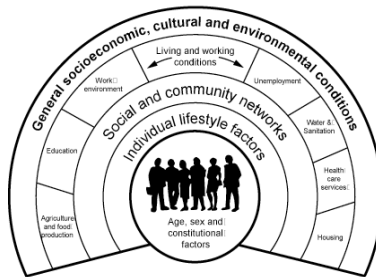


6.4 Factors affecting health and well-being

The root causes of ill health are so varied that they cannot be dealt with by focusing on illness alone, or by defining health simply as the absence of illness. This section considers each of the determinants of poor health and health inequalities and sets out Welsh Assembly Government initiatives that address these, with a particular focus on poverty, education, housing, transport, crime and employment. Examples of local action that can positively influence health are also provided. When people think about health, they tend to think about illness and access to specific NHS facilities, such as the local doctor's surgery or the nearest hospital. While these services are important, they are just a part of the range of things that influence health. Improving health will mean addressing the wider determinants of health as well as 'lifestyle factors', such as diet, exercise, smoking, and misusing alcohol and drugs. This is known as a socio-economic model of health, and Figure 1 shows the main determinants of health as layers of influence.

Figure F1. The Main Determinants of Health
(Whitehead & Dahlgren, Tackling Inequalities in Health, 1996)



At the centre are individuals, each with given factors that influence their health such as age, sex and constitution (such as genetic makeup). Surrounding the individuals are layers of influence that in theory can be modified. The innermost layer represents the personal behaviour of the individuals, and includes factors such as smoking and exercise, which have the potential to promote or damage health. Individuals do not exist in a vacuum: they interact with friends, relatives and their community, and come under the social influences represented in the next layer. Mutual support within a community can sustain the health of its members in

otherwise unfavourable conditions. The wider influences on health (shown in the third layer) include living and working conditions, food supplies and access to essential services. Finally, there are the cultural, economic and environmental conditions prevalent in society as a whole, represented in the outermost layer. All of the layers interact with each other.

Income and social status

Poor social and economic circumstances affect health and well-being throughout life. People further down the social ladder usually run at least twice the risk of serious illness and premature death of those near the top. Between the top and bottom, health standards show a continuous social gradient, which reflects material disadvantage and the effects of insecurity, anxiety and lack of social integration.

Disadvantage has many forms and may be absolute or relative. It can include: having few family assets, having a poorer education during adolescence, becoming stuck in a dead-end job or having insecure employment, living in poor housing and trying to bring up a family in difficult circumstances. These disadvantages tend to concentrate among the same people, and their effects on health are cumulative. The longer people live in stressful economic and social circumstances, the greater the physiological wear and tear they suffer, and the less likely they are to enjoy a healthy old age.

In developed countries, as the difference in income between social groups widens, in general the worse is the overall health status of the population. Less prosperous developed countries with greater income equality between social groups tend to have better public health than more prosperous less equal countries.

Also in developed countries, the main mechanisms that link the socio-economic environment and poor health are likely to be psychosocial stress and other factors which influence personal and social expectations. The socio-economic environment itself determines the level of exposure to physical environmental hazards, such as poor housing; potentially, wealthier people have more choices and can 'buy their way out' of unhealthy environments.

Economy and health

Health and well-being is an economic resource that should be nurtured. Healthy people not only make fewer demands upon the health and social care systems, they are also more productive. Investment for health is not a cost, but rather an investment in economic and social prosperity. Development that is not sustainable can have overall negative health and well-being effects for people, especially from less affluent social groups.

Education and health

Educational attainment offers the greatest potential for improved social and economic circumstances and is a key element in reducing poverty, deprivation or exclusion and thus reducing health inequalities and improving public health.

Maternal education level is a strong predictor of parenting skills and behaviours beneficial to foetal and infant health, including breastfeeding.

Employment and unemployment

Whilst in general employment is healthier than unemployment, there is a legacy of occupationally caused ill-health in many areas. Most exposure to health damaging agents probably occurs in the workplace setting, despite close regulation. Psychosocial stress in the workplace, particularly related to low autonomy at work and 'high effort – low reward' work has been implicated as a determinant of ill-health.

Even after allowing for social class and health status before unemployment, unemployment is closely linked with a number of ill-health conditions and premature deaths.

Community safety and crime

The causes of crime are largely the same socio-economic factors that determine health and well-being. A safe environment, free of crime, contributes significantly to people's sense of well-being. If the social environment becomes unsafe, mental health status is jeopardised; fear of crime is associated with increased anxiety and higher blood pressure, and is significantly associated with poor self-rated health.

