Drane, Urban Habitats / University of the West of England, UWE Bristol;
- Bronia Bendall, Natural Resources Wales;
- Bethan Morris, Denbighshire County Council;
- Michael Chang, Office for Health Improvement and Disparities;
- Stuart Williams, Cardiff Council;
- Richard Lewis, Public Health Wales;
- Sarah Jones, Public Health Wales;
- Beth Preece, Public Health Wales.

ISBN 978-1-78986-154-590

© 2022 Public Health Wales NHS Trust.

Material contained in this document may be reproduced under the terms of the Open Government Licence (OGL)

[www.nationalarchives.gov.uk/doc/open-government-licence/version/3/](http://www.nationalarchives.gov.uk/doc/open-government-licence/version/3/)

provided it is done so accurately and is not used in a misleading context.

Acknowledgement to Public Health Wales NHS Trust to be stated.

Copyright in the typographical arrangement, design and layout belongs to Public Health Wales NHS Trust.

# Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
<b>2</b>	<b>Policy context</b>	<b>5</b>
<b>3</b>	<b>Evidence and emerging data on the impact of COVID-19 on communities in Wales</b>	<b>7</b>
<b>4</b>	<b>Key Issues and themes - healthy places</b>	<b>10</b>
4.1	Reducing health and well-being inequalities	11
4.2	The importance of engagement and collaborative working to improve health and well-being	12
4.3	Place and housing	13
4.4	The importance of access to healthy food environments and food growing	16
4.5	Local foundational economies	19
4.6	Accessing and using digital technology	21
4.7	Moving around by walking, cycling and using public transport	22
4.8	The importance of access to green and blue infrastructure	25
4.9	Key themes: future opportunities for health	28
<b>5</b>	<b>Maximising inclusive health and well-being in future spatial planning for recovery</b>	<b>31</b>
	<b>References</b>	<b>33</b>

This document is part of a series of PHW papers and resources that will help to support the integration of health and wellbeing into spatial planning in Wales.

They are available at:  
<https://phwwhocc.co.uk/whiasu>



# Maximising health and well-being opportunities for spatial planning in the COVID-19 pandemic recovery

Spatial planning plays an important role in relation to creating healthy places and in supporting the recovery from the pandemic for communities.

## Impact of COVID-19 on the communities of Wales

Highest infection rates in Wales in: North East Wales, Newport, Swansea, the South Wales valleys and some areas of Cardiff



(Public Health Wales NHS Trust, 2021a)

Areas with low employment, and areas with high employment in the sectors of retail, travel and leisure hardest hit by lockdown measures



(Joseph Rowntree Foundation, 2020)

Pandemic was experienced differently across urban and rural communities



(Welsh Government, 2019b)

Areas that invested in social cohesion remained more cohesive and resilient



(Abrams D et al, 2021)

## Population groups

Highest death rates amongst specific groups (older people, minority ethnic groups, deprived communities)



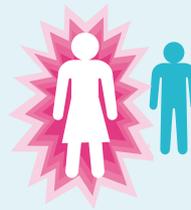
(Welsh Government, 2021c)

Higher risk of death from Covid-19 in those with an underlying health condition



(Public Health England, 2020c)

Women disproportionately affected by the pandemic



(Green et al, 2020a)

Lower income households more negatively affected than middle and higher income households, such as through greater risk of catching Covid-19 from working with patients and the public, or through working in sectors that closed down



(ONS, 2021d)

## Key themes



**Reducing health and well-being inequalities:** The pandemic has exacerbated existing inequalities and stagnated improvements in health.



**Importance of engagement and collaborative working to improve health and well-being:** During the pandemic community engagement in planning decision making reduced.



**Place and Housing:** The pandemic has drawn greater attention to the link between housing, health, and equity, and the importance of homes and indoor and outdoor space.



**Importance of access to healthy food environments and food growing:** The pandemic in some ways exacerbated the inequality of access to healthy food environments.



**Local foundational economies:** Recovery from the pandemic includes the need for mixed-use spaces that meet the needs of communities, which could include repurposing spaces and buildings.



**Accessing and using digital technology:** Digital technology will continue to be an important element of recovery from the pandemic.



**Moving around by walking, cycling and using public transport:** The pandemic has changed the way individuals and communities interact with their environment and has had an impact on transport, mobility and active travel.



**Importance of access to green and blue infrastructure:** The pandemic highlighted the value of green infrastructure and the significant benefits of green and blue spaces to well-being including physical and mental health benefits.

## Future actions for policy and decision-makers

- Promote early involvement and joined up working to address interconnected challenges.
- Utilise and advocate the use of existing tools, strategies and guidance to support cross system thinking.
- Further explore different tools for increasing healthy places across the diverse and distinct geography of Wales.
- Develop health and well-being thresholds and criteria by which policy officers and practitioners can view future development applications.
- Consider specific actions to address the key themes in this report.

## Opportunities

- Adopt and implement placemaking principles and a place based approach to planning by signing up to the Welsh Government's Placemaking Charter.
- Recognise the important role of the health sector in planning decisions.
- Consider the implications of the pandemic for future planning and design.
- Explore and utilise different and innovative approaches to engagement.

# 1 Introduction

***Throughout history, the outbreak of pandemics have affected and influenced urban planning and design and the development of cities is inseparable from the progress of the public health system*** (Liu, H and Wang, PH, 2021). ***Many of today's urban areas also face challenges of infectious disease spread such as respiratory infections. Planning can be a powerful tool in improving health and decreasing the impact of disease.*** (Neiderud, C-J., 2015)

***The ravage of outbreaks on European populations such as bubonic plague in the 14<sup>th</sup> century, cholera and smallpox in the 19<sup>th</sup> century and tuberculosis and typhoid in the 20<sup>th</sup> century led to the removal of slums, expansions of cities, widening of streets and increase in public spaces such as parks.*** (Lubell, S., 2020).

***The built environment of cities and towns, with their dense populations, transport networks, and condensing of human activity has enabled both economic leaps forward and the spread of disease throughout history. Just as previous pandemics influenced the built and natural environment, COVID-19 will leave its lasting imprint on areas such as cities, towns, transport, leisure and work.*** (Megahed, N.A. & Ghoneim, E.M., 2020).

The importance of well-planned places and neighbourhoods that support health and well-being was highlighted during the COVID-19 pandemic. The implementation of associated policies and measures to contain the transmission of the virus, for example, remaining at home, social distancing and home working, at a national and local level had huge ramifications for the whole of society. The way people live, work and enjoy leisure time in the built and natural environment changed. The pandemic has also created new and exacerbated existing inequalities within local communities (Green L et al 2021).

In June 2020, Public Health Wales published a Health Impact Assessment (HIA) of the *'Staying at home and Social Distancing Policy'* in Wales in response to the COVID-19 pandemic (Green et al, 2020a). It was followed by a subsequent HIA on the impact of the pandemic on Home and Agile Working (Green et al, 2020b) and Housing Insecurity and Homelessness (Woodfine et al, 2021). These identified the major role that spatial plans and policies (including land use, housing, waste and transport) and access to green and blue infrastructure has had, and could have on health, well-being and inequalities. The HIAs identified that policies to contain the virus, for example which required the population to only access local environments for physical activity, access local shops for essential goods, and work from home could make a distinct positive or negative difference to people's experiences. These policies impacted on health outcomes such as mental well-being, healthy behaviours including physical activity and work-life balance, social interaction and community networks. The impact of the policies could vary across population groups however, for example older people, those on low incomes, those in rural versus urban areas.

In terms of the built and natural environment, and specifically spatial planning determinants, social distancing policies required the facilitation and creation of more space in local centres in order to meet standards set out in regulations. This allowed the public to have more space to safely access local services, shops and facilities and to work. Housing in terms of size, type, tenure and quality was also found to shape a person's experiences of shielding, working or educating at home and self-isolating. This could be positive or negative for health and well-being depending not only on the nature of a person's home but who they shared that space with, what activities were taking place, if they had access to a garden or balcony and if they had access to digital technology to connect to family and friends and shop or work online.

Places and spaces that incorporated health enhancing qualities, for example, a walkable environment, well-maintained green and blue spaces and infrastructure, healthy homes with adequate space for living and working from home, the provision of community infrastructure (community and health centres, play areas) and a healthier food environment impacted positively on population health and well-being (Public Health England, 2021). Conversely, those living in poor quality environments, with no or limited access to local goods, services and green spaces experienced poorer outcomes in terms of their physical and mental health and well-being which could increase health inequalities (Welsh Government, 2020a).

**The pandemic has explicitly exposed, and in some examples, exacerbated the health, well-being and inequalities impacts across the population which are derived from determinants<sup>1</sup> such as the environment, land use, transport, economy and housing.**

This report aims **to highlight the major positive and negative health impacts of spatial planning policies during the COVID-19 pandemic on the population of Wales, learn from these, any positive interventions and co-benefits in order to shape a healthier future environment for all.**

It is aimed at a wide range of stakeholders including planning, environment, sustainability and public health officers and practitioners, community leads and policy makers. It considers the pandemic response and recovery through the **lens of spatial planning, health, well-being and inequalities** and explores **interdependent issues** such as mental well-being, climate change and environmental sustainability. Spatial planning has a key role to play in addressing the 'Triple Challenge' posed by COVID-19, climate change and Brexit (Green L et al, 2021).

This work is not a HIA, but it has utilised national and international evidence of COVID-19 spatial planning actions to help inform public health activity and decision-making for spatial planning and health in Wales. The report:

- examines both negative and positive impacts of the pandemic and spatial planning related response measures on broader population health and inequalities;
- identifies a range of health and well-being actions that have sought to mitigate the detrimental impact of COVID-19 and related spatial planning response measures, as well as to capture and maximise potential positive opportunities;
- provides evidence to key stakeholders in order to inform action aimed at maximising health and well-being outcomes derived from spatial planning measures implemented both prior to and after the pandemic;
- supports Welsh Government policies in relation to spatial planning and COVID-19 such as 'Building Better Places', 'Healthy Weight, Healthy Wales' and the 'Well-being of the Future Generations (Wales) Act 2015';
- builds on momentum created by previous actions by Public Health Wales to integrate better health and well-being into spatial planning.

Finally, it includes some potential **future opportunities** for national and local decision makers and spatial planning and health officers to consider and implement in Wales to ensure that any **detrimental impacts are mitigated for and positive ones and co-benefits are maximised** as part of COVID-19 recovery and which link to priorities such as addressing climate change and improving health equity.

---

<sup>1</sup> Determinants of health are those factors which impact people's health but which are not always directly in their control. Determinants include social, economic, physical and a persons' individual characteristics and behaviours.

## 2 Policy context



### 2.1 Planning Policies

Planning policy at the national, regional and local level influences the location of new developments, the type of development (homes, offices, schools, shops, green spaces), the layout and general appearance of buildings, streets and public spaces and the provision of infrastructure (community and health centres, play areas, transport routes) (Public Health England, 2021), and these factors all influence population health and well-being.

Planning Policy Wales (PPW) Edition 11 (Welsh Government 2021b) sets out national planning policy that adopts a placemaking approach, including a number of key planning principles that ‘will act as a catalyst for the positive delivery of the planning system across Wales’ and a number of placemaking outcomes. National planning policy supports and promotes the close linkages between planning and health and well-being and guides and informs the different tiers of the Development Plan. There is a plan led system in Wales, these plans set out the proposals and policies for future development and use of land. The ‘development plan’ in Wales comprises of Future Wales: the National Plan 2040 that is the national tier, Strategic Development Plans at the regional tier and Local Development Plans.

‘Building Better Places’ sets out the Welsh Government’s planning policy priorities to assist in taking action in the recovery period after the COVID-19 pandemic (Welsh Government, 2020a). It recognises the importance of embedding the consideration of health and well-being throughout the planning system and sets out the different tools and the importance of collaboration with health boards and other partners to help deliver this.

### 2.2 Placemaking

***‘Placemaking is a holistic approach to the planning and design of development and spaces, focused on positive outcomes. It draws upon an area’s potential to create high quality development and public spaces that promote people’s prosperity, health, happiness, and well-being in the widest sense.***

***Placemaking considers the context, function and relationships between a development site and its wider surroundings... Placemaking adds social, economic, environmental and cultural value to development proposals resulting in benefits which go beyond a physical development boundary and embed wider resilience into planning decisions’*** (Welsh Government, 2021b) (page 14).

The establishment of Placemaking Wales Partnership and the development of the Placemaking Wales Charter (Design Commission for Wales, 2020) further supports the adoption of placemaking in Wales.

## 2.3 Well-being of Future Generations Act

The planning system must look to maximise its contribution to the well-being of Wales and its communities, including meeting the goals of the Well-being of Future Generation Act (Figure 1) and helping to deliver the local Well-being Plans published by the Public Services Boards.

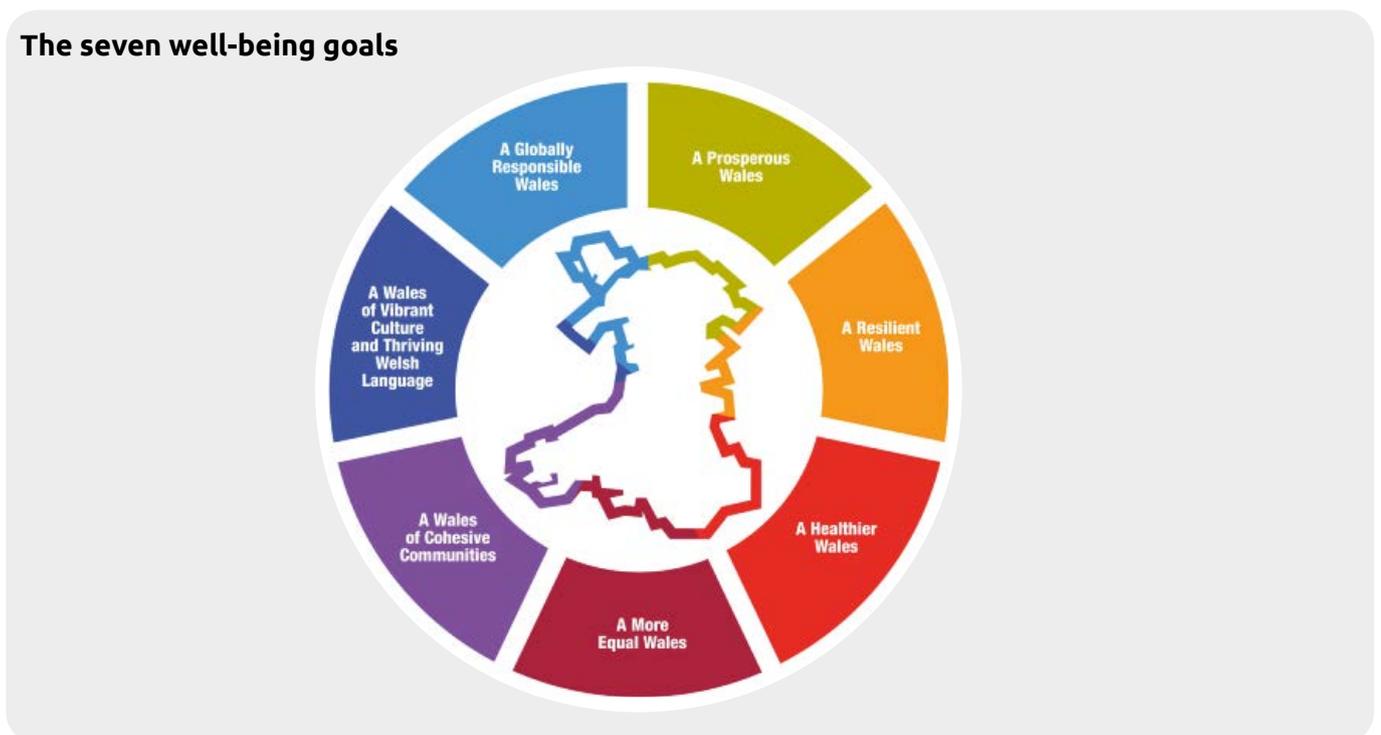
The National Sustainable Placemaking Outcomes are set out in PPW 11 (Welsh Government, 2021b) and outline what a sustainable place will look like. Placemaking is at the heart of planning’s contribution to the achievement of the 7 well-being goals as set out in the Well-being of Future Generations Act, measured in part through outcomes set out in the Public Health Outcomes Framework (Public Health Wales NHS Trust, 2016).

