

## 3. Determinants of health

The determinants of health of older persons are multifactorial and most are not exclusive to older persons. Many lie beyond the NHS and require multi-agency data to be gathered in order to measure them.

The single most important determinant of health is, of course, age. However, as has been mentioned earlier, chronological age need not define a person's state of health.<sup>1</sup> Lifetime exposure to various risks and hazards will have a major bearing on health in older age. So, although older persons are no longer in employment, their exposure to hazards at the workplace earlier in life has been shown to affect health and socio-economic status in old age.<sup>15</sup> Despite this, there is a growing body of evidence to suggest that, even in later life, risk modification can have health benefits for individuals.<sup>16</sup>

This chapter will examine the following determinants of health:

- lifestyle;
- socio-economic status and income;
- housing;
- access.

In addition, information gaps on determinants of health among older people will be highlighted.

### 3.1 Lifestyle

Lifestyle may have a major impact on health status. The affects of an unhealthy lifestyle are cumulative and therefore may have the greatest impact later in life. A healthy lifestyle may help persons to delay the affects of old age, enabling them to lead fulfilling and independent lives for longer.

There are no routine data on the lifestyle of older persons in Wales. The most recent Welsh Health Survey, conducted in 1998, was based on a sample of just over 50,000 persons aged 18 years and over. Responses were received from around 29,000 people, of whom about 6,500 were aged 65 years and over. Using these data it is possible to show information at local authority level for some measures, whilst for others it is only prudent to show information at the all-Wales level due to random variation associated with small numbers of events.

The current Welsh Health Survey is being undertaken with data collection over a two year period. Results for the first full year of the survey will be published in 2005, with results for the second year published in 2006.<sup>17</sup>

The analyses in this section showing local authority comparisons are based on small numbers. Therefore, even where areas differ markedly from the Welsh average, statistical significance may not always be demonstrated due to the small sample size. This is especially the case in local authorities with small populations such as Merthyr Tydfil.

**Figure 3.1.1**

**% who eat green vegetables/salad 6/7 days a week, persons by age group, Wales, 1998** Source: Welsh Health Survey

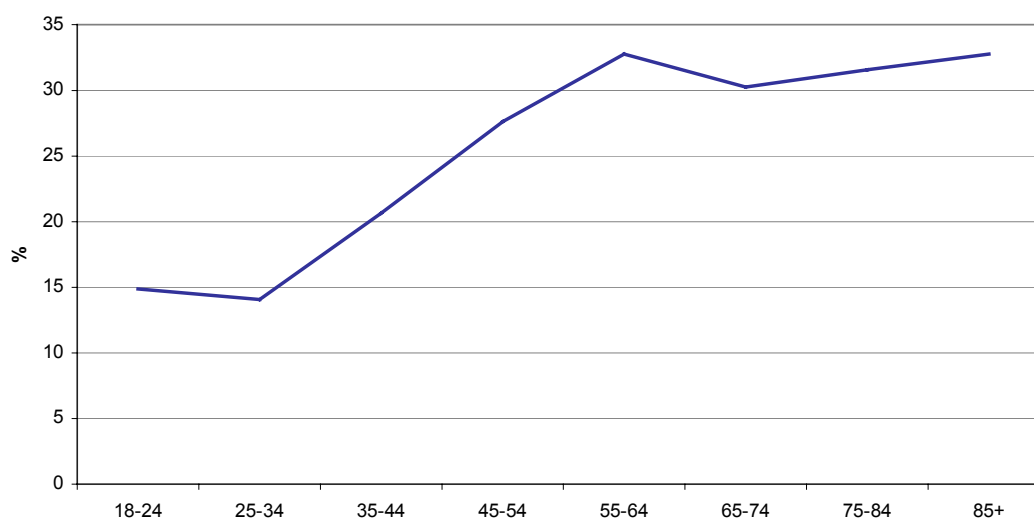


Figure 3.1.1 shows the percentages of persons who eat green vegetables and/or salad six or seven times a week in Wales by age group. The chart illustrates that there are higher proportions of older people eating green vegetables and salads on a more regular basis than younger people.

Consumption of fresh fruit and vegetables has been shown to be associated with higher education level and occupational status.<sup>18</sup> Diet can be a key factor in determining an individual's health, as diets containing a high fruit and vegetable intake can have a preventative impact on cardiovascular diseases and certain cancers.<sup>19</sup> Further research suggests that there is a correlation between healthy food options and other health promoting behaviours.<sup>19</sup> A balanced diet including fruit and vegetables helps reduce the risk of cardiovascular disease, strokes, and cancer.<sup>16</sup> In addition, persons eating a balanced diet are less likely to be overweight. Overweight and obesity are associated with a higher risk of developing diabetes and a higher prevalence of osteoarthritis in the knees.<sup>16</sup>