Violent crime against the person is clearly an important health determinant, but so too is crime against property. Poor design of built environments creates opportunities for crime and decreases residents' willingness to use local space. Deprived neighbourhoods with vacant properties, unmaintained housing, graffiti and visible signs of criminal activity are strongly related to the fear of crime.

Housing

Adequate shelter is a fundamental pre-requisite for health; therefore homelessness is a fundamental threat to health.

Poor housing has been linked to increased levels of limiting long term illness, respiratory and infectious diseases, injuries, psychological problems and perceived poor general health and even increased mortality. However for some of these outcomes, the socio-economic conditions of people who live in poor housing may partly explain the link. In general worse housing conditions are found in private rented accommodation, older houses and houses in multiple occupation (HMOs).

The highest risks to health in housing are attached to cold, damp and mouldy conditions; the strongest links appear to be between reported illness in children and dampness and mould.

Cold homes contribute to the excess winter mortality in the UK and to a range of symptomatic illness. Fuel poverty is defined as the inability to obtain adequate energy services for 10% of income; the term 'affordable warmth' may be a more appropriate term. A shortage of affordable warmth presents serious health risks for many households in the UK every winter.

The risk of death from fire is higher for people living in HMOs. Falls account for most home injuries that are fatal or requiring hospitalisation. The vast majority of these falls occur to older people mainly on the stairs. Slips and trips due to loose rugs for example and falling from a chair or the bed are also common.

Some aspects of internal air quality in housing, particularly environmental tobacco smoke and carbon monoxide are particularly damaging to health.

Overcrowding and living in high rise flats is associated with psychological symptoms including depression, although the influence of confounding social and economic problems is strong. Anxiety and depression increase with the number of housing problems.

Transport

Transport's primary function is to enable access to people, goods and services, rather than being of benefit in itself (apart from its role in physical activity – walking and cycling). Transport difficulties are a major barrier to access to a range of care services and other public services, employment and healthy diet.

The lack of availability or access to transport, and the negative effects of motor traffic disproportionately affects people in lower socio-economic groups, women, ethnic minorities, children, older people and the mobility impaired. Among this majority group, restrictions on mobility amount to social exclusion because of their restricted access to independent transport compared to those with ready access to a car.

Transport impacts on health in a broad range of ways, some positive, some negative, including physical activity (walking and cycling as part of daily transport), road traffic injuries, air pollution, community severance (see section on social capital below), and noise pollution.

Road traffic speed is a major cause of crashes, and the seriousness of traffic injuries is related to higher speed. The perception of road danger, the emphasis on traffic flow and lack of road space that prioritises pedestrians and cyclists discourages walking and cycling - two of the most important kinds of physical activity.

There is a strong link between level of deprivation of an area and child pedestrian injury and death rates. These collisions between motor vehicles and children are usually scattered around built up areas near children's homes, generally not at a single blackspot. The main risk factors are due to wider roads with higher speed limits, few crossings and high traffic flow; narrow residential streets with parked cars and high speed limits; a lack of area-wide traffic restrictions and calming, and a lack of playgrounds.

Road transport is a major source of noise pollution. The strongest evidence for the effects of environmental noise on health relates to annoyance, sleep disturbance, heart disease and performance by schoolchildren.

Transport and access to services

Women, older people, unemployed people seeking employment/training opportunities and those living in rural areas are relatively disadvantaged in their access to good quality transport. Household car availability has an impact on perceptions of difficulty in accessing key services (hospital, chemist, general practitioner (GP), post office, main food shop): reports of difficulty accessing are nearly twice as high for people in households without a car.

Young people (16-24), and older people (aged 75 and over) have more difficulty in accessing services than the general population – these differences remain even after controlling for different levels of household car availability and other factors.

Social capital and civic engagement

Participation in the social, civic and cultural life of the community is associated with better health. Definitions of social capital vary, but community coordination, cooperation, reciprocity, trust, social integration and supportive relationships are key features. Higher levels of social integration and social connectedness (the degree to which individuals form close bonds with relations, friends and acquaintances) are associated with personal well-being, higher life expectancy and lower death rates from all causes. Better social support is associated with lower levels of anxiety and depression, and may help people to cope better with illness and have better prognoses when ill.