Across all planning processes, the five ways of working of the Well-being of Future Generations Act (National Assembly for Wales, 2015) (Figure 1), are expected to be embedded to facilitate increased collaboration between, and within, land use planning and placemaking sectors and communities (Future Generations Commissioner for Wales, 2020). The Act sets out seven well-being goals for public bodies to work towards, and they must set out and publish objectives of how they will take action to achieve them (Future Generations Commissioner for Wales, 2019) (Figure 2).

Figure 1



Figure 2



# 3 Evidence and emerging data on the impact of COVID-19 on communities in Wales



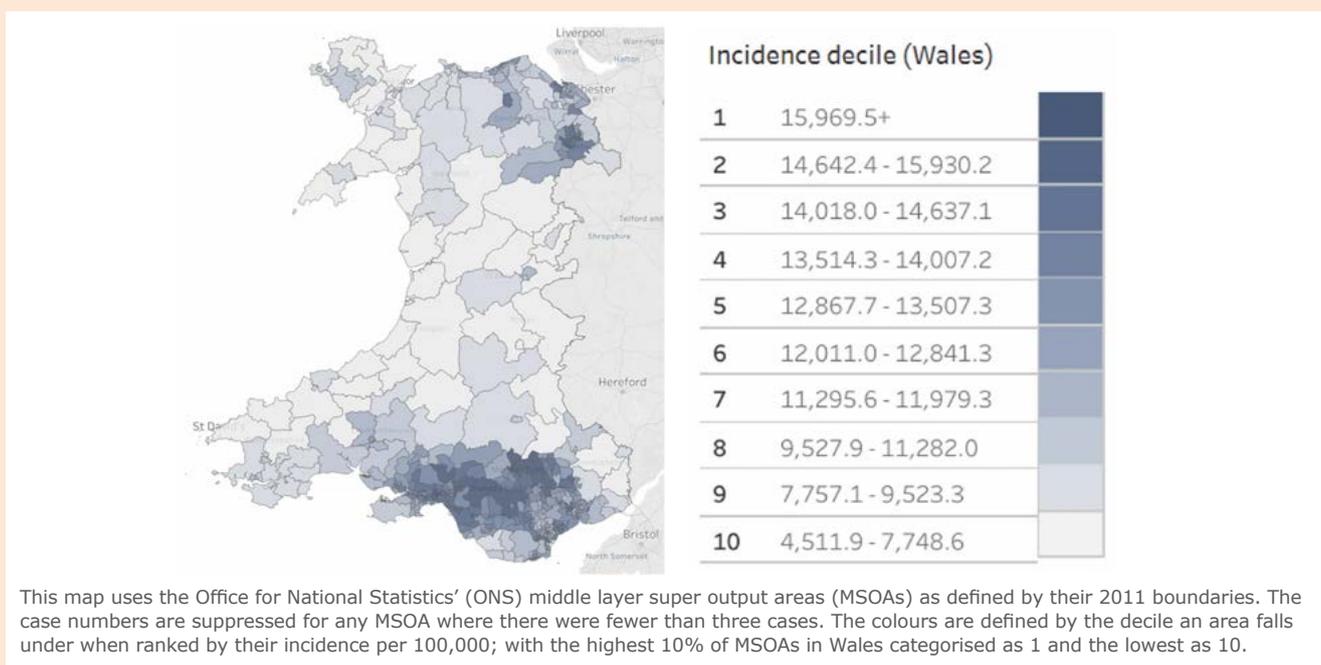
This section sets out the key high-level evidence and data around how COVID-19 has had an impact upon communities in Wales, and the inequalities it has highlighted. Those population groups and communities who experienced deprivation and poor health before the pandemic, are the same communities who experienced disproportionately higher rates of morbidity and mortality during the pandemic compared to those in the least deprived areas. These communities will also find recovery from the pandemic more difficult and experience even greater deprivation and health inequalities<sup>2</sup> after the pandemic (Marmot M et al, 2020) (Public Health England , 2020) (Equality, Local Government and Communities Committee, Welsh Parliament, 2020).

In addition, those communities experiencing the greatest impact from COVID-19 infection and mortality, compounded by poverty and poor health, are, overall, the same places and communities that are experiencing the greatest impact from climate change (Preston P et al, 2014).

## Key Headlines

- In Wales, the whole population was affected by COVID-19 but the areas of North East Wales, Newport, Swansea, the South Wales valleys and some areas of Cardiff experienced the highest levels of infection. Figure 3 illustrates the areas of Wales that have experienced the highest number of cases of COVID-19 (all cases), with the darkest shaded areas being the areas of highest infection levels (Public Health Wales NHS Trust, 2021a).

**Figure 3**  
**COVID-19 Cases by MSOA of residence, as of 21 October 2021 (all cases)**  
 (Public Health Wales NHS Trust, 2021a)

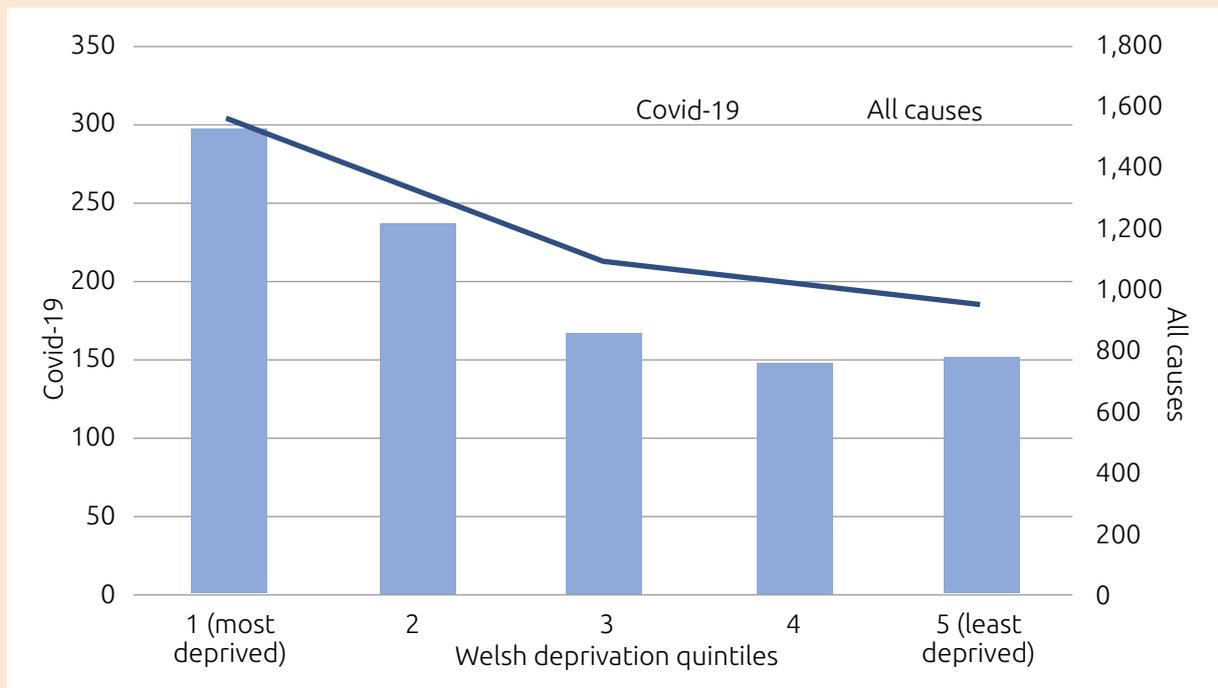


<sup>2</sup> Health inequalities exist across a range of dimensions or characteristics, including but not exclusive to the Equality Act protected characteristics, socio-economic position, life course stages and geography.

- In Wales, the highest death rates from COVID-19 have been amongst older people, people from Black, Asian and Minority Ethnic backgrounds, and deprived communities (Figure 4) (Welsh Government, 2021c).

**Figure 4**

**Age standardised deaths per 100,000 people by deprivation quintile, Wales; Data from 1 March 2020 to 31 January 2021** (ONS data, Welsh Government 2021c)



- Individuals from ethnic minority groups experienced higher rates of infection and mortality from COVID-19. The mortality rate involving COVID-19 was highest for the Black African group (3.7 times greater than for the White British group for males, and 2.6 times greater for females) (Office for National Statistics, 2021a). Adjusting for location, measures of disadvantage, occupation, living arrangements and pre-existing health conditions accounted for a large proportion of the excess COVID-19 mortality risk in most ethnic minority groups; however, it was found that most Black and South Asian groups remained at higher risk than White British people in the second wave even after adjustments (Office for National Statistics, 2021a). Although the proportion of the Welsh population from ethnic minority groups is lower than in other parts of the UK, there are areas of Wales, particularly in the cities, where long established residents and communities together with more recent arrivals make up a high proportion of the population. 20.1% of the population of Cardiff are from Black, Asian and ethnic minority groups (Stats Wales, 2020).



- **People with an underlying health condition experienced higher levels of mortality from COVID-19. Diabetes, hypertensive diseases, chronic kidney disease, chronic obstructive pulmonary disease and dementia posed an increased mortality risk and obese or morbidly obese people experienced increased risk of adverse outcomes** (Public Health England, 2020c).

- **Studies have found that women have been disproportionately affected by the COVID-19 pandemic. This includes impacts from the 'staying at home and social distancing' policy and home and agile working, recognising many women in the workforce cannot work from home due to the nature of their work and have additional caring responsibilities** (Green et al, 2020a). **Many women, particularly those with children, work in lower paid jobs in the sectors which largely closed down as well as providing childcare and undertaking home schooling responsibilities.**



- **The COVID-19 pandemic affected lower income households often in different ways to middle- and higher-income households, for example low wage occupations such as carers who continued to work with patients and the public and therefore were at greater risk, or those workforces in sectors which were closed down. People who were the lowest earners, self-employed or were unemployed were more likely to report reduced household income during 2020** (Office of National Statistics, 2021d). **Up to mid-April 2021, there were the groups still being financially impacted just as they were at the start of the pandemic** (Office of National Statistics, 2021e).

- **Areas with low employment, and areas with high employment in the sectors of retail, travel and leisure, were the hardest hit by the pandemic lockdown measures in 2020** (Joseph Rowntree Foundation, 2020). **However, this may change in the future as 'staycations' promote more internal leisure and travel as seen in 2021.**

- **The COVID-19 pandemic was experienced differently across urban and rural communities as, for example, rural areas face higher levels of inequality in terms of access to services, while urban areas are more likely to face economic deprivation** (Welsh Government, 2019b). **Although the evidence demonstrates that urban communities have statistically higher COVID-19 related mortality rates than rural areas, rural areas have faced a unique set of challenges when dealing with COVID-19. These include the fact that the population tends to be older, have higher levels of pre-existing conditions and preventable diseases such as diabetes, and experience poorer access to healthcare** (Mishra V et al, 2021).

- **Areas that invested in social cohesion remained more cohesive and resilient than elsewhere and people who engaged in volunteering were more protected from some of the worst effects of the pandemic than others** (Abrams, D et al, 2021).

# 4 Key issues and themes – healthy places

Several key themes and cross cutting issues in relation to the creation of healthy places emerged from health impact assessments previously carried out in relation to the impact of COVID-19 and from the wide range of evidence gathered and analysed (Green L et al, 2020a; Green L et al, 2020b; Green L et al, 2021; Woodfine L et al, 2021). These are discussed in this section and some suggested future actions to help strengthen the integration between health and spatial planning including joint working between planners, health professionals and other stakeholders can be found in Section 4.9.

## Key Themes and Cross Cutting Issues



**Reducing health and well-being inequalities**



**Importance of engagement and collaborative working to improve health and well-being**



**Place and Housing**



**Importance of access to healthy food environments and food growing**



**Local foundational economies**



**Accessing and using digital technology**



**Moving around by walking, cycling and using public transport**



**Importance of access to green and blue infrastructure**

## 4.1 Reducing health and well-being inequalities



*The COVID-19 pandemic has exacerbated existing inequities and stagnated improvements in health across the UK.* (Marmot M et al, 2020)

At an international, national and local level, the pandemic has instigated a call to ‘build back better’ in order to support the post-pandemic recovery. In this context, ‘better’ includes creating healthier places and spaces<sup>3</sup> across the built and natural environment for example, improving access to digital places and reconsidering future need for employment. The COVID-19 Marmot Review (Marmot M et al, 2020) advocated not just ‘building back better’ but ‘**building back fairer**’ in order to overcome the stagnation in health improvement and the widening health inequalities experienced across the UK. This focus on fairness together with **healthier and greener** spaces has been advocated worldwide (World Health Organisation, 2020).

As Section 3 highlighted, there has been diversity in the nature of the impacts experienced across different communities in Wales.

In order to address these impacts through spatial planning, this would mean implementing an all-Wales spatial planning approach with additional focus and investment in the areas of greatest need, i.e. applying the principle of proportionate universalism<sup>4</sup>.

### 4.1.1 Reducing health and well-being inequalities through partnership working in planning policy

Many planning policies across Wales embrace the concept of collaboration, partnership working and placemaking. However, unless these ways of working and approaches are embedded across all policies and plans that influence the built and natural environment (for example by NHS infrastructure, environmental stakeholders, water companies, housing, highways, developers, landowners etc.), population health and well-being will not be maximised and inequalities will not reduce. A ‘holistic operating system’ of collaboration is required between the public sector, private sector, communities and landowners to ensure that the principles of placemaking are adopted (Future Generations Commissioner for Wales, 2020). Policy 3 of Future Wales (Welsh Government, 2021a) specifically refers to the leadership role of the public sector in applying placemaking principles and in building sustainable places that improve health and well-being.

This would include a focus on inclusivity and equality to address the needs of people from ethnic minority communities and those with protected characteristics specified in the Equality Act 2010 (UK Parliament, 2010), as currently places are not designed with inclusivity and equality in mind (Future Generations Commissioner for Wales, 2021).

3 Creating healthier places and spaces requires focus on inclusive infrastructure that priorities walking and cycling and improves road safety; accessible and well-maintained green infrastructure, open green and blue spaces; local food growing and retail environment that enhances healthy food choices; community, health and social care services provided from local facilities; low levels of air pollution; and building design that promotes health and well-being (Public Health Wales NHS Trust, 2018)

4 Universal solutions but with effort proportionate to need <https://equityhealthj.biomedcentral.com/articles/10.1186/s12939-015-0207-6>



## 4.2 The importance of engagement and collaborative working to improve health and well-being

**During the pandemic, community engagement in planning decision making reduced with the application of social distancing measures, the suspension of public face-to-face meetings and the need for responsive action, for example the introduction of temporary infrastructure in towns and cities.** (Friends of the Earth Policy, 2020)

Adopting the principles of placemaking (see Section 2.2) is a priority across Wales. These principles support a focus on involving people and communities in the development of proposals and working collaboratively across sectors and disciplines to develop distinctive and vibrant places (Design Commission for Wales, 2020). Spatial planning professionals have an essential role in engaging with local communities and ensuring that:

***'The needs, aspirations, health and wellbeing of all people are considered at the outset. Proposals are shaped to help meet these needs as well as create, integrate, protect and/or enhance a sense of community and promote equality.'*** (Design Commission for Wales, 2020)

The engagement of people and communities in the design of plans from early stages is essential (Welsh Government, 2021b) (Future Generations Commissioner for Wales, 2021) and planners and local planning authorities have a responsibility to encourage people and communities to actively engage in planning decisions (Welsh Parliament, 2020). Public involvement is a core pillar of the five ways of working but is also a core protective factor for mental well-being and a key determinant of health and well-being. Collaboration between communities and sectors, such as spatial planning and public health are important to ensure that there is a wide understanding of health, for example, a broad definition which encompasses physical, mental and social well-being and a better understanding of the impact on communities from development plans and projects via the use of processes such as HIA (Public Health Wales NHS Trust, 2021b).