**Figure 3.1.2**

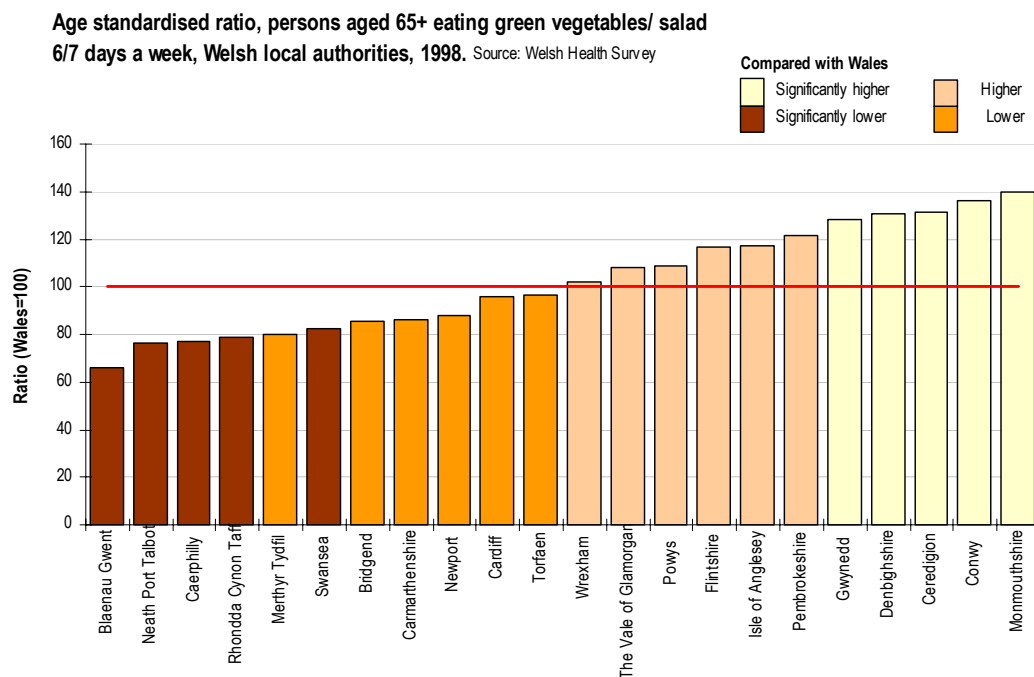


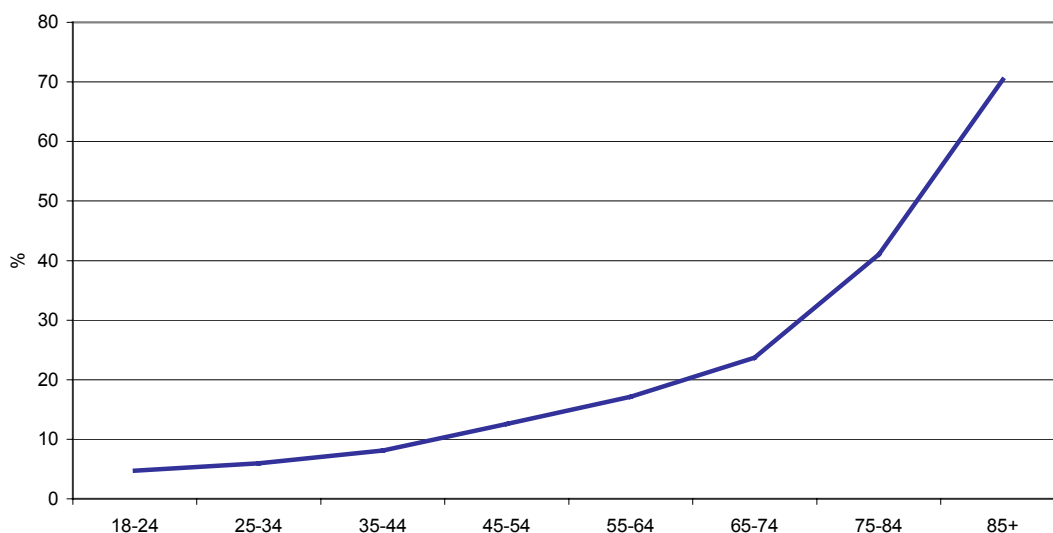
Figure 3.1.2 shows age standardised ratios for persons aged 65+ for consumption of green vegetables and/or salad six or seven days a week.

The chart shows that consumption of green vegetables and salad is significantly higher than the Welsh average in Monmouthshire, Conwy, Ceredigion, Denbighshire and Gwynedd. Consumption is significantly lower in Blaenau Gwent, Neath Port Talbot, Caerphilly, Rhondda Cynon Taff and Swansea.

**Figure 3.1.3**

**% who do not take weekly exercise, persons by age group, Wales, 1998**

Source: Welsh Health Survey



Activity and exercise improve physical health, increase the sense of well being and also tend to promote more positive social interaction. This, in turn, may promote positive mental health.<sup>16</sup> Figure 3.1.3 shows the percentage of persons who do not take weekly exercise<sup>‡</sup> by age group. The chart shows that older people are less active than younger people. There are associations between lack of physical activity and higher rates of diseases such as colon cancer, coronary heart disease, anxiety and depression.<sup>20</sup> Adapted exercise, even for very frail older people, can help to maintain strength, mobility and balance, and can reduce the risk of falling.<sup>16</sup>

<sup>‡</sup> The WHS define this as less than 30 minutes continuous vigorous, moderate or light exercise in the past seven days

**Figure 3.1.4**

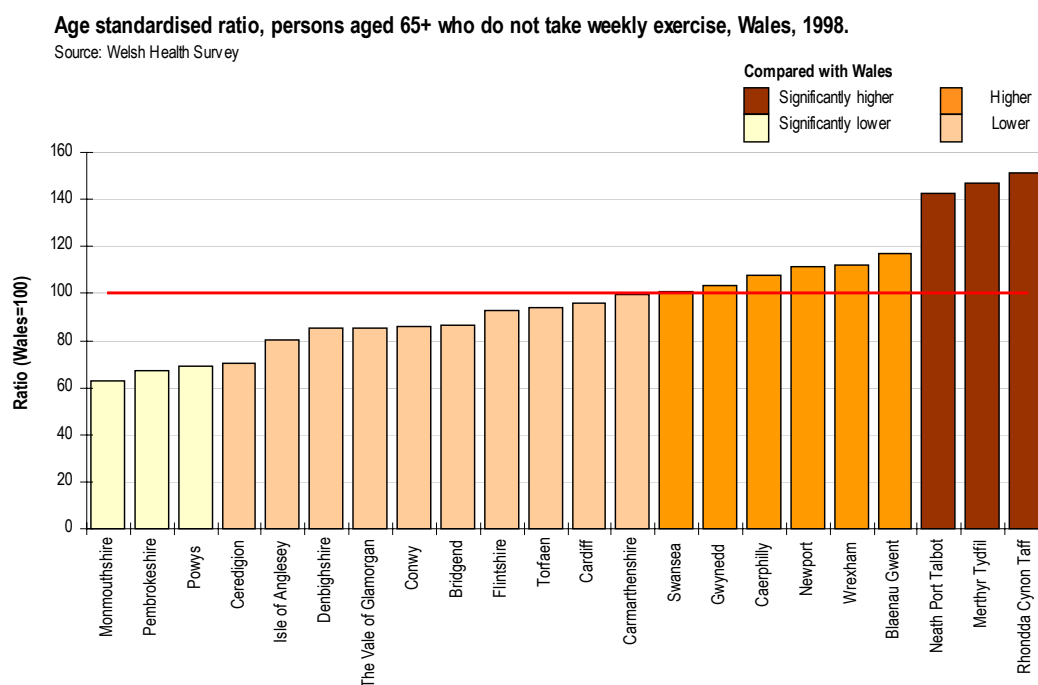


Figure 3.1.4 shows age standardised ratios for those aged 65 and over who do not take weekly exercise. The chart shows that levels of physical inactivity are significantly higher in Rhondda Cynon Taff, Merthyr Tydfil and Neath Port Talbot, whilst older persons in Monmouthshire, Pembrokeshire and Powys have significantly lower levels of inactivity.

**Figure 3.1.5**

**% who smoke (daily or occasionally), persons by age group, Wales, 1998**

Source: Welsh Health Survey

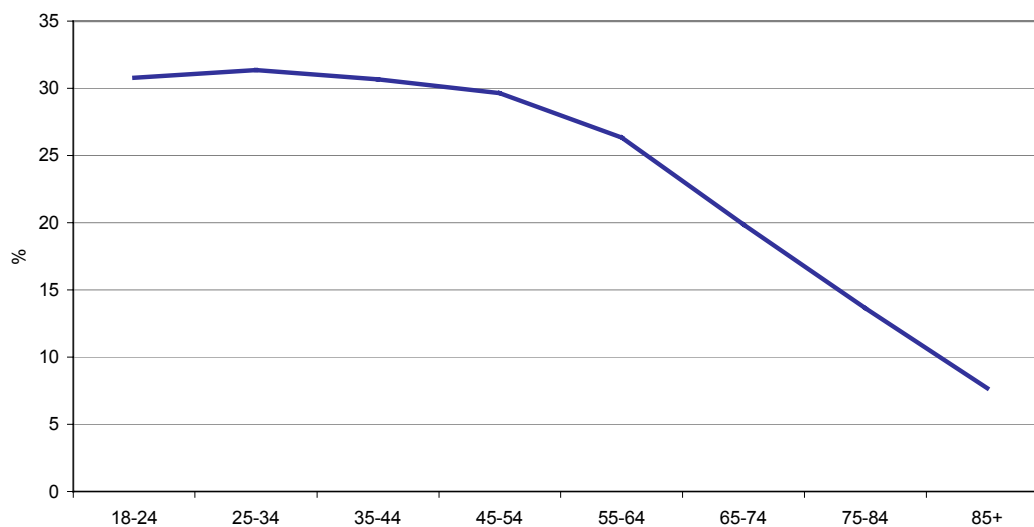


Figure 3.1.5 shows the percentage who smoke in Wales by 10-year age group. The chart shows a reduction in the proportion of smokers amongst the elderly in comparison to the younger age groups.

