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

GIG CYMRU NHS WALES | Iechyd Cyhoeddus Cymru Public Health Wales

P6.6 Areas facing multiple disadvantage

Characterisation of impact on areas of multiple disadvantage

Positive impacts/opportunities			Negative impacts		
Intensity	Likelihood	Duration	Intensity	Likelihood	Duration
			Minimal to Major	Confirmed to Possible	S to L

Confirmed · Probable · Possible · Major · Moderate · Minimal · S Short term · M Medium term · L Long term

How does climate change impact areas facing multiple disadvantage?

Positive impacts / opportunities

- None identified

Negative impacts

- Increased vulnerability across multiple domains of disadvantage linked to physical and mental health, low income; housing quality, physical environment, access to services
- Increased vulnerability linked to levels of physical and mental health problems

People living in areas facing multiple disadvantage in Wales, as identified in the Welsh Index of Multiple Deprivation[1] (WIMD) (Welsh Government, 2019), may face cumulative and co-occurring vulnerabilities to climate change impacts linked to the domains of the WIMD. For example:

- **Low income** (see Section P4.1): people on a low income have less resources to prepare, respond and recover to climate related impacts
- **Poor quality housing** (see Section D5.1): housing may already be in poor condition and residents may have less resources to adapt or repair home
- **Health** (See Section P3.2): people with a number of long term physical and mental health conditions are more vulnerable to a number of impacts arising from climate change
- **Access to services** (see Sections D7.1): extreme weather linked to climate change may impact further on access to services, particularly for rural communities
- **Physical environment** (see Sections D5.2, D5.3, D5.6): communities that are already exposed to poor air quality may experience further deterioration linked to climate change and flood risk may also increase; people living in areas of greater deprivation in this domain may already have less access to high quality green space as a mitigation.

1 It is important to note that WIMD does not provide a measure of the level of deprivation in an area but provides insights by measuring concentrations of relative deprivation. Many non-deprived people live in deprived areas, and many deprived people live in non-deprived areas (Welsh Government, 2019).

In addition, the health impacts of climate change are not limited to disadvantaged and low income areas (Kovats and Brisley, 2021). Identification of geographical areas that are vulnerable to health and wellbeing impacts arising from climate change can be considered spatially by analysis of multiple indicators of vulnerability at the local area or neighbourhood level (Lindley et al., 2011). Lindley et al. (2011) proposed a series of *"conversion factors"* which are *"personal, environmental and social factors that determine how positive or negative events are converted into gains and losses in wellbeing"* (p. 6).

Lindley et al. (2011) make clear that *"social vulnerability is associated with multiple conversion factors and not all are of equal importance. They should not really be treated as being of equal weight"* and that some factors may be difficult to represent as indicators, or may lack appropriate data sources. These conversion factors are summarised in Table 1 below for both flood and heat disadvantage.

Table 1: Conversion factors (Lindley et al., 2011)

Factor	Flooding	Heat
Environment	Physical characteristics of housing* Drainage Green space*	Green space* Building elevation Neighbourhood characteristics
Social	Income* Social networks Insurance	Social networks Institutional routines Independence and control of environment
Personal	Age Health*	Age Health*

**Conversion factors represented in the Welsh Index of Multiple Deprivation*

Whilst some of these conversion factors are represented in the WIMD, others are not and the relative weighting of the factors used in WIMD (See Table 2) requires careful consideration in applications that aim to assess climate disadvantage. For example, the housing domain accounts for 7% of total disadvantage in WIMD, and the physical environment is weighted at 5%.

Therefore, additional indicators such as age (older and younger), rurality, coastal location, built and neighbourhood environment and social capital are relevant to area based assessment of the impacts of climate change.

Table 2: Domains of the Welsh Index of Multiple Deprivation (WIMD) (Welsh Government, 2019)

Domain	Includes	Weighting
Income	Tax Credit Recipients, Income related benefits claimants, Supported Asylum Seekers	22%
Employment	Jobseeker's Allowance (JSA) claimants; Employment and Support Allowance (ESA) claimants; Incapacity Benefit (and Severe Disablement Allowance) claimants; Universal Credit (UC) claimants who are not in employment	22%
Health	GP-recorded chronic conditions; GP-recorded mental health conditions; Limiting long-term illness; premature deaths; Cancer Incidence; Low Birth Weight; children who are obese	15%
Education	Key Stage 4 outcomes, Key Stage 2 outcomes, absenteeism, adults with no qualifications, Foundation Phase average score, Key Stage 4 leavers into Higher Education	14%
Access to Services	Pharmacy, food shop, GP Surgery, Post Office, broadband, schools, library, petrol station, sports facility	10%
Housing	Overcrowding (50%); likelihood of poor quality housing (50%)	7%
Community safety	Police recorded violence crime, anti-social behaviour, criminal damage, theft, burglary. Fire incidences.	5%
Physical Environment	Air quality (40%), flood risk (40%), green space (20%)	5%

Relevant statistics

- **The local authority with the highest proportion of small areas in the most deprived 10% in Wales in WIMD 2019 was Newport (24.2%). Blaenau Gwent had the highest percentage of areas in the most deprived 50% in Wales (85.1%)** (Welsh Government, 2019).
- **For the income domain, the local authorities with the highest proportion of areas in the most deprived 10% were Newport, Merthyr Tydfil and Cardiff, all at around 20%. Monmouthshire had no areas in the most deprived 10%** (Welsh Government, 2019).
- **For the health domain, the most deprived small area in Wales was Caerau 1 (which covers Caerau Park and the Tudor Estate) in Bridgend (ranked 6 in the WIMD 2014 health domain), followed by Rhyl West 2 in Denbighshire (ranked 1 in the WIMD 2014 health domain)** (Welsh Government, 2019).
- **The local authorities with the highest proportion of small areas in the most deprived 10% in Wales for access to services were Powys (50.6%) and Ceredigion (50.0%)** (Welsh Government, 2019).
- **The local authority with the highest concentration of areas in the most deprived 10% for housing was Ceredigion (28.3%). Merthyr Tydfil had the highest percentage of areas in the most deprived 50% in Wales (86.1%)** (Welsh Government, 2019).
- **The local authorities with the highest concentration of areas in the most deprived 10% for physical environment were Newport (43.2%) and Cardiff (43.0%). Whereas Blaenau Gwent, Conwy, Isle of Anglesey, Pembrokeshire and Wrexham had no areas in the most deprived 10%** (Welsh Government, 2019).

- **The GP recorded chronic health condition rate was 22 per 100 people in Lower Super Output Areas (LSOAs) in deep-rooted deprivation[2], compared to 14 per 100 for LSOAs never ranked in the top 50 most deprived** (Welsh Government, 2022).
- **The percentage of people in income deprivation in LSOAs in deep-rooted deprivation (43%) was almost 3 times that of areas that have never been ranked in the top 50 most deprived (15%). It was also around 3 times the Wales average (16%)** (Welsh Government, 2022).

Reference for this document

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2 Defined as an area being in the top 50 most deprived areas for the last 5 publications of WIMD