It has been suggested that as a result of the COVID-19 pandemic, in future there may be opportunities for increased levels of engagement with members of local communities, in particular with individuals in high-density areas, as part of the process of planners seeking to deal with the problems around the availability and quality of green infrastructure (Mell and Whitten, 2021). Additionally, the Welsh Government has accepted the recommendations of the Public Accounts Committee to improve the effectiveness of local planning authorities including community and public involvement (Welsh Parliament, 2020). Meaningful engagement with community members can add value to planning and development processes and strengthen the placemaking agenda (Planning Aid Wales, 2021).

The use of digital tools is beneficial in terms of reaching broader audiences (e.g. younger citizens, working age groups, etc.) in a cost efficient way, but its limitations, particularly in relation to engaging older people, the economically disadvantaged and those in rural areas with poor internet access must be recognised. The pandemic has had an impact on engagement processes by both delaying/hindering planned engagement activities and speeding up uptake of digital tools. Lockdowns have acted as a catalyst for different types of stakeholders to familiarise themselves with a range of existing digital tools, ranging from generic social media to bespoke engagement platforms. (Planning Aid Wales, 2021).

## 4.3 Place and housing



*'Places grow and develop in a way that uses land efficiently, supports and enhances existing places and is well connected. The location of **housing**, employment, leisure and other facilities are planned to help reduce the need to travel'.* Placemaking Guide (Design Commission for Wales, 2020)

**31% of adults in Britain (15.9 million people) have been affected by mental or physical health problems due to the condition of, or lack of space in, their home during lockdown.** (National Housing Federation, 2020)

**7% of households expressed a struggle with working from home (mostly social renters), with lack of space, poor home technology and poor physical conditions given as common issues. Many expressed a desire for dedicated home office space.**

There is substantial evidence on the impact of housing and the homes in which we live, on health and well-being (Centre for Ageing Better, 2020; Clair and Hughes, 2019; McKinnon et al, 2020; Shaw, 2004; Watson et al, 2019). However, the pandemic has drawn greater attention to the link between housing, health, and equity and the importance of homes (Town and Country Planning Association, 2021) and indoor and outdoor space (Leavey et al, 2020) (Tinson and Clair, 2020). As a result of the pandemic and response measures, individuals were spending more time in the house and there was a rapid change in use of these spaces, with an increase in activities such as working, learning and exercising occurring at home. A person's experience of the pandemic was influenced by their home environment, with the surroundings in which people live having a large impact on how well they were able to cope with and adapt to the changes to daily living (Green et al, 2020a).

Lockdowns demonstrated that some places supported people better than others when they were confined to being in their local neighbourhoods (Town and Country Planning Association, 2021). These were places, for example, that had good access to quality green spaces, opportunities for walking and cycling, and local amenities and shops. The pandemic further emphasised the importance of good quality, safe and secure homes, but also the importance of where these are situated and the wider environment around them (Centre for Ageing Better, 2020; Woodfine et al, 2021). The importance of access to green and blue infrastructure is discussed further in section 4.8.

### 4.3.1 Housing environment, quality, typology and tenure

During the pandemic, those already facing challenges with housing and their living environments have been impacted to a greater degree than those who have a safe, warm and affordable home. The impact on homeworkers has depended on their living conditions. Those particularly negatively affected include those living on a low income, private tenants and renters, children and young people, and women (Woodfine et al, 2021). Although homeless people have been protected through being housed during the pandemic, longer term impacts once response temporary measures end are not yet known (Woodfine et al, 2021).

Research carried out during the pandemic highlighted that:

- 31% of adults in Britain (15.9 million people) have been affected by mental or physical health problems due to the condition of, or lack of space in, their home during lockdown (National Housing Federation, 2020).
- People living in houses were more comfortable than flats and older properties were more comfortable than newer properties (Carmona et al, 2020).
- Owner occupiers were the most comfortable, followed by those in the private rented sector and social renters (those renting from local authorities or housing associations) the least comfortable. Predictors of comfort in the home included: more space/rooms per occupant (households with five or more occupants were less comfortable), private open space (garden or terrace space) (households with no private outdoor space were least comfortable compared to those with a private balcony or shared garden and those with private garden/terrace space).
- Poor conditions such as overcrowding made self-isolation and shielding more difficult (Tinson and Clair, 2020). In Wales, 5.5% of the population live in overcrowded households (Stats Wales, 2015), and over a quarter of households (26.3%) with children living in social rented accommodation are overcrowded, substantially more than both private rented and owned accommodation (Watson et al, 2019). Experience of overcrowding is more common in ethnic minority groups (Centre for Ageing Better, 2020), with highest rates of overcrowding seen in Bangladeshi (24%), Pakistani (18%) and Black African (16%) ethnic groups (this compares with 2% of White British households that are overcrowded) (Gov.uk, 2020). Analysis has found higher death rates from the COVID-19 virus in areas with more overcrowded housing (Barker, 2020). In addition, during the pandemic those individuals living in multi-generational households experienced poorer health outcomes (Centre for Ageing Better, 2020).
- 7% of households expressed a struggle with working from home (mostly social renters), with lack of space, poor home technology and poor physical conditions given as common issues. Many expressed a desire for dedicated home office space.
- 30,000 people spent lockdown in a one-room home and over 3,600 children spent lockdown in a home with two rooms. During the pandemic private tenants reported there was often not enough space, even for those who lived in spacious properties, and the pandemic had caused individuals to rethink the quality of their housing (Soaita, 2021).
- Throughout 2020, there was an increase in sales of detached houses compared to a reduction in demand for flats (Office for National Statistics, 2021b). The movement of individuals from city centres to suburbs, instigated by an increase in home working has also brought with it a shift in purchasing (Kamei et al, 2021). These findings could have huge implications for some communities in Wales, and the increase in purchasing of second or rental homes would increase this impact further. A UK Parliament COVID-19 Committee inquiry into the long term impact of the pandemic on towns and cities will consider the changing relationship and dynamics and explore any implications for inequalities.



There is an opportunity to think differently about places. For planners, the pandemic has created uncertainty and challenges but also an opportunity to think and plan differently (Town and Country Planning Association, 2021). There is a need to build on positive aspects from the pandemic and ensure we future proof places to increase their resilience and ability to avoid negative impacts in the future.

Opportunities can be explored to address environmental and economic challenges associated with taking action to improve the impact of housing on health. These opportunities include: *'needing to reduce carbon emissions and be resilient towards more extreme climates...; catering for the likely shift in the type and size of accommodation required, resulting from the demographic shift towards an ageing population; investing in more housebuilding (supporting economic recovery as well as developing housing stock); and adapting relevant policies and provisions to enable people to use their homes (and local transport and services) in different ways'* (Tinson and Clair, 2020, page 24).

Housing is central to the concept of the '20 minute neighbourhood', with a need to provide high quality housing, which includes affordable and social housing and a 'safe, healthy and energy-efficient home for residents' (Town and Country Planning Association, 2021). In addition to this, good placemaking consists of providing a mix of housing tenures and types and planning the location of housing, employment, leisure and other facilities in order to contribute towards reducing the need to travel (Design Commission for Wales, 2020). Welsh Government (Welsh Government, 2020a) advocate a placemaking approach that is central to future development in the recovery from the pandemic.

A commitment to increase access to high quality housing and invest in social housing in Wales is included as a key priority for reconstruction following the pandemic (Welsh Government, 2020a). The pandemic has further highlighted the role that housing plays in our health (Tinson and Clair, 2020). New houses (and newly converted houses) need to be built in accordance with national minimum space standards, such as those in the Nationally Described Space Standard (Carmona et al, 2020) and the Welsh Development Quality Requirements 2021, Creating Beautiful Homes and Places (Welsh Government, 2021e) which sets out the minimum functional quality standards for new and rehabilitated general needs affordable homes. The internal and external environment of housing, including the built environment that surrounds homes, needs to be considered as part of initiatives to improve housing quality (Centre for Ageing Better, 2020).



Consideration of future needs when designing housing is important (Woodfine et al, 2021), such as the needs of those working from home, the needs of older people, those who are clinically vulnerable and those who may be required to shield or self-isolate.

## 4.4 The importance of access to healthy food environments and food growing



**During the pandemic, there was a shift to individuals shopping at local businesses more, preparing their own food and eating with family. Higher income individuals and families showed greater interest in growing food and buying more fruit and vegetables.** (Pulighe G & Lupia F, 2020) (Neve, 2020).

**It was reported that there was an 81% increase in demand experienced at food banks and the use of food banks effectively doubled in March and April 2020 compared to the same period in 2019.** (House of Commons Committees, 2020).

Access to a diversity of food outlets selling healthy food and to food growing spaces for example, gardens, allocated food growing spaces near community buildings, and allotments helps to improve health and well-being. It supports the maintenance of a healthy weight and impacts positively on attitudes towards healthier foods, physical activity levels, social connectivity and fruit and vegetable consumption (Public Health England, 2017) (Town and Country Planning Association, 2017).

### 4.4.1 Experiences of accessing and growing food

Access to healthy food and food growing spaces was not equal across the communities of the UK before the pandemic with those living in deprived areas more likely to experience conditions of poor environmental quality, that included limited access to open green spaces and the over concentration, and visible availability, of unhealthy food retailing. Additionally, in deprived areas poor quality high streets were, and still are, more likely to be found with less healthy food outlets and other potentially less healthy retail outlets, such as betting and gambling shops, shisha bars and shops selling alcohol (Marmot M et al 2020) (Public Health England, 2020b). This inequality has been exacerbated in many ways by the pandemic. There have been particular impacts of food insecurity upon certain population groups by the 'triple challenge' of Brexit, COVID-19 and climate change (Green et al, 2021). Food security is defined as being able to have physical and economic access to sufficient, safe and nutritious food that meets their needs for an active and healthy lifestyle.



This inequality has been exacerbated in many ways by the pandemic. There have been particular impacts of food insecurity upon certain population groups by the 'triple challenge' of Brexit, COVID-19 and climate change (Green et al, 2021). Food security is defined as being able to have physical and economic access to sufficient, safe and nutritious food that meets their needs for an active and healthy lifestyle.

The transition to digital grocery and takeaway food purchasing also increased as pandemic restrictions continued and much of the food retail system in Wales became re-localised (Chang M et al, 2020). This was demonstrated by an increase in sales at convenience stores. Some producers were able to adapt to the stay local / social distancing messaging and develop innovative local sales strategies driven through direct marketing and deliveries, offering online ordering and contactless delivery.

Some positive aspects of behaviour related to food has been observed during the pandemic. There was a shift to individuals shopping at local businesses, more time was spent preparing food and eating with family and higher income individuals and families showed a greater interest in growing food and buying more fruit and vegetables (Pulighe G & Lupia F, 2020) (Neve, 2020). An online survey of over 4,000

adults in the UK in April 2020 found that 38% of people were cooking more from scratch, and 33% were throwing away less food (Food Foundation and You Gov, 2020).

The positive elements of behaviour change and adaptation by producers and suppliers also however potentially increased food access problems and food insecurity as affluent households had the resources, in terms of money and internet access, to make use of these changes, affecting diet-related health inequalities (Cummins S et al, 2020). Those employed within sectors that closed down and those furloughed have been at further risk of food insecurity and food poverty in Wales (Green L et al, 2020a). The large increase in the use of food banks during the pandemic has been driven primarily by economic reasons because of job losses (House of Commons Committees, 2020).

During the pandemic it was highlighted that one in eight households had no access to a garden (Natural Resources Wales, 2020) reducing the possibilities of food growing for many residents of Wales. However, many local community food growing spaces and projects continued throughout the pandemic, once social distancing and hand hygiene precautions were established. For example, Food Cardiff (Food Cardiff, 2020) distributed 14,000 plants, seeds and growing kits during the first lockdown to support Cardiff residents grow their own vegetables and supported a local network (Edible Cardiff) connecting small-scale growers, allotment holders and community gardens (Food Cardiff, 2020). However, the proportion which contributes to food security and production in Wales is tiny, contributing less than 1% (Welsh Government, 2020).

Food growing at home and / or in allotments has become more popular since the start of the pandemic (Welsh Government, 2020a) and enhancing access to this has been identified as a priority within Wales (Future Generations Commissioner for Wales, 2020), (Welsh Government, 2021b).

Sustaining some of the changes in food behaviour such as 'cooking from scratch', growing food and eating more fruit and vegetables could result in positive health outcomes for the population, but equally some changes during the pandemic could result in detrimental impacts on the population such as food insecurity and difficulties accessing fresh and affordable food.

### **Focus on: urban farming**

In the UK, agriculture has traditionally been established in rural areas to allow cities to focus on economic growth and development, but the pandemic brought into focus the need for urban areas to grow their own food in order to shorten food supply chains, reduce food miles, reduce food deserts and contribute to a sustainable food system. Urban farming grows for example, the food to be sold to restaurants or at a farmers' market and so differs from community growing or allotments where food is grown for personal use or for sharing (Greensgrow, 2020).

Some urban farming is already supported in Wales for example, the Riverside Market Garden (Community Supported Agriculture, 2021) and interest in and support for, vertical farming is increasing (Welsh Government, 2017). Edible green infrastructures such as vertical farming and rooftop greenhouses, for example, (Pulighe G & Lupia F, 2020) could become integral aspects of placemaking to address food insecurity in urban environments; spatial planners have the opportunity to improve the food security of the most at risk populations while addressing sustainable development objectives (Steenkamp, J et al, 2021).

#### 4.4.2 Hot food takeaways

Prior to the pandemic, an increasing proportion of hot food was being purchased outside of the home from takeaways. This food was more likely to be unhealthy and higher in sugar, fat and salt, and these changes in patterns of behaviour are becoming entrenched amongst the community (Toner S et al, 2018). Increasing concern had been mounting about the impact of hot food takeaways on obesity levels in children. Although some of the evidence linking the two had often been inconclusive, some local authorities had begun to develop supplementary planning guidance (SPG) to guide the location of fast food outlets in their areas. These include for example, in Wrexham (Wrexham County Borough Council, 2011), while others continued to gather information and evidence (Faculty of Public Health, 2017), (Public Health England, 2018), (Toner S et al, 2018), (Beynon C et al, 2020). There was a marked increase in the use of hot food delivery services and takeaway options during the pandemic but there was also a reported increase in 'cooking from scratch' (Chang M et al, 2020) (Green L et al, 2020a). A hospitality industry tracker indicated an increase in volume of orders of deliveries and takeaways increased by 115% in February 2021 compared to one year earlier at the start of the pandemic (CGA Solutions, 2021). In the UK in 2020 each household spent on average over five pounds per week on takeaway deliveries (Statistica, 2021).



Although some debate continues on this issue, strategies (Welsh Government, 2019a), policies, case studies and supplementary planning guidance (Public Health Wales NHS Trust, 2021b) exists to support action to reduce the density of fast food outlets near schools and in areas with higher levels of deprivation and / or obesity. Hot food takeaways can be the subject of local planning controls and are often co-located with other potentially less healthy retail outlets, such as betting and gambling shops, shisha bars and shops selling alcohol (Public Health England, 2020b).