In the 70 years and over age group, 21 per cent of deaths in men and 15 per cent of deaths in women are attributable to smoking. The average number of years of life lost due to smoking in this age group is eight.<sup>21</sup> Figure 3.1.6 shows age-standardised ratios of those aged 65 and over who smoke. The data include both daily and occasional smokers. Research has shown that the more socio-economically disadvantaged a person, the more likely they are to take up smoking and the less likely they are to stop.<sup>22</sup> Furthermore, the adverse health affects of smoking are cumulative and life-long. Smokers are less likely to reach old age and are more likely to suffer from chronic ill-health if they do reach old age.<sup>21</sup>

**Figure 3.1.6**

**Age standardised ratio, persons aged 65+ who smoke (daily or occasionally), Wales, 1998.** Source:

Welsh Health Survey

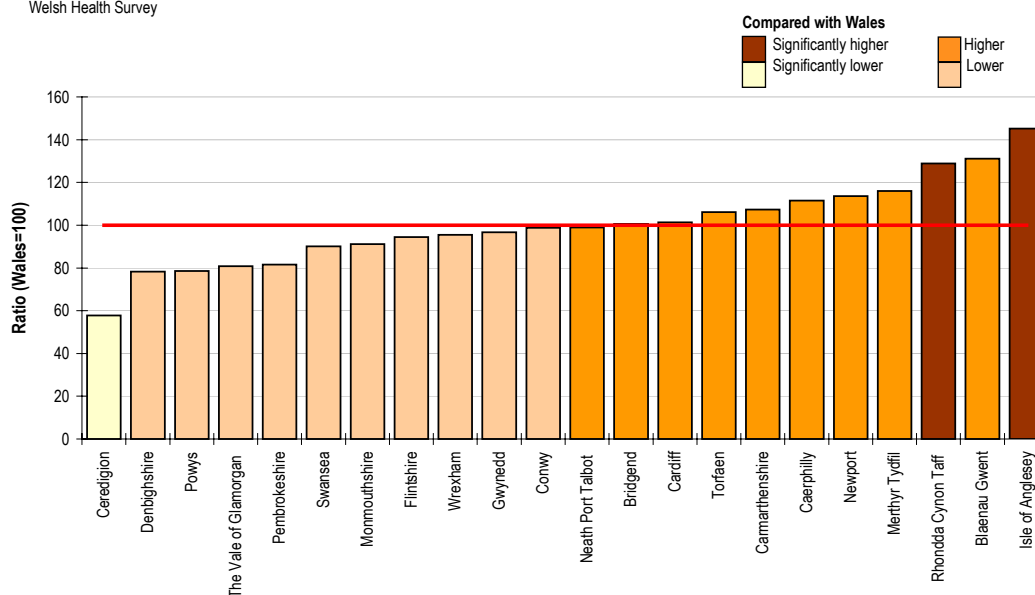


Figure 3.1.6 shows significantly higher ratios of smokers aged 65+ in the Isle of Anglesey and Rhondda Cynon Taff, whilst a significantly lower ratio is found in Ceredigion. In the other areas, the sample of the elderly population included in the Welsh Health Survey was not large enough to demonstrate statistically significant differences from the Welsh average.

**Figure 3.1.7**

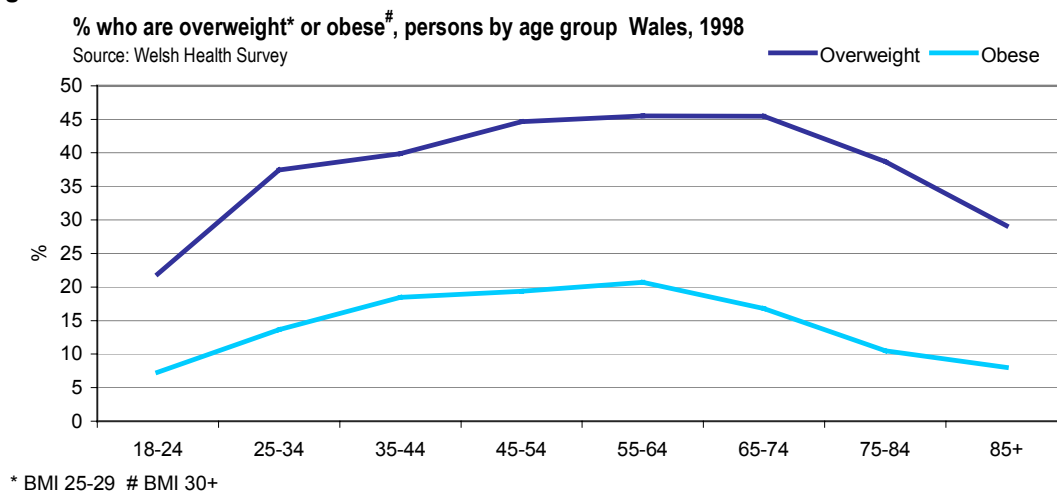


Figure 3.1.7 illustrates the proportion of those classed as overweight or obese in Wales by age group. Obesity is associated with several health risk factors, such as diabetes, high cholesterol and high blood pressure.<sup>23</sup> It is possible that the decrease amongst the age groups 65+ may be partly attributed to premature death.