The physical environment, in particular transport and planning play an important part in developing supportive environments within communities where people feel free to walk, cycle, use local facilities and talk with each other. The benefits to health of parks and open spaces (e.g. improved exercise levels, children's play opportunities, social interaction and community activities) outweigh the potential negative effects (e.g. criminal, social or psychological aggression, hayfever).

Food safety

Food safety problems include: diseases caused by micro-organisms (e.g. salmonella and campylobacter bacteria, listeria and E.Coli), naturally occurring toxins, persistent organic pollutants (including dioxins and PCBs (polychlorinated biphenyls)), metals (such as lead and mercury, and unconventional agents such as the agent causing bovine spongiform encephalopathy (BSE)).

The safety of food derived from biotechnology, including the modification of crops to resist pests, needs to be assessed for both potential benefits and hazards to health.

Changes in animal husbandry practices, including feeding may have serious implications for food safety. Adding low levels of antibiotics to animal feed to increase growth rate has raised concerns about the transfer of antibiotic resistance to human pathogens from this practice.

Diet and nutrition

The availability of sufficient quantities of safe nutritious food is a fundamental health determinant. Diet in childhood appears to be a more important explanation of health inequalities than diet in adulthood; poor nutrition in childhood related to family poverty appears to be a significant contributor to adult susceptibility to heart disease and stroke.

Adequate maternal dietary intake of folic acid before conception and in early pregnancy prevents neural tube defects, and breast feeding both promotes general health and prevents disease in infants.

Green vegetables, salads and fruit provide antioxidant vitamins and fibre and are thought to be protective against bowel disease and many cancers. Diets high in saturated fatty acids cause heart disease and stroke; high salt intake causes high blood pressure, heart disease and stroke, and foods high in refined sugars contribute to obesity and dental caries. Obesity is a strong risk factor for coronary heart disease and stroke

Substance misuse

Smoking increases the risk of having a small baby and of suffering heart disease, lung cancer, bronchitis and emphysema, limb amputation and other problems.

In moderation, **alcohol** is probably beneficial to health; however, in excess, alcohol causes cirrhosis of the liver and high blood pressure, in addition to social problems (including violent behaviour) and road traffic injuries.

Physical activity

Regular strenuous physical activity has a protective effect for heart disease and stroke, builds bone mass, improves posture and helps control body weight. Physical activity can also improve mental health and well-being.

Health protection / prevention

Within the domain of clinical medical and health care services, preventive medicine such as immunisation and preventive maternal and child health (rather than 'curative' services) has historically been of greatest value in advancing population health and reducing health inequalities.

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6.4.1. LIFESTYLE FACTORS AFFECTING GROWTH AND DEVELOPMENT

TABLE L1. Some measures of health related Lifestyle – United Kingdom and its near European Union neighbours

COUNTRY \ LIFESTYLE FACTOR	Smokers among 15 year olds %	Smokers among adults %	Total alcohol consumption litres/person 2000	Consumption of spirits Litres/person 2000	Cases of microbiological foodborne diseases per 10 ⁵ population	Deaths from work related accidents per 10 ⁵ population	Motor vehicle traffic accidents per 10 ⁵ population	Motor vehicle traffic accidents. Deaths per 1,000 accidents	Motor vehicle traffic accidents. Deaths per 10 ⁵ population
UNITED KINGDOM	17.7 (2000)	27 (2000)	7.9	1.6	164.1 (2000)	0.4 (2000)	391 (2000)	15 (2000)	5.87
NETHERLANDS	19.2 (2001)	35 (2001)	7.7	1.7	NA	0.6 (2000)	263 (1997)	27 (1997)	7.10
FRANCE	19.8 (2000)	27 (2000)	10.8	2.4	19.1 (1992)	1.2 (1999)	212 (1999)	(63 1999)	13.36
GERMANY	27.5 (2000)	35 (2000)	10.4	1.9	238.5 (2000)	1.4 (2000)	482 (1999)	19 (1999)	9.16
SWEDEN	9.8 (2001)	19 (2001)	5.4	1.0	NA	0.7 (2000)	179 (1999)	32 (1999)	5.73

Source Atlas of Health in Europe, WHO 2003

On most measure the UK performs on a par with the Netherlands, slightly worse than Sweden but significantly better than France and Germany.