The impact of the pandemic has accelerated the need for diversifying retail and commercial centres so they can adapt to future retail trends to continue to meet the needs of their local communities. Welsh Government aims to restart work in 2022 on a reformed Use Class Order (UCO) with a focus on reforming Class A (A1 Shops, A2 Financial and Professional Services, A3 Food and Drink). Given the potential extent and nature of any changes and the age of the existing Order (1987), a new and consolidated version of the Order will be needed.

Guidance and evidence has consistently recommended better management of the food retail environment through planning (National Institute for Health and Care Excellence, 2010), (Public Health England, 2017), (Town & Country Planning Association, with WHIASU & PHW, 2016). The focus post-pandemic remains on well-being, with emphasis on placemaking and the development of sustainable and cohesive communities (Welsh Government, 2021b) which can reap benefits for health and well-being. An element of placemaking includes enabling healthier environments that support communities to access a wide range of healthier food options and adequate spaces for food growing opportunities (Welsh Government, 2020a) (Welsh Government, 2021b). Local food production and supply chains have been crucial during the pandemic and food production in Wales remains a priority (Welsh Government, 2021a). However, it must be noted that Wales does not have a distinct food system but is one component of a much larger global interconnected system.

## 4.5 Local foundational economies



***In Britain, three in five people (59%) used more local stores and services during lockdown*** (Deloitte, 2020) ***and 23% increased their use of local corner shops*** (Nolsoe, 2020). ***There was an increase in use of local businesses*** (Jones, 2020) ***with many choosing butchers and greengrocers over supermarkets.*** (Rolfe et al, 2020).

***70% of people in Britain who have shopped locally during the pandemic reported they would continue to do so or even increase this when lockdown fully ends*** (Ibbetson, 2020). ***Some individuals relied on local shops as a result of needing to shield and/or wanting to avoid using public transport.*** (Brewer and Patrick, 2021).

As a result of the pandemic and restrictions, people travelled less, worked from home (if able to) and shopped more locally (Price et al, 2021; Rolfe et al, 2020; Tilley et al, 2020) (Food Standards Agency, n.d). The pandemic resulted in changes to the use of high streets with a significant reduction in the footfall, with data showing national retail footfall fell by 47% in March 2021 compared to the equivalent week in 2020<sup>5</sup> (Office for National Statistics, 2021c). Many high streets were already facing struggles before the pandemic, and the pandemic has presented an additional challenge (Samuel, 2020) with high streets negatively impacted by the closure of non-essential businesses (Royal Town Planning Institute, 2020a; Welsh Government, 2020a). Online shopping presented competition to town centres before the pandemic and this has since increased (Welsh Government, 2020a). Town and city centres across the UK have been impacted differently by the pandemic. Working from home has resulted in fewer people commuting into city centres, causing reduced spending in restaurants, shops and bars in these areas (Breach, 2021). Town and local centres will need to adapt in the aftermath of the COVID-19 pandemic to be mixed-use spaces that present a variety of offers that meet the needs of their communities, give individuals reasons to use these spaces and entice them to visit (Weissenborn et al, 2021).



Organisations where many of the workforce are working from home may decide to change the type and / or location of their offices, in order to reduce their rental costs, as well as possibly explore options for co-working spaces situated nearby to where employees live (Reuschke et al, 2021). Repurposing of office buildings and retail units may occur together with a greater investment in local neighbourhoods (Felstead, 2021). In Wales, over the longer term, Welsh Government is aiming for 30% of the population to be working remotely (either from home or somewhere nearby), exploring the concept of co-working hubs located within local communities and looking to provide greater flexibility in working location (Green et al, 2021; Welsh Government, 2020c).

It was found that measures and guidance put in place on high streets and shops has not been inclusive, for example, those who are blind or partially sighted would not be able to read signs put in place in these areas, therefore changes implemented due to the pandemic may act to increase existing inequalities (Cooke E et al, 2020). Concerns have been expressed about disabled individuals being impacted by changes to street layouts during the pandemic, which have made venturing out of the house more challenging (Samuel, 2020).

#### 4.5.1 Placemaking and '20 minute neighbourhoods'

The concept of the 20-minute neighbourhood is gaining traction (Town and Country Planning Association, 2021). Some positive aspects of the impact of the pandemic saw increased use of local areas and facilities and the importance of being able to reach these easily from home, core to the building of local foundational economies. The concept creates liveable neighbourhoods that give people the ability to *'live locally'* and access their daily needs within a 20-minute walk of their home.

Within the concept, there are shops, schools, green spaces, culture, leisure and work, all within 20 minutes of an affordable, quality home. Destinations are better linked, with safer walking, cycling and public transport connections in order to reduce pollution and improve long-term health and well-being together with addressing climate change and sustainability. This concept includes the principle of involving people in decisions that affect their communities before, during and after development (Douglas, M., & Beautyman, I., 2020). Central to the '20 minute neighbourhood' concept is addressing inequalities and investment to support disadvantaged individuals (Town and Country Planning Association, 2021).

In Wales, The Future Generations Commissioner has advocated for 20 minute neighbourhoods as part of the concept of *'...smarter urban planning'* and the creation of *'connected, low carbon and active communities'* (Future Generations Commissioner Sept 2020). With the COVID-19 pandemic exposing inequalities and the emphasis on a 'green recovery' there is now greater interest in the concept and in its application. Compared to town and urban centres, implementing 20-minute neighbourhoods in more rural and / or widely dispersed communities is likely to be more challenging. In rural areas a different approach could be considered, where local living and 20 minutes hubs are located which include services and workplaces, reducing the need to travel (Douglas and Beautyman, 2021).





## 4.6 Accessing and using digital technology

***In Wales, one in ten of those aged 16 and over did not use the internet before the pandemic, with most of these individuals over the age of 65.***

(Martin et al, 2020).

***Digital inclusion is a crucial factor in ensuring equity of access to services and the pandemic has emphasised the importance of being digitally included in society.*** (Park et al, 2020).  
***However, the pandemic has exacerbated digital exclusion in the UK, as 1.9 million households in the UK do not have access to the internet.*** (DevicesDotNow, 2020).

Integral to facilitating a growing local foundational economy and local centre planning is a strong and stable digital platform and infrastructure. The COVID-19 pandemic acted as a catalyst for technological advancements (Moore and Collins, 2021; Cretu, 2020). The importance of good digital communications, including good internet coverage (Welsh Government, 2021a) was highlighted together with the need for a good digital infrastructure (Cardiff Capital Region, 2020). Digital skills enabling individuals to work, access services and communicate with others whilst restrictions on daily life were in place were found to be of importance (Kapetaniou, 2020). Additionally, there has been a significant increase in the use of the internet for online shopping (Office for National Statistics, 2021c; Biquelet-Lock, 2020; Mathers et al, 2020) and digital technology has been used to help support local businesses during the pandemic. For example, through the Welsh Government Foundational Economy Challenge Fund, Torfaen Council have been able to offer grants to local businesses and services for digital advertising and marketing support (Moody, 2020).

Those at increased risk of digital exclusion include those on a low income or the elderly (Park et al, 2020) and those who are disabled, social housing tenants, homeless and/or those living in disadvantaged areas (Martin et al, 2020). For those individuals who previously used devices and WiFi in shared spaces, these areas were not available during the pandemic (Mathers et al, 2020). Some suggest that those without access to the internet during the pandemic were visiting other people's houses to access WiFi or travelling to town centres using public transport to access WiFi hotspots (DevicesDotNow, 2020).





## 4.7 Moving around by walking, cycling and using public transport

***A survey undertaken by the RAC in 2020 found 49% of respondents reported driving less over the past 12 months and of these, 75% cited COVID-19 as the main reason (RAC, 2020). Just over half of respondents (52%) reported that in the future they will use public transport less. There is increased reliance on vehicles compared to the past and 57% said it has become more important to have access to a car since the pandemic, with this linked to concerns regarding transmission of the virus on public transport.***

The pandemic has changed the way individuals and communities interact with their environment and has had an impact on transport, mobility and active travel. Policies focused on social distancing, lockdowns, stay at home and work from home if you can, have all influenced the different transport and travel modes used during the pandemic and continue to do so as restrictions are eased and end.

During the pandemic, there has been a decrease in bus and rail passenger numbers (Minnis, 2021). In May 2020, Welsh Government estimated that there had been a 95% reduction in the use of public transport compared to the same period in the previous year (Welsh Government, 2020d).

All travel decreased during the initial lockdown in Wales, however began to increase as restrictions were eased (Environmental Public Health Service, 2020). Government data shows that following the rapid decline in transport use at the onset of the pandemic and the stay at home measures in 2020, car use recovered at a quicker pace than bus and rail (Gov.uk, 2021). With the lifting of travel restrictions in July 2020, private car use quickly bounced back to 80% of the pre-pandemic level and public transport use remained at 30% of previous levels (Welsh Government, 2020b).

Whilst public transport modes saw a decline in use during the pandemic, active travel modes of walking and cycling were less affected by such a decline (Department for Transport, 2021). While 39% of cyclists surveyed between January and February 2021 reported cycling less than before the pandemic, 20% reported cycling more and 41% cycling about the same as before the pandemic. In terms of walking, 35% of people were reporting walking more, 35% walking less and 30% walking as much as before the pandemic.

Welsh Government made funding available for temporary measures for sustainable transport in response to COVID-19. The trial transport projects that have been rapidly implemented during the pandemic delivering 'real time' adaptations across a variety of schemes including active travel, bus priority and road space reallocation, showed that it is possible to make changes at speed. This has been shown to be an attractive alternative option to successive feasibility studies that can take much longer to implement. (Transport Commission, 2020).

Post-pandemic urban interventions that have been recommended include supporting walking and cycling through increasing and improving sidewalks and bike lanes, reducing motorised transport to support car-free streets, increasing open streets and adapting traffic lights, signalling and speed limits (Rojas-Rueda and Morales-Zamora, 2021). Transform Cymru (2020) are calling for increased space for walking and cycling.

In terms of environmental health benefits from the reduction in road traffic, early monitoring from the initial lockdown between 16<sup>th</sup> March and 31<sup>st</sup> May 2020 showed NO<sub>x</sub> and NO<sub>2</sub> concentrations decreased on average 49% and 36% respectively on roadside sites in Wales and there were smaller reductions in urban background tests (Ricardo Energy and Environment, 2020). The reduction was attributed to a drop in vehicle flows mostly related to cars, light vans and buses. Challenges with trying to quantify changes in air pollution during lockdown and the effect on health have been highlighted, with additional data over a longer period needed. However, it was concluded that the *'analysis not only demonstrated that achieving significant changes in travel need and mode are possible, but suggested that sustaining them can deliver environment, health and sustainability benefits'* (Environmental Public Health Service, Public Health Wales, 2020).

Evidence found those travelling by cycle or foot were exposed to lower concentrations of air pollution when taking routes that were away from motorised traffic (Mitsakou et al, 2021), therefore health benefits can be gained from planning and designing cycling and walking routes that are separate from roads. Not only would this reduce exposure to harmful air pollution but could provide additional reassurance to those nervous of using cycle lanes directly alongside roads, thereby encouraging greater uptake of active travel.



Changes in the need to travel and mode of travel during the pandemic may have had a part to play in a reduction in road collisions and related injuries (Public Health Wales, no date). Several measures have been implemented in town and city centres during the pandemic to increase public safety and facilitate social distancing, which have had co-benefits such as enabling active travel. This has included the reallocation of road space to be used for purposes other than traffic (Surico and Jones, 2020). Welsh Government announced funding, through *'Transforming Towns'*, the town centre regeneration programme, which is available to local authorities for improving town and city centres in Wales through projects such as the creation of active travel routes (Welsh Government, 2021d). During the pandemic, there has been an increase in active travel and this is something Welsh Government is keen to maintain in the long-term (Welsh Government, 2020e).

In terms of inequalities, individuals living in deprived areas on lower pay are more likely to rely on buses for transport than those on higher incomes, who typically use cars and trains to travel (Gates et al, 2019). In the UK, transport modes differ depending on affluence, with wealthier people using trains and cars and poorer people using buses (Women’s Budget Group, 2019). In Wales there around a quarter of people who do not own a car (Gov.uk, 2015 cited in Transport Commission, 2020).

Disabled people are unable to access many transport options (Transform Cymru, 2020) and research has found these individuals face many practical and emotional barriers to travelling by train (Transport Focus, 2019). Pop up cycle lanes can be problematic for those with disabilities (Transport Focus, 2021).

Access to public transport that is low cost and reliable is particularly important for those on a low income, or living in poverty, or those in unpaid work as it can enable access to paid employment and a range of other key services (Women’s Budget Group, 2019). Those living in poverty in rural areas are most negatively affected by the impacts of transport poverty<sup>6</sup>, with some groups such as women, students and older people at higher risk of experiencing transport poverty (Gates et al, 2019).

Population health and well-being benefit from a sustainable transport system that supports active travel and improves air quality. The sustainable transport hierarchy is reflected in national policy in Wales in PPW, Future Wales: the national plan 2040 and the new Llywyr Newydd: the Wales Transport strategy 2021 (Welsh Government, 2021f). These aim to moving away from using private cars to more sustainable methods of transport and include a commitment to place new buildings near public transport and ensure new developments are designed to be walk-and-cycle-friendly. This will help achieve the target of 45% of journeys being made by public transport, walking or cycling by 2040 (Welsh Government, 2021f). The strategy makes the connection between a sustainable transport system and the co-benefits to health and well-being in the context of active travel and air quality. It also recognises public transport as one of Welsh Government’s priorities for reconstruction, with a focus on reducing the need to travel and supporting active travel.

The COVID-19 pandemic presents an opportunity for change and for improvements to be made to public transport for the future (Transform Cymru, 2020; Transport Commission, 2020). There is a role for spatial planning and infrastructure design to support the vision for transport in Wales so that active travel and public transport can be prioritised (Mitsakou et al, 2021). There are some approaches that would bring co-benefits to health, society and the environment that could be utilised including **Tactical Urbanism** and **Transit Orientated Development** which are described below.

**‘Tactical urbanism’** is defined as *‘short-term action for a long-term change’* (ParCitypatory, 2020). For example, pop up cycle lanes in cities to enable active travel during the pandemic when many roads were closed and more space was needed for pedestrians.

**Transit Orientated Development** is *‘the deliberate development of residential, business and leisure spaces within walking distance of public transport [which] presents opportunities to support active travel and use of public transport’* (Transport Commission, 2020).

<sup>6</sup> Defined as “difficulty or inability to make necessary journeys due to a combination of income/cost and service availability” (Gates et al, 2019, page 4).

## 4.8 The importance of access to green and blue infrastructure



**60% of those surveyed in South Wales reported increased use of green spaces since the onset of lockdown and people were more likely to use these spaces if access was good.**

(Valleys Regional Park, 2020).

**Households most likely to be satisfied with their neighbourhood were those located within a 5-minute walk to a park or green space.** (Place Alliance, 2020). **In addition, closure of public toilets, as part of the COVID-19 response measures, presented a barrier to some individuals accessing parks during the pandemic.** (Greenspace Scotland, 2020).

The COVID-19 pandemic highlighted the value of green infrastructure and the significant benefits of green and blue spaces to well-being (Mell and Whitten, 2021; Lovell et al, 2020; Natural Resources Wales, 2020; Royal Town Planning Institute, 2020a; Stockholm Environment Institute, 2020;). Outdoor spaces, such as parks and beaches, became more important for individual's well-being often providing a reason for people to leave their homes (Chapman and Phagoora, 2021). Urban parks, in particular, played a key role in supporting mental and physical health, providing safe spaces for outdoor activities and for socialising with others (Xie et al, 2020). The use of green spaces increased during the pandemic (Countryside Charity, 2021; Vivid Economics and Barton Wilmore, 2020), with individuals reporting spending more time in outdoor spaces (Lovell R et al, 2020).