**Figure 3.1.8**

**% who drink a harmful level of alcohol each week, persons by age group Wales, 1998**  
Source: Welsh Health Survey

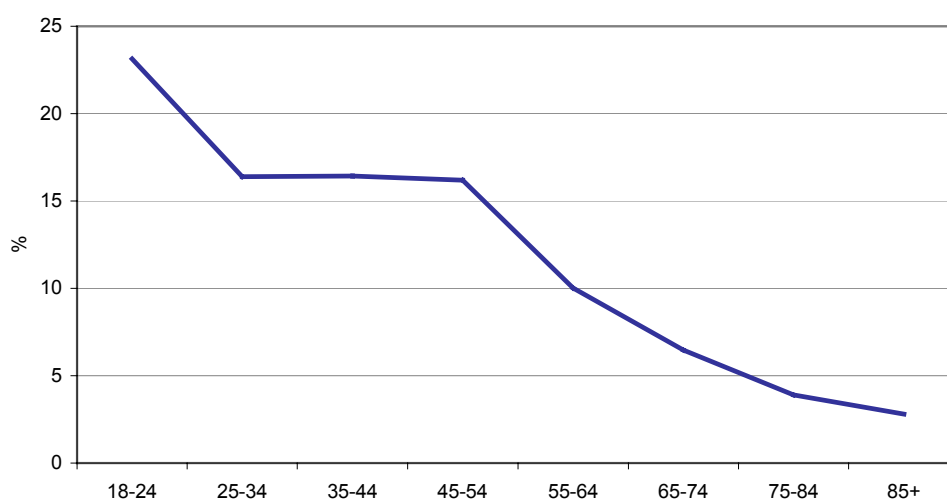


Figure 3.1.8 shows the percentage of those who drink a harmful level of alcohol each week<sup>§</sup>. The data suggest that older people are far less likely to drink heavily compared to the younger age groups. However, alcohol consumption is an issue amongst the elderly as O'Connell *et al*<sup>24</sup> suggest that alcohol abuse amongst the elderly is underestimated due to the fact that there is insufficient screening and other forms of detection which tend to focus on younger age groups.<sup>24</sup>

<sup>§</sup> Harmful levels of alcohol are defined by the WHS as 22 units or more per week for men and 15 units or more per week for women

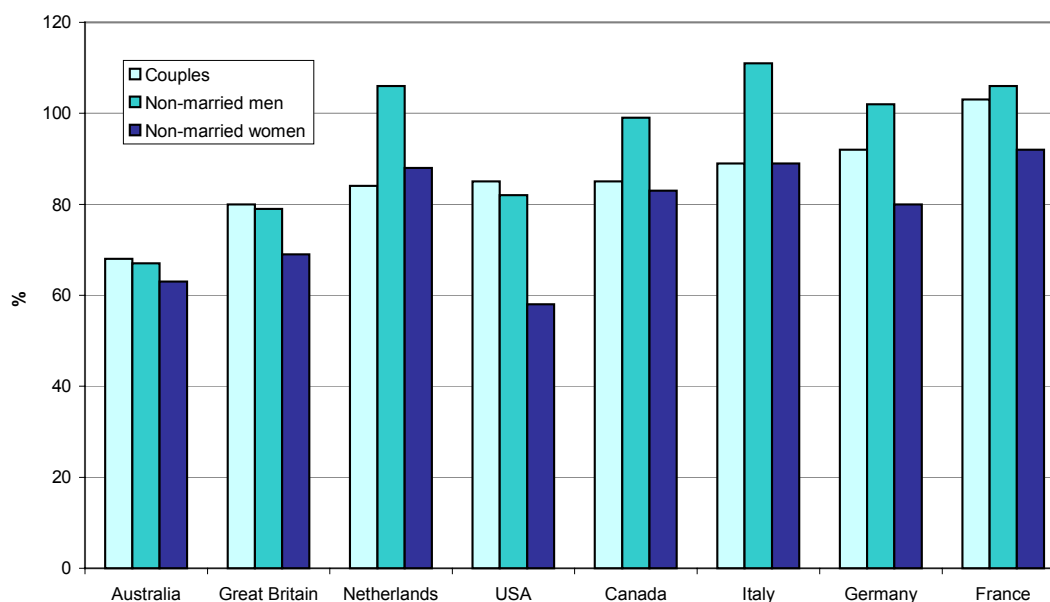
## 3.2 Socio-economic deprivation

In common with the population as a whole, socio-economic deprivation is a major determinant of health. Among older persons, the cumulative affect of lives lived in poor socio-economic conditions has been shown to impact upon health in old age.<sup>15</sup>

Upon retirement from work, income falls for the vast majority of persons. Those who were in low paid employment when working rely on the State pension and supplementary benefit such as Income Support to meet the minimum income level set by Parliament. Figure 3.2.1 shows the income of pensioners relative to non-pensioners for selected developed countries broken down by marital status and sex. The graph shows that in Great Britain, pensioner incomes are less than 80 per cent of those of the working age population. Compared to other European countries, pensioner incomes are relatively lower, but pensioners are relatively better-off in Great Britain than in Australia or the USA in the case of non-married women. It is clear that older single and widowed women are a particularly vulnerable group<sup>1</sup> since many women of the older generations have never worked.

**Figure 3.2.1**

**Incomes of pensioners<sup>#</sup> as a percentage of incomes of non-pensioners: selected countries.** Source: Disney and Johnson, 2001<sup>25</sup>



<sup>#</sup>Pensioners are defined as all people aged 65 and over and all retired people aged 60 to 64. Couple incomes are equivalised using a factor of 0.7 for the second adult. Incomes are total net.

Measuring socio-economic deprivation among the elderly is more difficult than for persons of working age. A number of studies have investigated the appropriateness of various measures<sup>15</sup>. The Acheson report<sup>26</sup> noted the lack of reliable information on health at older ages in relation to social class and other indicators of socio-



economic position. This profile includes the following indicators and considers any associated caveats:

- receipt of Income Support, a means-tested benefit;
- housing tenure.

Research has shown that the Registrar General's social class measure is a good indicator of socio-economic status among older people since it is based upon a person's last main occupation. Unfortunately, the 2001 Census does not include this measure, but instead uses socio-economic group. This allows 'social grade' to be derived, but the Market Research Society has advised that the measure is unreliable in persons who are retired.

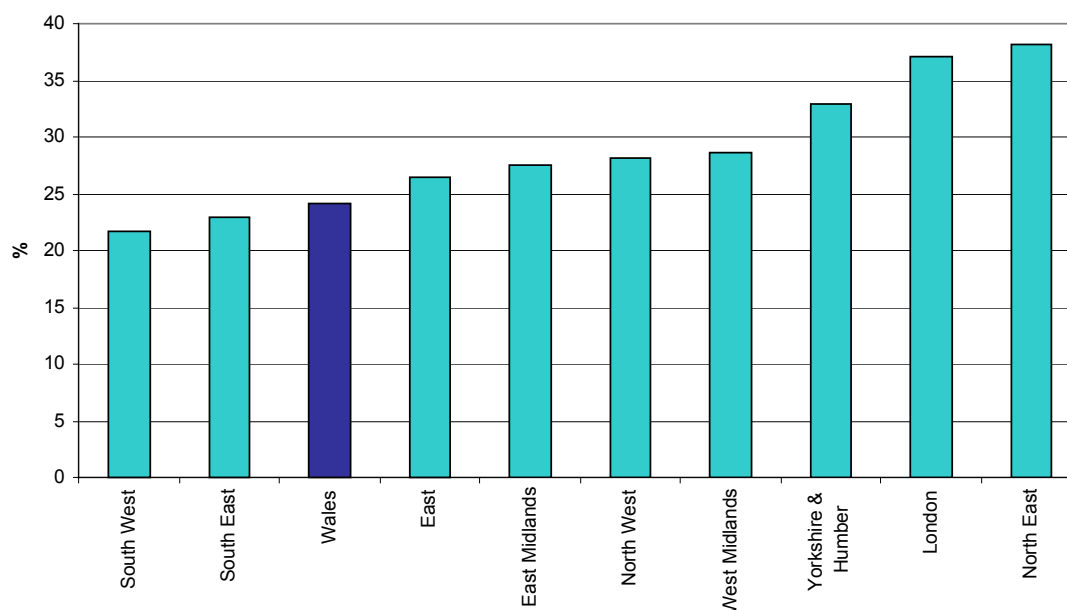
[http://www.mrs.org.uk/networking/cgg/downloads/social\\_grade\\_approximation.pdf](http://www.mrs.org.uk/networking/cgg/downloads/social_grade_approximation.pdf)<sup>27</sup>

Household car ownership may be another measure, but there is a strong relationship with age and gender. In this profile, therefore, car ownership is considered under the access section of this chapter.