TABLE L2. Some measures of health related Lifestyle – Ceredigion, its Subunits and Comparators

PARAMETERS AREA	% Of Population Smoking (1998)	Age Standardised Ratio	% Of Population Obese (1998)	Age Standardised Ratio	Diet - % Veg/Fruit 6/7 Per Week (1998)	Exercise % No Weekly Exercise (1998)	Alcohol % Harmful Alcohol Use (1998)	Young Teenage Conceptions < 16 Yrs. Rate Per 1,000 Population (1999-01)	Teenage Conceptions < 18 Yrs. Rate Per 1,000 Population (1997-99)	Teenage Conceptions < 20 Yrs. Rate Per 1,000 Population (1997-99)
CEREDIGION	24.2	90.8	14.7	98.2	30.9	10.3	12.0	4.0	29.0	35.5
Ceredigion North										
Ceredigion Mid West										
Ceredigion Mid East										
Ceredigion South										
WALES	26.8	100	15.8	100	23.9	13.5	13.8	9.0	53.4	69.5
Highest in Wales	31.2 MT	114.8 Anglesey	20.2 Caerphilly	122.9 NPT	34.9 Conwy	19.8 MT	16.7 Cardiff	14.5 MT	75.3 BGwent	95.8 Caerphilly
Lowest in Wales	22.2 Powys	82/7 Powys	12.8 Conwy	79.8 Flint	15.8 BGwent	8.5 Monmouth	10.7 Denbigh	4.0 Ceredigion	28.2 Monmouth	35.5 Ceredigion
E & W/UK/GB										
EUROPE										

Source: Welsh Health Survey 1998

On all measures Ceredigion performed better than Wales as a whole and in some instances eg Very young teenage conception rate and all teenage conception rate its performance is the best in Wales

TABLE L3. Some measures of health related lifestyle in Ceredigion, its Subunits and Comparators

PARAMETERS AREA	% Of Employed Persons Travel To Work On Foot	% Of Employed Persons Travel To Work By Cycle	Average Weekly Hours Worked Male KS10	Average Weekly Hours Worked Female KS10	Terminations Of Pregnancy Age Adjusted Rate 2000 (ONS)	Live Birth Rate Per 1,000 Females Age 15 - 44 Years 2001	Conception Rates All Ages, Rate Per 1,000, Females Age 15 - 44 Years 2000	Maternity Rates, All Ages, Rate Per 1,000 Females Age 15-44 Years 2000	Overweight Persons Age 18 - 64 Years % 1996
CEREDIGION	12.94	1.04	43.96	32.63	10.9	38.0	50.3	78.5	34.7 (DPHA)
Ceredigion North	18.4	1.7							
Ceredigion Mid West	6.6	0.3							
Ceredigion Mid East	10.2	0.7							
Ceredigion South	10.5	0.8							
WALES	10.35	1.38	42.34	31.16	13.8	53.5	66.3	80.3	35.2
Highest in Wales	13.2 Cardiff	2.70 Cardiff	45.70 Powys	32.63 Ceredigion	18.1 Wrexham	57.6 Caerphilly	73.4 Conwy	83.2 Monmouth	37.0 (Gwent HA)
Lowest in Wales	7.18 Flint.	0.51 RCT	40.90 Cardiff	30.19 NPT	10.9 Ceredigion	38.0 Ceredigion	50.3 Ceredigion	77.9 Cardiff	34.5 (NWales HA)
E & W/UK/GB	10.0 E&W	2.8 E&W							
EUROPE									

Sources National Census 2001 and HealthShow

On the basis of the above figures it appears that the residents of Ceredigion walk more than average to work but cycle less than average; work longer hours than the average particularly the women; have lower termination of pregnancy and live birth and conception rates than the average; and are less overweight than the average. With walking to work not unexpectedly North Ceredigion has the highest rate and Mid West Ceredigion the lowest; the same pattern applies for cycling to work.

TABLE L4. Prevalence of Persons seeking receiving treatment for Substance Misuse, Ceredigion its County Subunits and Comparators

PARAMETERS AREA	Treatment rate per 1000 persons aged 20-24 2001-02
CEREDIGION	16
Ceredigion North	
Ceredigion Mid West	
Ceredigion Mid East	
Ceredigion South	
WALES	38 (median)
Highest in Wales	122
	Merthyr T
Lowest in Wales	10
	Pemb
E & W/UK/GB	
EUROPE	

Source: Regional Substance Misuse Database

The reported prevalence of people receiving treatment for Substance Misuse in Ceredigion is in fact the fourth lowest in Wales and substantially below the Wales median prevalence. However the figure is almost certainly deflated by the large number of students in the County.