In the UK, the numbers of visitors to parks increased during the summer of 2020 following the initial lockdown (McGinlay et al, 2020). An increasing number of parklets, see case study below, have been created within urban areas, providing more outdoor space and greenery and is an example of 'tactical urbanism' (Laker, 2020) (see section 4.6).

### Case Studies

#### One-way system, Cardiff

During the pandemic a one-way system was implemented at Roath Park in Cardiff in order to aid social distancing amongst pedestrians using this space. In addition, changes to the space were made to discourage individuals from taking non-essential car journeys to the area, such as creating more space for cyclists and joggers by taking away some of the visitor car parking. This is one example of how existing space has been changed in order to facilitate pandemic regulations and to encourage behaviour change and use of green space.



## Parklets

Within the Vale of Glamorgan six Parklets have been developed which provide decked seating areas with a green roof covering and toughened glass to protect from the weather. These are to be used by local business. Biodiversity benefits from the planting which also collect the rainwater not absorbed by the green roof.

<https://www.meristemdesign.co.uk/news/2021/1/18/worlds-1st-parklets-with-green-roofs-installed-in-the-vale-of-glamorgan>

Fitz Park in central London was created to create a multi-functional temporary public space on a busy urban street for people to 'dwell, socialise, exercise, eat and enjoy'.

The main objectives of the project were to:

- provide accessible spaces for pedestrians that encourages dwell time;
- enhance local character and sense of place;
- improve pedestrian capacity to accommodate future growth;
- encourage social cohesion and local pride; and
- promote biodiversity through the provision of planting.

There is ongoing monitoring of the project to demonstrate its impact as a small scale urban greening intervention.

<https://www.arup.com/projects/fitzpark>



Inequalities exist in access to green and blue infrastructure, with those living in disadvantaged and deprived areas having less access to good quality green spaces than those living in more affluent areas (Chapman and Phagoora, 2021; Landscape Institute, 2020; Natural Resources Wales, 2020; Royal Town Planning Institute, 2020a). COVID-19, and more specifically lockdown, further highlighted existing inequalities (Marmot et al, 2020; Olsen and Mitchell, 2020) and heightened the impact of lack of access to green infrastructure for some (Mell and Whitten, 2021):

- One in eight households in Great Britain did not have access to a private or shared garden (Office for National Statistics, 2020). It is those living on low incomes, living in cities, employed in semi-skilled and unskilled manual occupations, as casual workers or unemployed, younger people and those from ethnic minority groups who were more likely to be without access to a private garden or shared outdoor space (Marmot et al, 2020) (Office for National Statistics, 2020).





- Visits to natural spaces during the pandemic were more likely for those who were employed, living in the least deprived areas, on a higher income and who had a higher educational attainment. Conversely, those of lower socio-economic status, older individuals, those from ethnic minority groups, those with a long-term illness or condition and individuals without children were less likely to have reported visiting natural spaces (Lovell R et al, 2020) (Stewart and Eccleston, 2020) (Olsen and Mitchell, 2021).

- Those who had access to private outdoor space were more comfortable and found managing the lockdown and restrictions easier than those with balconies or access only to shared/public spaces (Pouso et al, 2020) (Place Alliance, 2020). Families, especially those without access to a garden, were impacted by the shutting of playgrounds and parks, (Fitzpatrick et al, 2020).



Investing in green and blue infrastructure has a key role to play in the economic recovery from the COVID-19 pandemic in an even way across society (Landscape Institute, 2020). It can also promote co-benefits to health, well-being, the environment and climate change.

Green infrastructure has a key role to play in future development and will support the adoption of nature-based design principles within planning to support increase access to greenspaces (Price et al, 2021). Provision of green infrastructure is an effective means of enhancing health and well-being, and green infrastructure assessments can explore the opportunities for this and can provide an opportunity for early consideration in development proposals in Wales (Welsh Government, 2021a; Welsh Government 2021b).

Investment in green space is a mechanism to rebuild our communities, support their physical and mental health and well-being and reconnect them with each other and with nature (Natural Resources Wales, 2020).

Planning policies play a crucial role in prioritising access to green space (Tilley et al, 2020), making it necessary for new developments and plans to include good quality public space (Samuel, 2020). Joint work with developers can ensure areas within a neighbourhood are connected through walkable and green streets (Place Alliance, 2020).

Ensuring housing provides individuals with access to gardens / greenspace can enhance the well-being of residents (Olsen and Mitchell, 2021). It has been recommended that access to private open space (a balcony at the very least) be mandated for all new homes and newly converted homes (Carmona et al, 2020) (Pouso et al, 2020). Transforming spaces, such as creating 'parklets', can increase outdoor space and offer more greenery in urban areas (Laker L, 2020) and create greenspaces such as parks and forests on the edge of cities, bringing nature areas closer to those in the city (Vivid Economics and Barton Wilmore, 2020).

## 4.9 Key themes: future opportunities for health

In response to the range of impacts of the COVID-19 pandemic on the population of Wales due to built and natural environments, some strategic future actions and opportunities could be adopted and maximised to support the improvement of health and well-being in relation to each of the previous themes in this report. These are outlined below. They can promote co-benefits for health, the environment and economy and can be actioned by a range of stakeholders including: local planning authorities and officers, built environment specialists and developers, public health and health board practitioners and communities with an interest in spatial planning.

### Strategic actions

**Some strategic level actions** are outlined below include and can be implemented by a range of public bodies including those responsible for planning, environment and health policies and plans.

- Promoting early involvement and joined up working across sectors, organisations and disciplines building on key strategic and local policy levers and sharing of co-beneficial good practice to address interconnected challenges e.g. Climate Change and recovery from the COVID-19 pandemic.
- Promoting sustainable and healthier places through adopting and implementing placemaking principles and a place based approach to planning by signing up to the Welsh Government's Placemaking Charter. Ensuring health and well-being is valued and integral to developments and not seen as an 'add on' and ensuring infrastructure and services are put in place from the outset.
- Utilising and advocate the use of existing tools, strategies and guidance for example, using Health Impact Assessment (HIA) to support cross system thinking and action between health and planning professionals that benefits the health and well-being of communities.
- Explore and utilise different and innovative approaches to engagement between health and planning professionals and communities such as nature based solutions, transit oriented development, tactical urbanism etc.
- Recognising the important role of the health sector: local public health teams and health care service providers bodies in wider planning decisions.
- Further exploration of different tools for increasing delivery of healthy places such as '20 min neighbourhoods', local foundational economies and how they can be realised across a diverse and distinct geography of Wales.
- Considering the implications of the pandemic for future planning and design, taking into account the findings from recent changes and the role of place and space and future needs. Data collection and further research have a key role to play in this.
- Developing health and well-being thresholds and criteria by which policy officers and practitioners from a range of settings and organisations can view future development applications.

## Theme specific actions and opportunities

### Engagement and collaboration between built environment and health professionals and with communities (see Section 4.2)



- Utilise resources to support joint working – such as toolkits, infographics and templates. Examples can be found on the Wales Health Impact Assessment Support Unit [website](#).
- Increase skills of built environment and health professionals to undertake joint working on health and well-being and planning through training and skills development, for example Wales Health Impact Assessment Support Unit can provide training on HIAs.
- Focus on inclusivity and equality when undertaking engagement, and build on digital technology advances. This can shape community involvement and engagement strategies to enable local communities to add value to development processes. Population groups which have experienced disproportionate impacts from the COVID-19 pandemic can be supported to recover through planning and placemaking, such as giving specific consideration to design, quality of homes and the surrounding environment.

### Place and Housing (see Section 4.3)



- Access to good quality housing and places that are vibrant, cohesive and meet local needs should be met in all new residential led developments.
- Set standards for space requirements in new housing for future needs for example working from home.
- Ensure all development has access to quality greenspace.
- Future proof design of spaces and infrastructure for future communicable illnesses or infectious diseases, learning from approaches put in place during the COVID-19 pandemic including repurposing road spaces, social distancing, outdoor hospitality needs, active travel and using local shops and facilities.

### Healthy food environments (see Section 4.4)



- Improve quality of high streets ensuring a range of healthy food retail options and influence the built environment to increase outdoor spaces, food growing opportunities and active travel access.
- Joint working between built environment, licensing and public health professionals to consider how to manage hot food takeaways, for example highlighting areas of high rates of obesity, proximity of takeaways to schools.

### Local foundational economies (see Section 4.5)



- Repurpose and remodel spaces in town and local centres with a creative health focus for example, through creating community hubs and ensuring a range of uses to appeal to a broad population.
- Maximise multiple health and economy co-benefits from investment into the foundational economy through enabling opportunities for health related activities and ensure accessibility to local services is sustainable.
- Cross system working across health and local authorities for example co-location of community and health facilities in local areas.

### Accessing digital technology (see Section 4.6)



- There is a need to improve access to digital infrastructure across the whole of Wales in order to tackle inequalities and digital exclusion for groups within the population. Plan positively to maximise the health and well-being benefits from increasing digital infrastructure in areas with poor or no provision.

### Walking, Cycling and Public Transport (see Section 4.7)



- Seek to increase public confidence in using public transport, taking account of the findings from research undertaken during the pandemic (Department for Transport, 2021a), including developing communications strategies and messages to ensure that public transport users have confidence in returning to using sustainable transport methods rather than the car.
- Explore ways of implementing the options which have been shown to be feasible through trial projects.
- Develop approaches to delivering placemaking such as incorporating 20 min neighbourhoods, tactical urbanism and transit oriented development to help deliver health and well-being benefits.
- Utilise the expertise of cross sector working through planning and health to increase the number of people walking and cycling for example through positive behaviour change models and design of cycle routes which are attractive, safe and inclusive for all.

### Enhance green and blue infrastructure (see Section 4.8)



- Set standards for provision and access to green and blue infrastructure at different scales and places.
- Develop innovative approaches to delivering nature-based solutions through collaborative working across sectors e.g., urban area with increasing densities.

# 5 Maximising inclusive health and well-being in future spatial planning for recovery



*“Healthy environments make healthy people. Healthy people in turn underpin economic vitality”* (Weissenborn et al, 2021)

The COVID-19 pandemic and response measures have highlighted the importance of the built and natural environment and spatial planning policies more than ever. It has explicitly identified the need to move at pace to more sustainable health promoting and protecting ways of working and enabling the population to be more active, work from home and have secure, safe and affordable access to food, transport and housing. Section 3 highlighted the impact that the pandemic has had upon communities in Wales, the inequalities that have worsened, and the vulnerabilities of certain population groups. It is key to learn from the evidence of how important the environment (home and community) is for people’s health and well-being during this time. This can help to shape future spatial planning and placemaking approaches.

Good land use planning and placemaking made a positive contribution to people’s and communities’ abilities to cope with the pandemic and lockdown restrictions. However, there is a danger that once the pandemic eases and patterns of behaviour and policies that were in place before the pandemic start to re-establish themselves any health and well-being gain would be reduced, for example reduced physical activity levels or increased obesity and alcohol consumption, would become part of the ‘new normal’ of a post pandemic world. A Public Health Wales public engagement survey conducted mid 2020 illustrated some behaviour changes amongst the population (Public Health Wales NHS Trust, 2020):

- Those in the most affluent areas were more likely to have increased time spent outdoors and exercising during COVID-19 restrictions.
- Younger adults were consuming more alcohol during lockdown, watching TV and gaming more, but also doing more exercise.
- Older adults were more likely to be self-isolating and be experiencing anxiety.



Moving forward efforts must be concentrated on building on the health gains witnessed during the pandemic.

**The focus can not only be about building back better but building a better, greener and fairer future, using the lessons learned during the pandemic and the steps that have led to positive changes.**

Prior to the pandemic, reflection on progress and learning on spatial planning and health in Wales advised focusing on the implementation of Planning Policy Wales, for greener places, reducing inequalities through planning, investing time and resources in planning services and placemaking, increasing collaboration, and reconnecting people with planning (Future Generations Commissioner for Wales, 2020). These issues remain as relevant now. Many advocate for health and well-being to drive policy change (Future Generations Commissioner for Wales, 2020) (Welsh Government, 2020a) (Public Health England, 2020b) with placemaking being a useful approach (Design Commission for Wales, 2020) (Public Health England, 2021) and health impact assessment a useful tool to support such changes.

There has been a wealth of evidence and examples of good practice published both before and during the pandemic which supports the spatial planning systems role in facilitating or diminishing health, well-being and health inequalities but there is now an urgent need to move to more action orientated approaches to healthy spatial planning. Some key themes and actions are at the core of healthy and inclusive planning.

The pandemic is still ongoing and the implications of this will continue to be felt across communities for some time to come. There will be more opportunities for learning from what has happened, and how we may best support individuals and communities to recover, through the spatial planning processes. It will be important to continue to monitor trends and data. There is now a window of opportunity to act and it has been demonstrated that effective actions can be implemented quickly and safely to address challenges such as the transmission of COVID-19. Therefore, it is paramount that public health and health care and planning systems recognise this and continue to come together to enable this and good practices to continue and be sustainable in the future.