### 3.3 Housing tenure

Housing tenure may be considered to be a proxy for income and, hence, a measure of socio-economic status among older persons.<sup>15</sup> However, in Wales the relationship is less straightforward. Figure 3.3.1 shows the proportion of persons aged 65 years and over who are not owner-occupiers in Wales and the English regions. Although the Welsh population is more socio-economically deprived than South East England, the proportion of persons living in non-owner occupied housing is similar. London and the North East of England have the highest proportions living in non-owner occupied housing.

**Figure 3.3.1**  
**% persons aged 65+ who live in non-owner occupied housing,**  
**English regions and Wales, 2001.** Source: Census 2001



In Wales, some areas which are known to be deprived have low proportions of non-owner occupiers, for example Rhondda Cynon Taff. This may be due to the availability of low cost housing in former coal mining areas and also higher levels of private ownership in the south of the borough. This is illustrated in figure 3.3.2.

**Figure 3.3.2**

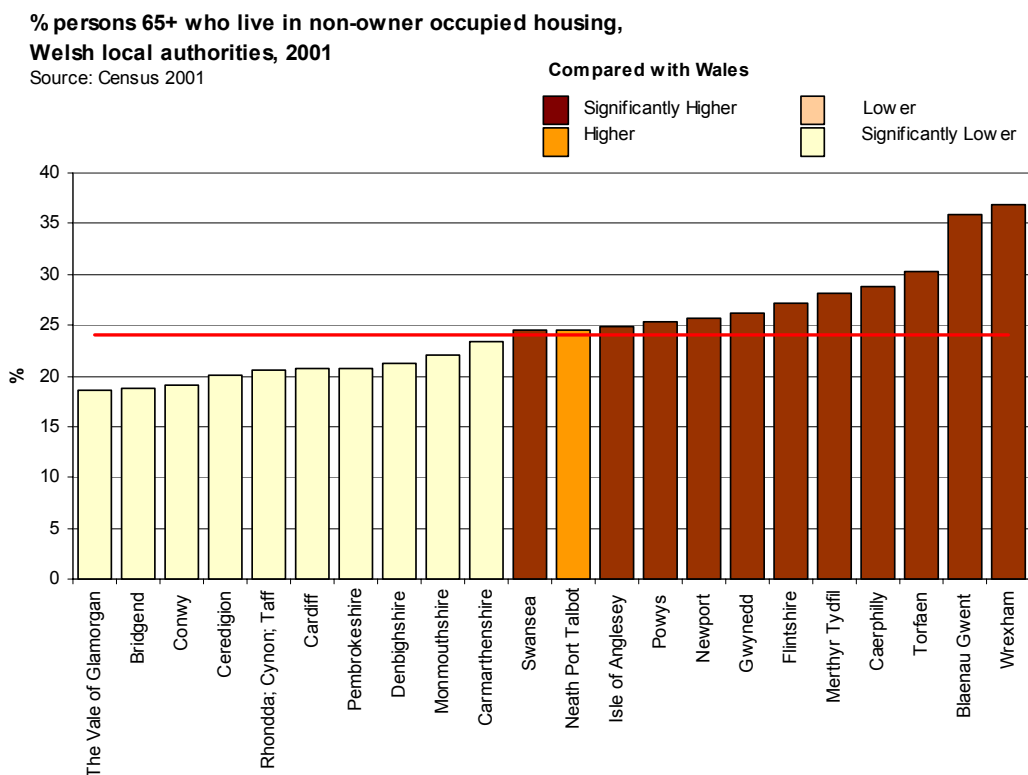
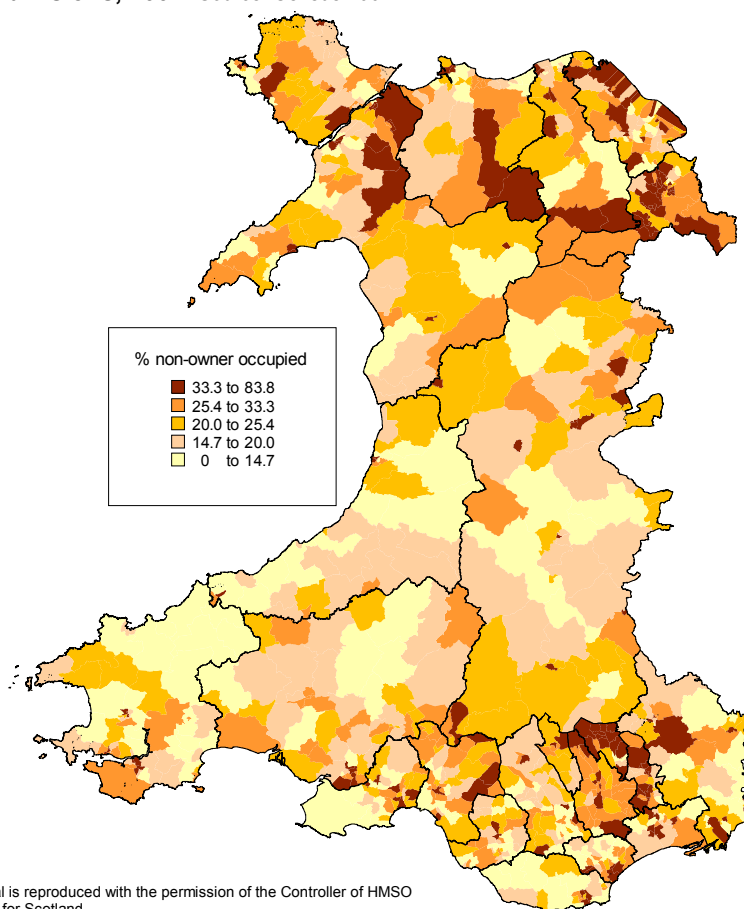


Figure 3.3.3 confirms that in Wales housing tenure may not be a reliable measure of socio-economic status among older persons. The map shows that areas with high proportions of non-owner occupation are not confined to the areas traditionally associated with socio-economic deprivation. It is possible that this measure may be more useful in highly urbanised areas. The patterns exhibited in Cardiff, Swansea, Newport and Wrexham seem more closely to resemble the pattern of socio-economic deprivation in the general population as measured by the Townsend index<sup>28</sup>. An ediv map of the Townsend index is available on the NPHS website at [www.nphs.wales.nhs.uk](http://www.nphs.wales.nhs.uk)

**Figure 3.3.3 % persons 65+ who live in non-owner occupied housing, Welsh electoral divisions, 2001.** Source: Census 2001



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## 3.4 Income Support claimants

Income Support provides financial help for certain people whose income, from all sources, is below a minimum level set by Parliament. For each claimant this is their individually assessed applicable amount. A person claiming this benefit is not required to be available for work. Income Support is an income-related benefit. This means that the amount received depends on an individual's financial resources such as earnings or savings. The payment bridges the gap between current finances and the applicable amount. The data in this profile are presented as standardised claimant ratios (SCR) for persons aged 65 years and over. This measure takes into account differences that may exist in the age structure of the older persons population between areas. It should be borne in mind that the SCR may not be an exact reflection of need. Supply and demand factors may also play a role. For example, some persons may be claiming this benefit who are not entitled to. In addition, others who are entitled may not claim. There may be a number of reasons for this including a lack of knowledge, an inability to cope with the claim forms, and an unwillingness to claim amongst others.

Figure 3.4.1 shows local authority level SCRs for persons claiming Income Support for those aged 65 years and over. The SCR for income support in persons aged 65+ gives an indication of relative poverty.<sup>6</sup> The chart shows that there are significantly higher SCRs in the south Wales valleys (except Torfaen) as well as Cardiff, Swansea and Wrexham. Significantly lower SCRs are found in Monmouthshire, Ceredigion, Powys, the Vale of Glamorgan, Pembrokeshire and Flintshire.

**Figure 3.4.1**

**Standardised claimant ratio, Income Support, persons aged 65+,  
Welsh local authorities 2001. Source: DWP**

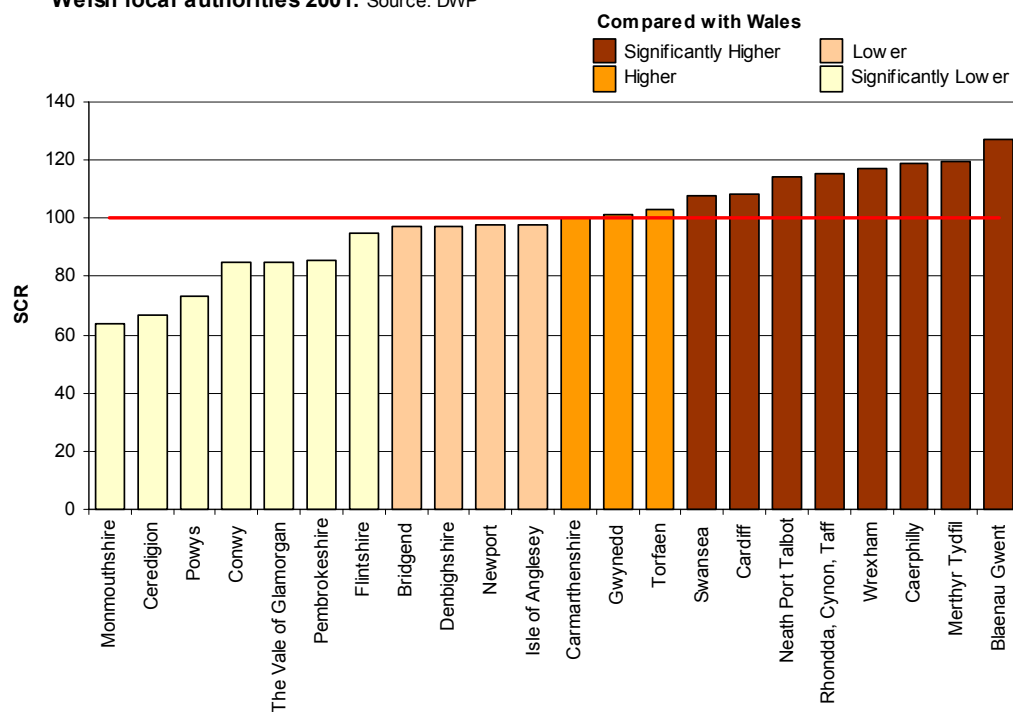
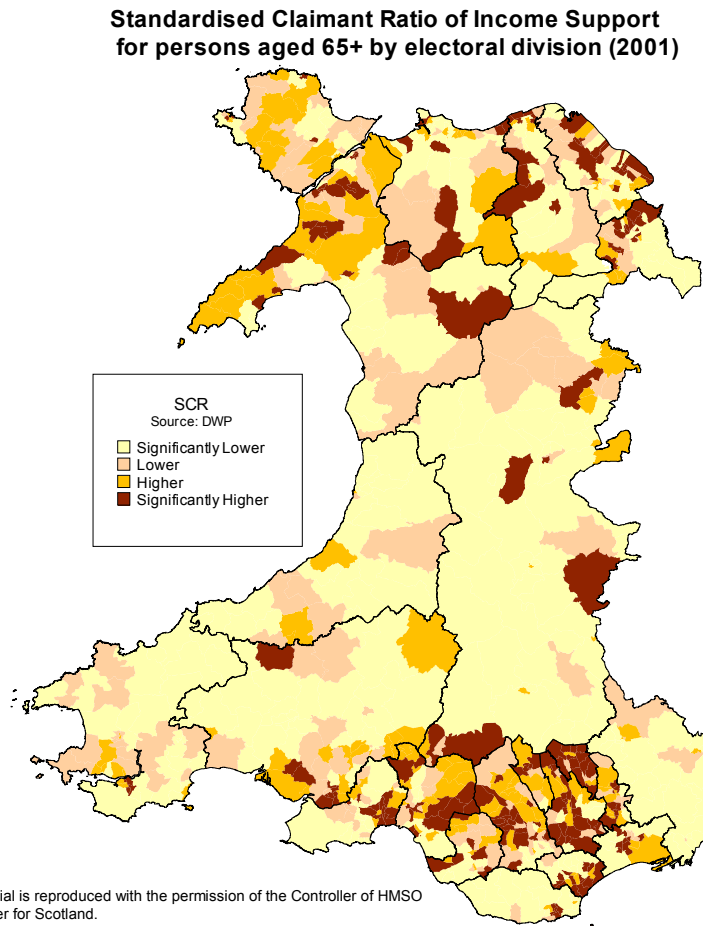


Figure 3.4.2



The map shows the same information by electoral division in Wales revealing the differences that exist *within* as well as between local authority areas. It is clear that SCRs are significantly higher in parts of the south Wales valleys, Cardiff Newport and Swansea. There are also significantly higher SCRs some areas of north Wales, specifically along parts of the coast of Flintshire and Denbighshire and parts of Wrexham. Rural areas of Wales tend to have significantly lower SCRs, but there remain areas where SCRs are significantly higher than Wales.

## 3.5 Housing

Housing quality is another key determinant of health. This may especially be the case among older persons. Poor housing is associated with adverse health outcomes including respiratory problems, anxiety and depression.<sup>29</sup> Maintaining warmth during the winter months is a particular issue. Households lacking central heating or good insulation are difficult and more expensive to keep warm.