# References

- Abrams, D., Lalot, F., Broadwood, J., & Davies Hayon, K. (2021). *Community, Connection and Cohesion During COVID-19: Beyond Us and Them Report*. [online] Available at: [https://www.belongnetwork.co.uk/wp-content/uploads/2021/02/Belong\\_InterimReport\\_FINAL-1.pdf](https://www.belongnetwork.co.uk/wp-content/uploads/2021/02/Belong_InterimReport_FINAL-1.pdf) [Accessed 3 June 2021]
- Barker, N. (2020). *The housing pandemic: four graphs showing the link between COVID-19 deaths and the housing crisis*. Inside Housing, 29 May 2020. [Online]. Available at: <https://www.insidehousing.co.uk/insight/insight/the-housing-pandemic-four-graphs-showing-the-link-between-covid-19-deaths-and-the-housing-crisis-66562> [Accessed 23 July 2021]
- Beynon C, Pashayan N, Fisher E, Hargreaves D, Bailey L & Raine R. (2020). *A cross-sectional study using the Childhood Measurement Programme for Wales to examine population-level risk factors associated with childhood obesity*. [online] Available at: <https://pubmed.ncbi.nlm.nih.gov/32744211/> [Accessed 3 March 2021]
- Bicquelet-Lock, A. (2020). *Planning for Post-Covid Cities*. [Online]. Available at: <https://www.rtpi.org.uk/media/7388/tm-analysis-of-high-streets-final.pdf> [Accessed 16 April 2021]
- Breach, A. (2021). *How did Covid-19 affect the UK's Core Cities?* [Online]. Available at: <https://www.centreforcities.org/blog/how-did-covid-19-affect-the-uks-core-cities/> [Accessed 23 April 2021]
- Brewer, M. and Patrick, R. (2021). *Pandemic Pressures: Why families on a low income are spending more during Covid-19*. [Online]. Available at: <https://www.resolutionfoundation.org/app/uploads/2021/01/Pandemic-pressures.pdf> [Accessed 16 April 2021]
- Building Better, Building Beautiful Commission. (2020). *Living with Beauty. Promoting health, well-being and sustainable growth*. Retrieved February 19, 2021, from [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/861832/Living\\_with\\_beauty\\_BBBBC\\_report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/861832/Living_with_beauty_BBBBC_report.pdf)
- Cardiff Capital Region. (2020). *Cardiff Capital Region Update 2020, April 2020, Issue 1*. [Online]. Available at: <https://www.valeofglamorgan.gov.uk/Documents/Working/Regeneration/Economic-Development/Cardiff-Capital-Region-Jan-to-March-2020-publications.pdf> [Accessed 14 April 2021]
- Carmona, M., Giordano V., Nayyar, G., Kurland, J. and Buddle, C. (2020) *Home Comforts: How the design of our homes and neighbourhoods affected our experience of the Covid-19 lockdown and what we can learn for the future* [Online]. Available at: [http://placealliance.org.uk/wp-content/uploads/2020/10/Place-Alliance-Homes-and-Covid-Report\\_2020.pdf](http://placealliance.org.uk/wp-content/uploads/2020/10/Place-Alliance-Homes-and-Covid-Report_2020.pdf) [Accessed 23 July 2021]
- Centre for Ageing Better. (2020). *Homes, health and Covid-19*. [Online]. Available at: <https://www.ageing-better.org.uk/sites/default/files/2020-09/Homes-health-and-COVID-19.pdf> (Accessed 23 July 2021).
- CGA Solutions (2021). *New Hospitality at Home Tracker reveals quadrupling of delivery and takeaway sales*. [online] Available at: [New Hospitality at Home Tracker reveals quadrupling of delivery and takeaway sales - CGA \(cgastrategy.com\)](https://www.cgastrategy.com) [Accessed 24 November 2021]
- Chang M, Green, L. and Cummins, S. (2020). *All Change. Has COVID-19 transformed the way we need to plan for a healthier and more equitable food environment?* Urban Design International. [online] Available at: <https://doi.org/10.1057/s41289-020-00143-5> [Accessed 28 October 2021]
- Chapman, A., and Phagoora, J. (2021). *Escaping Green Deprivation*. [Online]. Available at: <https://neweconomics.org/2021/01/escaping-green-deprivation> [Accessed 4 March 2021]
- Clair, A. and Hughes, A. (2019) *Housing and health: new evidence using biomarker data*. J Epidemiol Community Health 2019;73:256-262. [Online]. Available at: <https://jech.bmj.com/content/73/3/256> [Accessed 23 July 2021]
- Community Supported Agriculture. (2021). *Riverside Market Garden*. [online] Available at: <https://communitysupportedagriculture.org.uk/csa/riverside-market-garden/> [Accessed 19 March 2021]
- Cooke, E., Streb, M. and Burns, T. (2020). *Life after lockdown: briefing paper 2 - Reinventing the high street for Covid-19 recovery*. [Online]. Available at: <https://www.sustrans.org.uk/media/6676/life-after-lockdown-briefing-paper-2-reinventing-the-high-street-for-covid-19-recovery.pdf> [Accessed 23 March 2021]
- Countryside Charity. (2021). *Pressure on our Green Belts quadruples – just when we need our green spaces*. [Online]. Available at: <https://www.cpre.org.uk/news/pressure-on-our-green-belts-quadruples/> [Accessed 19 March 2021]
- Cretu, C. (2020). *New operating models and COVID-19: A catalyst for change? (Part I: Initial findings)*. [Online]. Available at: [https://www.nesta.org.uk/project-updates/noms-and-covid-1/?utm\\_source=Nesta+Weekly+Newsletter&utm\\_campaign=8db5ce1c24-EMAIL\\_CAMPAIGN\\_2020\\_05\\_13\\_09\\_34&utm\\_medium=email&utm\\_term=0\\_d17364114d-8db5ce1c24-181924929](https://www.nesta.org.uk/project-updates/noms-and-covid-1/?utm_source=Nesta+Weekly+Newsletter&utm_campaign=8db5ce1c24-EMAIL_CAMPAIGN_2020_05_13_09_34&utm_medium=email&utm_term=0_d17364114d-8db5ce1c24-181924929) [Accessed 26 March 2021]
- Cummins S, Nicolas B, Cornelsen L, Eling J, Er V, Greener R, Kalbus A, Karapici A, Law C, Ndlovu D & Yau A. (2020). *COVID-19: impact on the urban food retail system and dietary inequalities in the UK*. [online] Available at: <https://www.tandfonline.com/doi/pdf/10.1080/23748834.2020.1785167> [Accessed 4 March 2021]
- Deloitte. (2020). *Three in five consumers have used more local stores and services to support them during lockdown*. [Online]. Available at: <https://www2.deloitte.com/uk/en/pages/press-releases/articles/three-in-five-consumers-have-used-more-local-stores-and-services-to-support-them-during-lockdown.html> [Accessed 23 March 2021]
- Design Commission for Wales. (2020). *Placemaking Guide 2020*. [online] Available at: <https://dcfw.org/wp-content/themes/dcfw-child/assets/PlacemakingGuideDigitalENG.pdf> [Accessed 19 February 2021]
- Department for Transport (2021) *National Travel Attitudes Study: Wave 5*. Published 27 May 2021. [Online] Available at [National Travel Attitudes Study: Wave 5 - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/national-travel-attitudes-study-wave-5) [Accessed 7 October 2021]
- Department for Transport. (2021a). *Public Transport Confidence: Summer 2020*. [Online]. Available at: <https://www.gov.uk/government/publications/confidence-using-transport-during-covid-19> [Accessed 27 July 2021]
- DevicesDotNow. (2020). *Interim Impact Report #3: 24 March - 31 July*. [Online]. Available at: [https://www.goodthingsfoundation.org/sites/default/files/interim\\_impact\\_report\\_3\\_devicesdotnow\\_july\\_2020\\_3.pdf](https://www.goodthingsfoundation.org/sites/default/files/interim_impact_report_3_devicesdotnow_july_2020_3.pdf) [Accessed 13 April 2021]
- Douglas, M., & Beautyman, I. (2020). *Comparing the 20 Minute Neighbourhood and Traditional Scenarios in Edinburgh Local Development Plan: a Rapid Scoping Assessment*. [online] Available at: [https://www.improvementservice.org.uk/\\_data/assets/pdf\\_file/0021/19740/20-minute-neighbourhood-rapid-scoping-assessment.pdf](https://www.improvementservice.org.uk/_data/assets/pdf_file/0021/19740/20-minute-neighbourhood-rapid-scoping-assessment.pdf) [Accessed 3 June 2021]
- Douglas, M. and Beautyman, I. (2021). *Argyll and Bute Indicative Regional Spatial Strategy: a 20 minute Neighbourhood Rapid Scoping Assessment*. [Online]. Available at: <https://www.scotphn.net/wp-content/uploads/2015/11/Argyll-and-Bute-Rapid-Scoping-Assessment.pdf> [Accessed 23 July 2021]
- Environmental Public Health Service, Public Health Wales NHS Trust. (2020). *Air pollution impacts of Covid-19 response (Wales): A public health opinion*. [Online]. Available at: [https://airquality.gov.wales/sites/default/files/documents/2020-08/Covid\\_and\\_air\\_quality\\_a\\_public\\_health\\_opinion\\_final\\_English.pdf](https://airquality.gov.wales/sites/default/files/documents/2020-08/Covid_and_air_quality_a_public_health_opinion_final_English.pdf) [Accessed 26 July 2021]

- Equality, Local Government and Communities Committee, Welsh Parliament . (2020). *Into sharp relief: inequality and the pandemic*. [online] Available at: <https://cdn.nation.cymru/wp-content/uploads/2020/08/10082155/English-Final.pdf> [Accessed 19 February 2021]
- Faculty of Public Health pp 12 & 13. (2017). *Public Health Today - Fast Fed Children*. [online] Available at: <https://www.fph.org.uk/media/1559/pht-spring-2017-child-obesity.pdf> [Accessed 3 March 2021]
- Felstead, A. (2021). *Senedd Economy, Infrastructure and Skills Committee Commissioned Report: Outlining the Contours of the 'Great Homeworking Experiment' and its implications for Wales*. [Online]. Available at: <https://business.senedd.wales/documents/s500006852/Remote%20working%20report%20Professor%20Alan%20Felstead.pdf> [Accessed 23 April 2021]
- Fitzpatrick, S., Bramley, G., Blenkinsopp, J., Wood, J., Sosenko, F., Littlewood, M., Johnsen, S., Watts, B., Treanor, M and McIntyre, J. (2020). *Destitution in the UK 2020*. [Online]. Available at: <https://www.jrf.org.uk/report/destitution-uk-2020> [Accessed 16 February 2021]
- Food Cardiff. (2020). *Cardiff Growing Together during lockdown*. [online] Available at: <https://foodcardiff.com/blog/growingtogether/> [Accessed 4 March 2021]
- Food Foundation and You Gov (2020). *YouGov Covid-19 Public Polling, 5th June 2020*. [online] Available at: [YouGov Covid-19 Polling - Food, Farming and Countryside Commission \(ffcc.co.uk\)](https://www.yougov.com/covid-19-public-polling-5th-june-2020) [Accessed 24 November 2021]
- Food Standards Agency. (n.d). *Covid-19 Consumer Tracker Waves 1 – 4*. [Online]. Available at: <https://www.food.gov.uk/sites/default/files/media/document/covid-19-wave-1-4-report-final-mc.pdf> [Accessed 7 April 2021]
- Friends of the Earth Policy. (2020). *The impact of coronavirus on the planning system*. [online] Available at: <https://policy.friendsoftheearth.uk/insight/impact-coronavirus-planning-system> [Accessed 5 February 2021]
- Future Generations Commissioner for Wales. (2019). *Well-being of Future Generations (Wales) Act*. [online] Available at: <https://www.futuregenerations.wales/about-us/future-generations-act/> [Accessed 11 March 2021]
- Future Generations Commissioner for Wales. (2020). *The Future Generations Report 2020. Areas of Focus: Land use planning and Placemaking*. [online] Available at: <https://www.futuregenerations.wales/wp-content/uploads/2020/06/Chap-5-Planning.pdf> [Accessed 21 January 2021]
- Future Generations Commissioner for Wales. (2021). *Land use planning and placemaking*. [online] Available at: [https://www.futuregenerations.wales/priority\\_areas/planning/](https://www.futuregenerations.wales/priority_areas/planning/) [Accessed 12 February 2021]
- Gates, S., Gogescu, F., Grollman, C., Cooper, E. and Khambhaita, P. (2019). *Transport and inequality: An evidence review for the Department for Transport*. [Online]. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/953951/Transport\\_and\\_inequality\\_report\\_document.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/953951/Transport_and_inequality_report_document.pdf) [Accessed 27 July 2021]
- Gov.uk. (2020). *Overcrowded households*. [Online]. Available at: <https://www.ethnicity-facts-figures.service.gov.uk/housing/housing-conditions/overcrowded-households/latest> [Accessed 23 July 2021]
- Gov.uk. (2021). *Transport use during the coronavirus (COVID-19) pandemic*. [Online]. Available at: <https://www.gov.uk/government/statistics/transport-use-during-the-coronavirus-covid-19-pandemic> [Accessed 26 July 2021]
- Green L, Morgan L, Azam S, Evans L, Parry-Williams L, Petchey L and Bellis MA. (2020a). *A Health Impact Assessment of the 'Staying at Home and Social Distancing Policy' in Wales in response to the COVID-19 pandemic. Main Report*. [Online] Available at: [https://phwwhocc.co.uk/whiasu/wp-content/uploads/sites/3/2021/05/HIA\\_-\\_Rapid\\_Review\\_of\\_SAH\\_Policy\\_Main\\_Report.pdf](https://phwwhocc.co.uk/whiasu/wp-content/uploads/sites/3/2021/05/HIA_-_Rapid_Review_of_SAH_Policy_Main_Report.pdf) [Accessed 11 March 2021]
- Green,L; Lewis,R; Evans,L; Morgan,L; Parry-Williams,L; Azam, S; Bellis,M (2020b) *A COVID-19 pandemic world and beyond: The public health impact of Home and Agile Working in Wales - Summary report* [online] Available at: [https://phwwhocc.co.uk/whiasu/wp-content/uploads/sites/3/2021/05/PHW\\_HIA\\_Home\\_Working\\_Report.pdf](https://phwwhocc.co.uk/whiasu/wp-content/uploads/sites/3/2021/05/PHW_HIA_Home_Working_Report.pdf) [Accessed 11 March 2021]
- Green, L., Ashton, K., Fletcher, M., Jones, A.T., Evans, L., Evans, T., Parry-Williams, L., Azam, S., Bellis, M.A. (2021) *Rising to the Triple Challenge of Brexit, COVID-19 and Climate Change for health, well-being and equity in Wales*. [online]. Available at: [https://phwwhocc.co.uk/whiasu/wp-content/uploads/sites/3/2021/10/PHW\\_Strategic\\_Paper-ENGLISH-Final-1.10.2021.pdf](https://phwwhocc.co.uk/whiasu/wp-content/uploads/sites/3/2021/10/PHW_Strategic_Paper-ENGLISH-Final-1.10.2021.pdf) [Accessed 15 October 2021]
- Greensgrow. (2020). *What is urban farming?* [online] Available at: <https://www.greengrow.org/urban-farm/what-is-urban-farming/> [Accessed 19 March 2021]
- Greenspace Scotland. (2020). *Managing Scotland's parks and greenspaces during Covid-19*. [Online]. Available at: <https://www.greenspacescotland.org.uk/Handlers/Download.ashx?IDMF=f8439ceb-34c2-469c-bd12-44083e9cd4d9> [Accessed 11 February 2021]
- House of Commons Committees. (2020). *What effect did the coronavirus pandemic have on our food supply?* [online] Available at: <https://houseofcommons.shorthandstories.com/EFRA-covid19-food-supply/index.html> [Accessed 18 March 2021]
- Ibbetson, C. (2020). *Could COVID-19 save the high street?* [Online]. Available at: <https://yougov.co.uk/topics/consumer/articles-reports/2020/07/10/covid-19-coronavirus-UK-high-street-local-effect> [Accessed 15 April 2021]
- Institute of Welsh Affairs. (2021, May). *Welsh Places Charter*. Retrieved May 2021, from [https://www.iwa.wales/wp-content/media/IWA\\_Welsh-Places-Charter\\_2.pdf](https://www.iwa.wales/wp-content/media/IWA_Welsh-Places-Charter_2.pdf)
- Jones, L. (2020). *Local businesses: Getting through lockdown and beyond*. [Online]. Available at: <https://www.bevanfoundation.org/commentary/local-businesses-support-lockdown-beyond/> [Accessed 25 March 2021]
- Joseph Rowntree Foundation. (2020). *Targeted action for parts of Britain at risk of surging unemployment*. [online] Available at: <https://www.jrf.org.uk/blog/targeted-action-parts-britain-risk-surging-unemployment> [Accessed 12 February 2021]
- Kamei, M., Mastrucci, A. and van Ruijven, B.J. (2021). *A Future Outlook of Narratives for the Built Environment in Japan*. [Online]. Available at: <https://doi.org/10.3390/su13041653> [Accessed 29 April 2021]
- Kapetanious, C. (2020). *Learning in a Pandemic – Closing the digital skills gap during COVID-19*. [Online]. Available at: <https://media.nesta.org.uk/documents/Learning-in-a-Pandemic.pdf> [Accessed 26 March 2021]
- Laker, L. (2020). *Five fantastic parklet designs and why we need more of them*. [Online]. Available at: <https://mindthezag.com/trends/five-fantastic-parklet-designs-and-why-we-need-more-of-them/> [Accessed 4 March 2021]
- Landscape Institute . (2020). *Greener Recovery: Delivering a sustainable recovery from COVID-19*. [online] Available at: <https://landscapewpsstorage01.blob.core.windows.net/www-landscapeinstitute-org/2020/09/12332-greener-recovery-v6.pdf> [Accessed 12 March 2021]
- Leavey, C. Eastaugh, A. and Kane, M. (2020). *Generation Covid-19: Building the case to protect young people's future health*. [Online]. Available at: <https://www.health.org.uk/publications/long-reads/generation-covid-19> [Accessed 23 July 2021]
- Liu, H. and Wang, PH. (2021) *Research on the evolution of urban design from the perspective of public health under the background of COVID-19*. [online] Available at: <https://journals.sagepub.com/doi/full/10.1177/0020720921996598> [Accessed 03 November 2021]