The Centre for Sustainable Energy has developed a small area indicator of fuel poverty. The indicator comprises a weighted model of single indicators of problems related to fuel poverty such as low income, under-occupation, and poor heating.<sup>30</sup> Unfortunately, the data do not include Wales. According to the Department for Work and Pensions, winter fuel poverty among single elderly households in England fell from 77 per cent in 1991 to 50 per cent in 1998.<sup>31</sup>

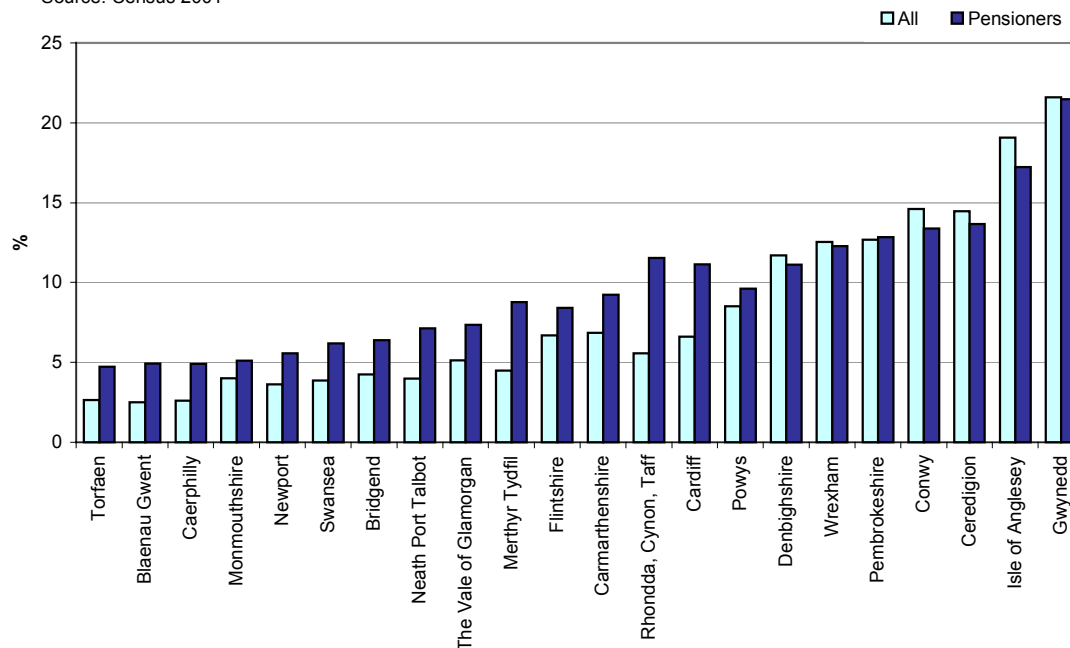
The ONS compile data on excess winter mortality and the data are shown in Chapter 5 of this profile. Figure 3.5.1 shows local authority level data from the 2001 Census on the proportion of households without central heating. Areas with higher proportions of households lacking central heating tend to be more rural. However, in local authorities where the overall proportion of households lacking central heating is lower, it is clear that households occupied by older persons are less likely to include this type of heating. For example, in Rhondda Cynon Taff, only six per cent of households do not have central heating, whereas in pensioner households the figure is 12 per cent.



**Figure 3.5.1**

**% households without central heating, Welsh local authorities, 2001**

Source: Census 2001



## Number of homes unfit

Data from the 1998 Welsh House Condition Survey<sup>32</sup> show the number of unfit dwellings. Full details of the fitness standard are included in the Welsh Assembly Government publication Welsh House Condition Survey 1998 available under statistical publications from the Welsh Assembly Government website at <http://www.wales.gov.uk/>. The requirements include that the dwelling is structurally stable, free from dampness prejudicial to the health of the occupants, and has satisfactory facilities for the preparation and cooking of food.

Compared to habitable dwellings unfitness poses a higher risk of accidents because of problems with the fabric of the dwelling such as disrepair, structural failure or poor internal layout. Unfitness also poses an increased risk of ill health because of the general conditions within the dwelling, such as dampness, a lack of ventilation or a lack of heating.

There are often particular aspects of dwellings such as kitchens that make it difficult to prepare food hygienically, a lack of washing facilities, a contaminated water supply or poor drainage<sup>32</sup> that pose a risk in terms of disease outbreaks.

The fitness standard for human habitation is set out in Section 604 of the Housing Act 1985 as amended by schedule 9 of the Local Government and Housing Act 1989. The latest standard came into

effect from 1<sup>st</sup> April 1990 and applies in England and Wales, setting out the requirements for a fit dwelling<sup>32</sup>. An unfit dwelling is one that fails to meet one or more of these requirements.

Lower income households tend to be concentrated in unfit dwellings, particularly in the owner-occupied and private rented sectors. Table 3.5.1 shows the proportion of unfit dwellings by type of household and tenure. Single pensioners and young single people have the lowest incomes.<sup>32</sup> A higher proportion of these households live in unfit dwellings, particularly those renting privately.

**Table 3.5.1 % unfit dwellings by household type and tenure, Wales, 1998**

Source: 1998 Welsh House Condition Survey

				%
	Owner Occupied	Social Housing	Privately rented	All
Single Pensioner	12.2	8.0	25.7	11.3
Other Single Person	10.5	10.3	20.5	11.9
Lone Parent	7.5	8.4	11.0	8.5
Other with dependent children	6.2	9.0	15.6	7.2
Other without dependent children	6.8	7.0	19.7	7.6
All	7.6	8.2	18.4	8.5

Table 3.5.2 shows the proportion of unfit dwellings by sex, age group and opinion of state of repair.

**Table 3.5.2 % unfit dwellings by age and sex of head of first household<sup>#</sup> and opinion of state of repair, Wales, 1998**

Source: 1998 Welsh House Condition Survey

					%
		In good repair	Needs minor repair	Needs Major repair	All
<b>Male</b>					
	16-29	4.7	14.9	23.1	9.0
	30-44	4.0	12.1	19.8	7.1
	45-64	4.5	12.5	35.6	7.5
	65&+	7.1	19.3	38.2	10.5
<b>Female</b>					
	16-29	7.5	14.0	27.3	11.7
	30-44	2.7	10.4	21.7	7.1
	45-59	3.9	13.5	37.7	9.0
	60&+	6.0	17.7	25.3	9.4
<b>Person</b>	All Age	5.1	14.1	28.6	8.5

<sup>#</sup> The survey links information about unfitness to socio-economic characteristics of the first household at that dwelling. For example, a dwelling may contain two households: the first owns the property and the second may rent a bedsit from the first household so, in this case, the dwelling is counted as owner-occupied and other household information, like the household type, will relate to the first household.