- Lovell, R., White, M.P., Wheeler, B., Taylor, T., Elliott, L. (2020). *A rapid scoping review of health and wellbeing evidence for the Green Infrastructure Standards. For: Natural England, Department for the Environment, Food and Rural Affairs, Public Health England, and Ministry for Housing, Communities and Local Government.* [online] Available at: <http://publications.naturalengland.org.uk/publication/4799558023643136> [Accessed 20 March 2021]
- Lubell, S. (2020). *Past Pandemics changed the design of cities. Six ways COVID-19 could do the same.* [online] Available at: <https://www.latimes.com/entertainment-arts/story/2020-04-22/coronavirus-pandemics-architecture-urban-design> [Accessed 10 March 2021]
- Marmot M., Allen J., Goldblatt P., Herd E. & Morrison J. (2020). *Build Back Fairer: The COVID-19 Marmot Review. The Pandemic, Socioeconomic and Health Inequalities in England.* [online] Available at: <http://www.instituteofhealthequity.org/resources-reports/build-back-fairer-the-covid-19-marmot-review/build-back-fairer-the-covid-19-marmot-review-executive-summary.pdf> [Accessed 20 January 2021]
- Martin, S., Bennett, L., Taylor-Collins, E. and Roberts, M. (2020). *Recovery from the Coronavirus pandemic: Digital public services and intergenerational fairness.* [Online]. Available at: <https://www.wcpp.org.uk/wp-content/uploads/2020/11/Recovery-from-the-Coronavirus-pandemic-Digital-public-services-and-intergenerational-fairness.pdf> [Accessed 13 April 2021]
- Mathers, A., Richardson, J., Vincent, S., Chambers, J. and Stone, E. (2020). *Good Things Foundation Covid-19 Response Report: 23 March – 16 June 2020.* [Online]. Available at: [https://www.goodthingsfoundation.org/sites/default/files/research-publications/good\\_things\\_foundation\\_covid19\\_response\\_report\\_march\\_june\\_2020.pdf](https://www.goodthingsfoundation.org/sites/default/files/research-publications/good_things_foundation_covid19_response_report_march_june_2020.pdf) [Accessed 13 April 2021]
- McGinlay, J., Gkoumas, V., Holtvoeth, J., Fuentes, R.F.A., Bazhenova, E., Benzoni, A., Botsch, K., Martel, C.C., Sánchez, C.C., Cervera, I., Chaminade, G., Doerstel, J., García, C.J.F., Jones, A., Lammertz, M., Lotman, K., Odar, M., Pastor, T., Ritchie, C., Santi, S., Smolej, M., Rico, F.S., Waterman, H., Zwijacz-Kozica, T., Kontoleon, A., Dimitrakopoulos, P.G. and Jones, N. (2020). *The Impact of COVID-19 on the Management of European Protected Areas and Policy Implications.* *Forests*; 11(11):1214. [Online]. Available at: <https://doi.org/10.3390/f11111214> [Accessed 30 April 2021]
- McKinnon, G., Pineo, H., Chang, M., Taylor-Green, L., Johns, A. and Toms, R. (2020). *Strengthening the links between planning and health in England.* *BMJ* 2020;369:m795. [Online]. Available at: <https://doi.org/10.1136/bmj.m795> [Accessed 28 July 2021]
- Megahed, N.A. & Ghoneim, E.M. (2020, October). *Antivirus-built environment: Lessons learned from Covid-19 pandemic. Sustainable Cities and Society* Available at: <https://doi.org/10.1016/j.scs.2020.102350> [Accessed 20 March 2021]
- Mell, I., & Whitten, M. (2021). *Access to Nature in a Post Covid-19 World: Opportunities for Green Infrastructure Financing, Distribution and Equitability in Urban Planning.* [online] Available at: <https://www.mdpi.com/1660-4601/18/4/1527> [Accessed 12 March 2021]
- Minnis, A. (2021). *Putting the 'public' back into public transport.* [Online]. Available at: <https://research.senedd.wales/research-articles/putting-the-public-back-into-public-transport/> [Accessed 26 July 2021]
- Mishra V, Seyedzenouzi G, Almohtadi A, Chowdhury T, Khashkhusa A, Axiaq A, Wong WY and Harky A. (2021). *Health Inequalities During COVID-19 and Their Effects on Morbidity and Mortality.* [online] Available at: <https://www.dovepress.com/health-inequalities-during-covid-19-and-their-effects-on-morbidity-and-peer-reviewed-fulltext-article-JHL> [Accessed 12 March 2021]
- Mitsakou, C., Adamson, J., P., Doutsis, A., Brunt, H., Jones, S., J., Gowers, A., M. and Exley, K., S. (2021). *Assessing the exposure to air pollution during transport in urban areas – Evidence review. Assessing the exposure to air pollution during transport in urban areas – Evidence review - ScienceDirect* [Accessed 4 June 2021]
- Moore, H.L and Collins, H. (2021). *Rebuilding the post-Covid-19 economy through an industrial strategy that secures livelihoods. Social Sciences & Humanities Open.* Volume 3, Issue 1. <https://doi.org/10.1016/j.ssaho.2021.100113> [Accessed 3 March 2021]
- Moody, T. (2020). *New app a 'one stop shop' for shoppers in Torfaen.* [Online]. Available at: <https://www.southwalesargus.co.uk/news/18767885.new-app-one-stop-shop-shoppers-torfaen/> [Accessed 14 April 2021]
- National Assembly for Wales. (2015). *Well-being of Future Generations (Wales) Act 2015 anaw2.* [online] Available at: <http://www.legislation.gov.uk/anaw/2015/2/contents> [Accessed 21 January 2021]
- National Housing Federation. (2020). *Housing issues during lockdown: health, space and overcrowding.* [Online]. Available at: <https://www.housing.org.uk/globalassets/files/homes-at-the-heart/housing-issues-during-lockdown---health-space-and-overcrowding.pdf> [Accessed 23 July 2021]
- National Institute for Health and Care Excellence. (2010, June). *Cardiovascular disease prevention. Public health guideline [PH25].* [online] Available at: <https://www.nice.org.uk/guidance/PH25> [Accessed 18 March 2021]
- Natural Resources Wales. (2020). *Green Recovery: Priorities for Action Report.* [online] Available at: <https://cdn.cyfoethnaturiol.cymru/media/692667/final-green-recovery-priorities-for-action-report-english.pdf> [Accessed 19 March 2021]
- Neiderud, C-J. (2015) *How urbanization affects the epidemiology of emerging infectious diseases.* [online] Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4481042/> [Accessed 03 November 2021]
- Neve, K. (2020). *Healthy eating: Can COVID-19 shape opportunities for future policy?* [online] Available at: <https://nutritionconnect.org/resource-center/blog-33-healthy-eating-can-covid-19-shape-opportunities-future-policy> [Accessed 3 March 2021]
- Nolsoe, E. (2020). *Food shopping in lockdown: Brits turn to corner shops.* [Online]. Available at: <https://yougov.co.uk/topics/Food/articles-reports/2020/04/17/covid-19-brits-turn-corner-shops-essentials> [Accessed 7 April 2021]
- Office for National Statistics. (2020). *One in eight British households has no garden.* [Online]. Available at: <https://www.ons.gov.uk/economy/environmentalaccounts/articles/oneineightbritishhouseholdshasnogarden/2020-05-14> [Accessed 4 February 2021]
- Office for National Statistics. (2021a). *Updating ethnic contrasts in deaths involving the coronavirus (COVID-19), England: 24 January 2020 to 31 March 2021.* [online] Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/articles/updatingethniccontrastsindeathsinvolvingthecoronaviruscovid19englandandwales/24january2020to31march2021> [Accessed 12 June 2021]
- Office for National Statistics. (2021b). *Recent trends in the housing market: January 2021.* [Online]. Available at: <https://www.ons.gov.uk/economy/inflationandpriceindices/articles/priceseconomicanalysisquarterly/january2021> (Accessed 29 April 2021)
- Office for National Statistics. (2021c). *Retail sales, Great Britain: January 2021.* [Online]. Available at: <https://www.ons.gov.uk/businessindustryandtrade/retailindustry/bulletins/retailsales/january2021> [Accessed 23 March 2021]
- Office for National Statistics. (2021d). *Personal and economic well-being in Great Britain: January 2021.* [Online]. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/personalandeconomicwellbeingintheuk/january2021> [Accessed 23 March 2021]

- Office for National Statistics. (2021e). *Personal and economic well-being in Great Britain: May 2021*. [Online]. Available at: [Personal and economic well-being in Great Britain - Office for National Statistics \(ons.gov.uk\)](https://ons.gov.uk) [Accessed 23 November 2021]
- Ogle J, Luchinskaya D and Trickey D. (2017, November). *Austerity and Local Government in Wales: an analysis of income and spending priorities, 2009-10 to 2016-17*. Retrieved January 20, 2021, from <http://www.walespublicservices2025.org.uk/files/2017/11/Austerity-and-Local-Government.pdf>
- Olsen, J. and Mitchell, R. (2021). *S&SR Environment and Spaces Group Report: COVID-19 Green and Open Space Use in Autumn 2020*. [Online]. Available at: [https://www.gla.ac.uk/media/Media\\_779126\\_smx.pdf](https://www.gla.ac.uk/media/Media_779126_smx.pdf) [Accessed 23 March 2021]
- ParCityatory (2020) *Tactical Urbanism: creating long-term change in cities through short-term interventions*. [online] Available at: <https://parcityatory.org/2020/07/31/tactical-urbanism/> [Accessed 28 October 2021]
- Park, M., Bennett, L. and Durrant, H. (2020). *Designing technology-enabled services to tackle loneliness*. [Online]. Available at: <https://www.wcpp.org.uk/wp-content/uploads/2020/12/Designing-technology-enabled-services-to-tackle-loneliness-2.pdf> [Accessed 13 April 2021]
- Place Alliance. (2020). *Home comforts during the Covid-19 lockdown*. [Online]. Available at: <http://placealliance.org.uk/research/research-home-comforts/> [Accessed 5 February 2021]
- Planning Aid Wales (2021) *The value of engagement in planning in Wales*. [online] Available at: [Full English.indd \(planningaidwales.org.uk\)](http://full.english.indd(planningaidwales.org.uk)) (accessed 14 October 2021)
- Pouso, S., Borja, A., Fleming, L. E., Gómez-Baggethun, E., White, M., & Uyarra, M. C. (2020). *Maintaining contact with blue-green spaces during the COVID-19 pandemic associated with positive mental health*. *PRE PRINT SocArXiv*. [Online]. Available at: <https://doi.org/10.31235/osf.io/gpt3r> [Accessed 5 February 2021]
- Preston P, Banks N, Hargreaves K, Kazmierczak A, Lucas K, Mayne R, Downing C & Street R. (2014). *Climate change and social justice: an evidence review*. [online] Available at: <https://www.jrf.org.uk/report/climate-change-and-social-justice-evidence-review> [Accessed 27 March 2021]
- Price, J., Roberts, M., and Bristow, D. (2021). *Towards a Just Transition in Wales*. [Online]. Available at: <https://www.wcpp.org.uk/wp-content/uploads/2021/01/Towards-a-Just-Transition-in-Wales.pdf> [Accessed 3 March 2021]
- Public Health England. (2017). *Spatial Planning for Health. An evidence resource for planning and designing healthier places*. [online] Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/729727/spatial\\_planning\\_for\\_health.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/729727/spatial_planning_for_health.pdf) [Accessed 25 February 2021]
- Public Health England. (2018). *Obesity and the environment. Density of fast food outlets at 31/12/2017*. [online] Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/741555/Fast\\_Food\\_map.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/741555/Fast_Food_map.pdf) [Accessed 3 March 2021]
- Public Health England . (2020a). *Health Impact Assessment in spatial planning. A guide for local authority public health and planning teams*. [online] Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/929230/HIA\\_in\\_Planning\\_Guide\\_Sept2020.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/929230/HIA_in_Planning_Guide_Sept2020.pdf) [Accessed 19 February 2021]
- Public Health England . (2020b). *Using the planning system to promote healthy weight environments. Guidance and supplementary planning document template for local authority public health and planning teams*. [online] Available at: [Healthy weight environments: using the planning system - GOV.UK \(www.gov.uk\)](https://www.gov.uk) [Accessed 18 March 2021]
- Public Health England. (2020c). *Disparities in the risk and outcomes of COVID-19*. [online] Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/908434/Disparities\\_in\\_the\\_risk\\_and\\_outcomes\\_of\\_COVID\\_August\\_2020\\_update.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/908434/Disparities_in_the_risk_and_outcomes_of_COVID_August_2020_update.pdf) [Accessed 12 June 2021]
- Public Health England. (2021). *Getting research into practice. A resource for local authorities on planning healthier places*. [Online] Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/951310/GRIP2\\_PHE\\_national\\_resources\\_151220\\_for\\_Gateway\\_2.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/951310/GRIP2_PHE_national_resources_151220_for_Gateway_2.pdf) [Accessed 20 January 2021]
- Public Health Wales NHS Trust. (2016). *Measuring the health and well-being of a nation. Public Health Outcomes Framework for Wales*. [online] Available at: <https://gov.wales/sites/default/files/publications/2019-06/measuring-the-health-and-well-being-of-a-nation.pdf> [Accessed 20 May 2021]
- Public Health Wales NHS Trust. (2020) *How are we doing in Wales? Public engagement survey on health and well-being during Coronavirus measures*. [online] <https://phw.nhs.wales/topics/latest-information-on-novel-coronavirus-covid-19/how-are-you-doing/how-are-we-doing-in-wales-reports/how-are-we-doing-by-demographics-report/> [Accessed 04 November 2021]
- Public Health Wales NHS Trust. (2021a). *Public Health Wales Rapid COVID-19 Surveillance Confirmed Case Data*. [online] Available at: <https://public.tableau.com/app/profile/public.health.wales.health.protection/viz/RapidCOVID-19virology-Public/Headlinesummary> [Accessed 19 February 2021]
- Public Health Wales NHS Trust (2021b) *Planning and Enabling Healthy Environments: Incorporating a template for planning policy*. [online] Available at: <https://phw.nhs.wales/publications/publications1/planning-and-enabling-healthy-environments-incorporating-a-template-for-planning-policy/> [Accessed 12 October 2021]
- Public Health Wales NHS Trust. (n.d). *COVID-19 and Road traffic crashes in Wales – A public health opinion*. [Online]. Available at: <https://phw.nhs.wales/topics/latest-information-on-novel-coronavirus-covid-19/staff-information-page1/covid-19-staff-news/road-traffic-crashes-report/covid-19-and-road-traffic-crashes-in-wales-a-public-health-opinion/> [Accessed 27 July 2021]
- Pulighe G & Lupia F. (2020). *Food First: COVID-19 Outbreak and Cities Lockdown a Booster for a Wider Vision on Urban Agriculture*. [online] Available at: <https://www.mdpi.com/2071-1050/12/12/5012/htm> [Accessed 3 March 2021]
- RAC. (2020). *Report on Motoring 2020*. [Online]. Available at: [https://resources.mynewsdesk.com/image/upload/fl\\_attachment/tcx9vjpow26prp0mqsd](https://resources.mynewsdesk.com/image/upload/fl_attachment/tcx9vjpow26prp0mqsd) [Accessed 26 July 2021]
- Reuschke, D., Clifton, N. and Long, J. (2021). *Remote working – spatial implications in Wales*. [Online]. Available at: <https://business.senedd.wales/documents/s500006851/Adroddiad%20gweithio%20o%20bell%20Dr%20Darja%20Reuschke%20Saesneg%20yn%20unig.pdf> [Accessed 26 April 2021]
- Ricardo Energy & Environment. (2020). *Provisional Analysis of Welsh Air Quality Monitoring Data –Impacts of Covid-19*. [Online]. Available at: [https://airquality.gov.wales/sites/default/files/documents/2020-08/Analysis\\_of\\_Welsh\\_Air\\_Quality\\_Data\\_Impacts\\_of\\_Covid-19\\_Final\\_Issue2.pdf](https://airquality.gov.wales/sites/default/files/documents/2020-08/Analysis_of_Welsh_Air_Quality_Data_Impacts_of_Covid-19_Final_Issue2.pdf) [Accessed 26 July 2021]
- RSPB. (2020). *Recovering together*. [Online]. Available at: [https://www.rspb.org.uk/globalassets/downloads/recovering-together-report/recovering-together-report\\_nature-and-green-recovery\\_rspbyougov\\_june-2020.pdf](https://www.rspb.org.uk/globalassets/downloads/recovering-together-report/recovering-together-report_nature-and-green-recovery_rspbyougov_june-2020.pdf) [Accessed 16 February 2021]
- Rojas-Rueda, D. and Morales-Zamora, E. (2021). *Built environment, Transport, and COVID-19: a Review*. *Curr Envir Health Rpt* 8, 138–145. [Online]. DOI: <https://doi.org/10.1007/s40572-021-00307-7> [Accessed 27 July 2021]
- Rolfe, H., Lasko-Skinner, R., Atay, A., Judson, E., Mackenzie, P., Oakes, J., Wood, C., Hilhorst, S., and Williams –Taplin, H. (2020). *Britain Under Lockdown*. [Online]. Available at: <https://demos.co.uk/wp-content/uploads/2020/08/Britain-under-Lockdown.pdf> [Accessed 29 March 2021]

- Royal Town Planning Institute. (2020a). *Pragmatic and prepared for the recovery. The planning profession's rapid response to Covid-19*. [online] Available at: <https://www.rtpi.org.uk/media/5304/pragmatic-and-prepared-for-the-recovery.pdf> [Accessed 5 February 2021]
- Royal Town Planning Institute. (2020b). *Mental Health and Town Planning*. [Online]. Available at: <https://www.rtpi.org.uk/media/6551/mentalhealthtownplanning2020-final.pdf> [Accessed 15 April 2021]
- Samuel, F. (2020). *Impact of housing design and placemaking on social value and wellbeing in the pandemic*. [Online]. Available at: <https://housingevidence.ac.uk/wp-content/uploads/2020/10/Impact-of-housing-design-and-placemaking-Final-30.10.2020.pdf> [Accessed 5 February 2021]
- Shaw, M. (2004). *Housing and Public Health. Annual Review of Public Health 2004* 25:1, 397-418. [Online]. DOI: <https://doi.org/10.1146/annurev.publhealth.25.101802.123036> [Accessed 23 July 2021]
- Soaita, A.M. (2021). *The Experiences of Private Tenants during the Covid-19 pandemic in Great Britain*. [Online]. Available at: <https://housingevidence.ac.uk/the-experiences-of-private-tenants-during-the-covid-19-pandemic-in-great-britain/> [Accessed 23 July 2021]
- Stats Wales (2015) *People living in overcrowded households (bedrooms measure)*. [online] Available at: <https://statswales.gov.wales/Catalogue/Community-Safety-and-Social-Inclusion/Welsh-Index-of-Multiple-Deprivation/Archive/WIMD-Indicator-Data-By-Age/overcrowdedhouseholds-by-localauthority> [Accessed 21 October 2021]
- Stats Wales. (2020). *Ethnicity by area and ethnic group*. [online] Available at: <https://statswales.gov.wales/Catalogue/Equality-and-Diversity/Ethnicity/Ethnicity-by-Area-EthnicGroup> [Accessed 4 June 2021]
- Steenkamp, J. Cilliers, E.J. Cilliers, S.S. Lategan, L. (2021). *Food for Thought: Addressing Urban Food Security Risks through Urban Agriculture*. [online] Available at: <https://doi.org/10.3390/su13031267> [Accessed 12 March 2021]
- Stewart, D. and Eccleston, J. (2020). *Enjoying the Outdoors: Monitoring the impact of Coronavirus and social distancing. NatureScot Research Report No. 1252* [Online]. Available at: <https://www.nature.scot/sites/default/files/2020-08/Publication%202020%20-%20NatureScot%20Research%20Report%201252%20-%20Enjoying%20the%20outdoors%20-%20monitoring%20the%20impact%20of%20Coronavirus%20and%20social%20distancing.pdf> [Accessed 23 February 2021]
- Stockholm Environment Institute. (2020). *Lockdown highlights the value of green space in cities*. [Online]. Available at: <https://www.sei.org/perspectives/covid19-value-of-green-space-in-cities/> [Accessed 11 February 2021]
- Tinson, A. and Clair, A. (2020). *Better housing is crucial for our health and the COVID-19 recovery*. [Online]. Available at: <https://www.health.org.uk/sites/default/files/2021-01/2020%20-%20Better%20housing%20is%20crucial.pdf> [Accessed 23 July 2021]
- Tilley, H., Johnson, C., Roberts, M., and Price, J. (2020). *Recovery from the Coronavirus pandemic: Indigenous business and low carbon production*. [Online]. Available at: <https://www.wcpp.org.uk/wp-content/uploads/2020/11/Recovery-from-the-Coronavirus-pandemic-Indigenous-business-and-low-carbon-production.pdf> [Accessed 5 February 2021]
- Toner S, Hannah V, Jefferies G, Williams S, Williams M & Morgan C. (2018). *Briefing Paper. Obesity, Outlets and Planning in Cardiff*. [online] Available at: [https://www.phwwhocc.co.uk/Briefing\\_Paper\\_Sept\\_2018.pdf](https://www.phwwhocc.co.uk/Briefing_Paper_Sept_2018.pdf) [Accessed 3 March 2021]
- Town & Country Planning Association, with WHIASU & PHW. (2016). *Planning for Better Health and Well-being in Wales*. [online] Available at: [FINAL\\_HWBW\\_Briefing.pdf \(wales.nhs.uk\)](https://www.wales.nhs.uk/FINAL_HWBW_Briefing.pdf) [Accessed 10 March 2021]
- Town and Country Planning Association. (2017). *TCPA Practical Guides. Guide 8. Creating health promoting environments*. Retrieved February 25, 2021, from <https://www.tcpa.org.uk/Handlers/Download.ashx?IDMF=b6e27c46-3fc5-4d88-a59c-e172f797bbb3>
- Town and Country Planning Association. (2021) *20-Minute Neighbourhoods – Creating Healthier, Active, Prosperous Communities An Introduction for Council Planners in England*. [Online]. Available at: <https://www.tcpa.org.uk/Handlers/Download.ashx?IDMF=f214c4b8-ba4d-4196-9870-e9d240f86645> [[Accessed 23 July 2021]
- Transform Cymru. (2020). *A sustainable transport vision for a post-lockdown Wales*. [Online]. Available at: <https://transformcymru.org.files.wordpress.com/2020/06/2206-final-transform-cymru-vision-english-3.pdf> [Accessed 26 July 2021]
- Transport Commission. (2020). *Final Recommendations*. [Online]. Available at: <https://gov.wales/sites/default/files/publications/2020-11/south-east-wales-transport-commission-final-recommendations.pdf> [Accessed 26 July 2021]
- Transport Focus. (2019). *Disabled rail passengers research*. [Online]. Available at: <https://d3cez36w5wymxi.cloudfront.net/wp-content/uploads/2019/07/10155559/Disabled-rail-passengers-research.pdf> [Accessed 26 July 2021]
- Transport Focus. (2021). *Llwyber Newydd – a new Wales transport strategy: Consultation response*. [Online]. Available at: <https://d3cez36w5wymxi.cloudfront.net/wp-content/uploads/2021/02/01150144/Wales-Transport-Strategy-Transport-Focus-response.pdf> [Accessed 26 July 2021]
- UK Parliament . (2010). *Equality Act* . [online] Available at: <https://www.legislation.gov.uk/ukpga/2010/15/contents> [Accessed 10 March 2021]
- Valleys Regional Park. (2020). *Green & Open Space Survey*. [Online]. Available at: <https://valleysregionalpark.wales/wp-content/uploads/2020/12/Valleys-Regional-Park-Green-Open-Space-Survey.pdf> [Accessed 26 February 2021]
- Vivid Economics and Barton Wilmore. (2020) *Levelling up and building back better through urban green infrastructure: An investment options appraisal*. [Online]. Available at: <https://nt.global.ssl.fastly.net/documents/urban-green-infrastructure-report-2020.pdf> [Accessed 26 February 2021]
- Watson, I., MacKenzie, F., Woodfine, L., and Azam, S. (2019). *Making a Difference. Housing and Health: A Case for Investment*. [Online]. Available at: <https://phw.nhs.wales/files/housing-and-health-reports/a-case-for-investment-report/> [Accessed 28 July 2021]
- Weissenborn, F., Neelala, K. and Carmichael, L. (2021). *A Future Place Report – Placeshaping: Learning from 2020*. [Online]. Available at: <https://www.architecture.com/-/media/GatherContent/Future-Trends-Survey-2020/Additional-Documents/Future-Place-report-Placeshaping-Learning-from-2020.pdf?la=en> [Accessed 16 April 2021]
- Welsh Government. (2017). *Business Wales*. [online] Available at: <https://businesswales.gov.wales/farmingconnect/news-and-events/technical-articles/vertical-farming-new-future-food-production> [Accessed 19 March 2021]
- Welsh Government. (2019a). *Healthy Weight Healthy Wales. Our long term strategy to prevent and reduce obesity in Wales*. [online] Available at: [https://gov.wales/sites/default/files/publications/2019-10/healthy-weight-healthy-wales\\_0.pdf](https://gov.wales/sites/default/files/publications/2019-10/healthy-weight-healthy-wales_0.pdf) [Accessed 4 March 2021]
- Welsh Government. (2019b). *Welsh Index of Multiple Deprivation (WIMD) Results report*. [online] Available at: <https://gov.wales/sites/default/files/statistics-and-research/2020-06/welsh-index-multiple-deprivation-2019-results-report.pdf> [Accessed 19 March 2021]

Welsh Government . (2020a). *Building Better Places. The Planning System Delivering Resilient and Brighter Futures. Placemaking and the Covid-19 recovery.* [Online] Available at: <https://gov.wales/sites/default/files/publications/2020-07/building-better-places-the-planning-system-delivering-resilient-and-brighter-futures.pdf> [Accessed 25 February 2021]

Welsh Government. (2020b). *Llwybr Newydd. A New Wales Transport Strategy Consultation Draft. Supporting Information Transport data and trends.* [online] Available at: <supporting-information-transport-data-and-trends.pdf> (gov.wales) [Accessed 2 November 2021]

Welsh Government. (2020c). *Aim for 30% of the Welsh workforce to work remotely.* [Online]. Available at: <https://gov.wales/aim-30-welsh-workforce-work-remotely> [Accessed 26 April 2021]

Welsh Government. (2020d). *Up to £65 million set aside to keep Wales' railway running.* [Online]. Available at: <https://gov.wales/65-million-set-aside-keep-wales-railway-running> [Accessed 26 July 2021]

Welsh Government. (2020e). *COVID-19 reconstruction: challenges and priorities.* [Online]. Available at: <https://gov.wales/coronavirus-reconstruction-challenges-and-priorities-html> [Accessed 26 July 2021]

Welsh Government. (2021a). *Future Wales. The National Plan 2040.* [online] Available at: <https://gov.wales/sites/default/files/publications/2021-02/future-wales-the-national-plan-2040.pdf> [Accessed 26 February 2021]

Welsh Government. (2021b). *Planning Policy Wales. Edition 11.* [online] Available at: [https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11\\_0.pdf](https://gov.wales/sites/default/files/publications/2021-02/planning-policy-wales-edition-11_0.pdf) [Accessed 26 February 2021]

Welsh Government (2021c). *Technical Advisory Group, Examining Deaths in Wales associated with COVID-19, 24 March 2021.* [Online] Available at: <https://gov.wales/sites/default/files/publications/2021-03/technical-advisory-group-examining-deaths-in-wales-associated-with-covid-19.pdf> (Accessed 21 October 2021)

Welsh Government. (2021d). *Town Centres in Wales to benefit from £15.2 million placemaking fund.* [Online]. Available at: <https://gov.wales/town-centres-wales-benefit-placemaking-fund> [Accessed 26 April 2021]

Welsh Government. (2021e). *Welsh Development Quality Requirements 2021, Creating Beautiful Homes and Places.* [Online]. Available at: [Welsh Development Quality Requirements 2021 \(gov.wales\)](Welsh Development Quality Requirements 2021 (gov.wales)) [Accessed 29 October 2021]

Welsh Government. (2021f). *Llwybr Newydd: the Wales transport strategy 2021.* [online] Available at: <Llwybr Newydd: the Wales Transport Strategy 2021 | GOV.WALES> [Accessed 04 November 2021]

Welsh Parliament. (2020). *Effectiveness of Local Planning Authorities in Wales.* [online] Available at: <https://business.senedd.wales/documents/s102542/Committee%20Report%20-%20Effectiveness%20of%20Local%20Planning%20Authorities%20in%20Wales%20June%202020%20PDF%201196KB.pdf> [Accessed 10 March 2021]

Women's Budget Group. (2019). *Public transport and Gender.* [Online]. Available at: <https://wbg.org.uk/wp-content/uploads/2019/10/TRANSPORT-2019-1.pdf> [Accessed 27 July 2021]

Woodfine, L., Green, L., Evans, L., Parry-Williams, L., Heathcote-Elliott, C., Grey, C.N.B., Irving-Clarke, Y., Kennedy, M., May, C., Azam, S. and Bellis, M.A. (2021). *No place like home? Exploring the health and well-being impact of COVID-19 on housing and housing insecurity. Main Report.* Cardiff, Public Health Wales NHS Trust.

World Health Organisation. (2020). *WHO Manifesto for a Healthy Recovery from COVID-19.* [online] Available at: [https://www.who.int/docs/default-source/climate-change/who-manifesto-for-a-healthy-and-green-post-covid-recovery.pdf?sfvrsn=f32ecfa7\\_8](https://www.who.int/docs/default-source/climate-change/who-manifesto-for-a-healthy-and-green-post-covid-recovery.pdf?sfvrsn=f32ecfa7_8) [Accessed 19 February 2021]

Wrexham County Borough Council. (2011). *Local Planning Guidance Note 9. Hot Food Take-Aways.* [online] Available at: <https://www.wrexham.gov.uk/sites/default/files/2020-02/lpg-9e.pdf> [Accessed 4 March 2021]

Xie, J., Luo, S., Furuya, K. and Sun, D. (2020). *Urban Parks as Green Buffers During the COVID-19 Pandemic.* Sustainability; 12(17):6751. [Online]. Available at: <https://doi.org/10.3390/su12176751> [Accessed 30 April 2021]

# Our Priorities 2018-2030

**Building and mobilising knowledge and skills** to improve health and well-being across Wales

**Influencing the wider determinants of health**

**Improving mental well-being and resilience**

**Promoting healthy behaviours**

**Working to Achieve a Healthier Future for Wales**

Supporting the development of a sustainable **health and care system** focused on **prevention** and early intervention

**Protecting the public** from infection and environmental threats to health

Securing a **healthy future** for the next generation

**Our Values:**

*Working together with trust and respect to make a difference*



World Health Organization  
Collaborating Centre on Investment  
for Health and Well-being



GIG  
CYMRU  
NHS  
WALES

Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales

Public Health Wales  
Number 2 Capital Quarter  
Tyndall Street  
Cardiff CF10 4BZ  
Tel: +44 (0)29 2022 7744

Email: [generalenquiries@wales.nhs.uk](mailto:generalenquiries@wales.nhs.uk)



@PublicHealthW



/PublicHealthWales

[phw.nhs.wales](http://phw.nhs.wales)