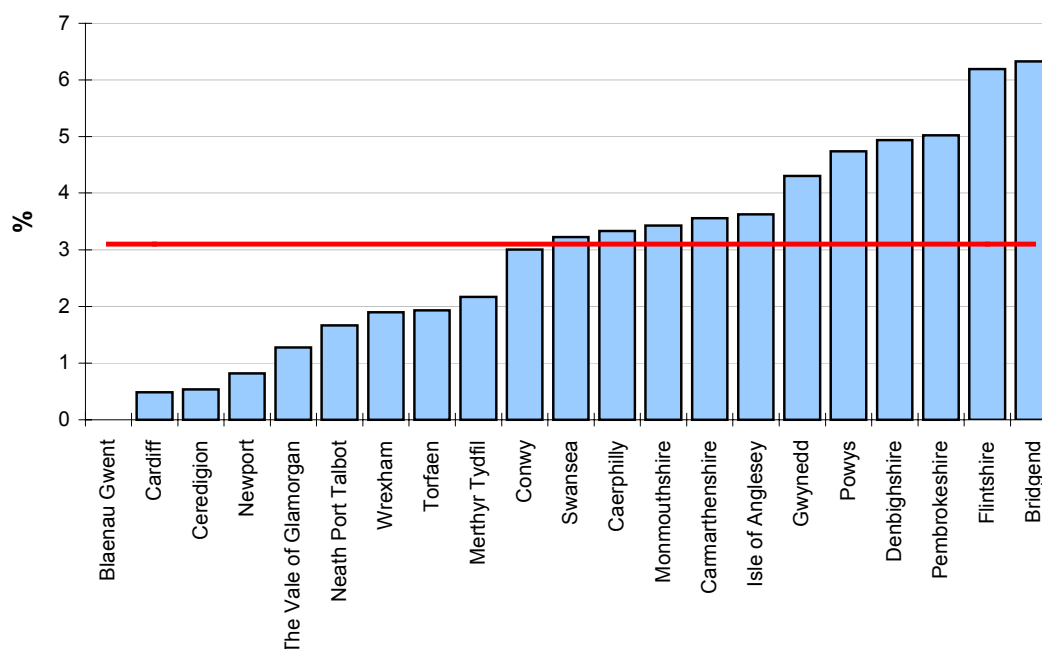
## Homeless households with a vulnerable member due to old age

Under the homelessness provisions of the 1996 Housing Act, local authorities must decide whether a household is “eligible, unintentionally homeless and falls within a priority need group”.<sup>32</sup> In this case the household is accepted as “statutory homeless” and the local authority must then ensure that suitable accommodation is available for the household until a settled home becomes available.<sup>33</sup> Figure 3.5.2 shows that the proportion of all homeless households found to be eligible for assistance, unintentionally homeless and in priority need, with a vulnerable household member due to old age, was 3.1 per cent in Wales in 2003. This can be seen to range from 6.2 per cent in Bridgend to less than one per cent in Newport, Cardiff, Ceredigion and Blaenau Gwent.

**Figure 3.5.2**

**% households eligible for assistance, unintentionally homeless and with a vulnerable member due to old age, Welsh local authorities, 2003**

Source: Welsh Assembly Government<sup>31</sup>



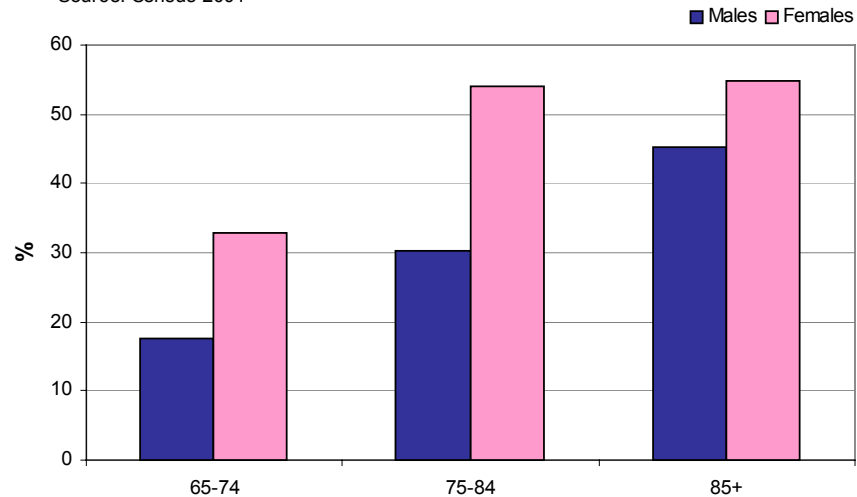
### 3.6 Access: car ownership and rurality

Access to a car is a widely used proxy for socio-economic status.<sup>15</sup> However, among older persons the measure is less reliable. Figure 3.6.1 shows how access to a car is affected strongly by age and sex within this section of the population.

**Figure 3.6.1**

**% persons aged 65+ with no car or van in household, Wales, 2001**

Source: Census 2001

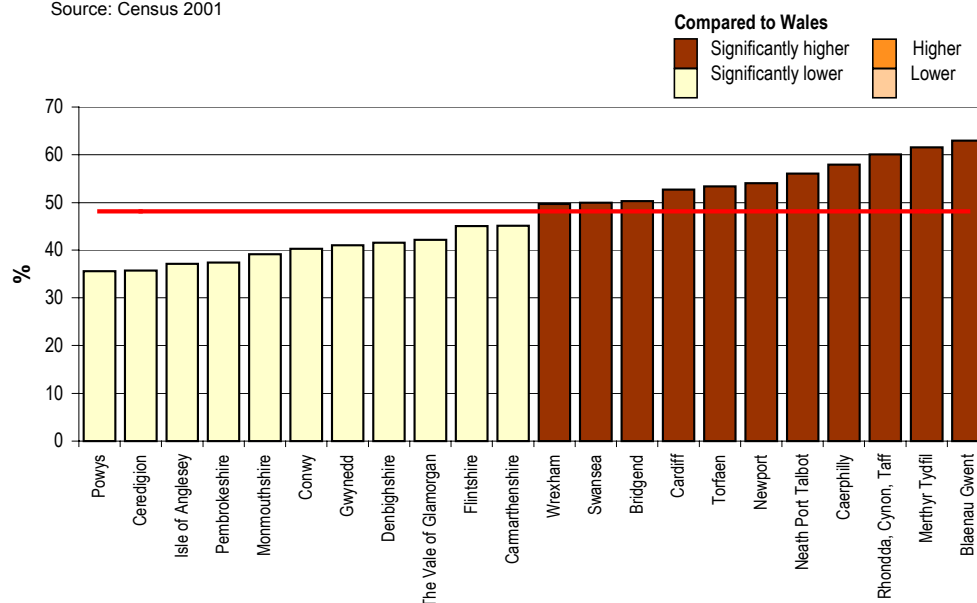


Access to services may be especially problematic for older persons since they are less likely to be mobile. Figure 3.6.2 shows car availability data for pensioner households at local authority level. The data show that local authorities in rural areas tend to have lower proportions of pensioner households with no car compared with urbanised areas. Local authorities in the south Wales valleys have the highest proportions of pensioner households with no car.

**Figure 3.6.2**

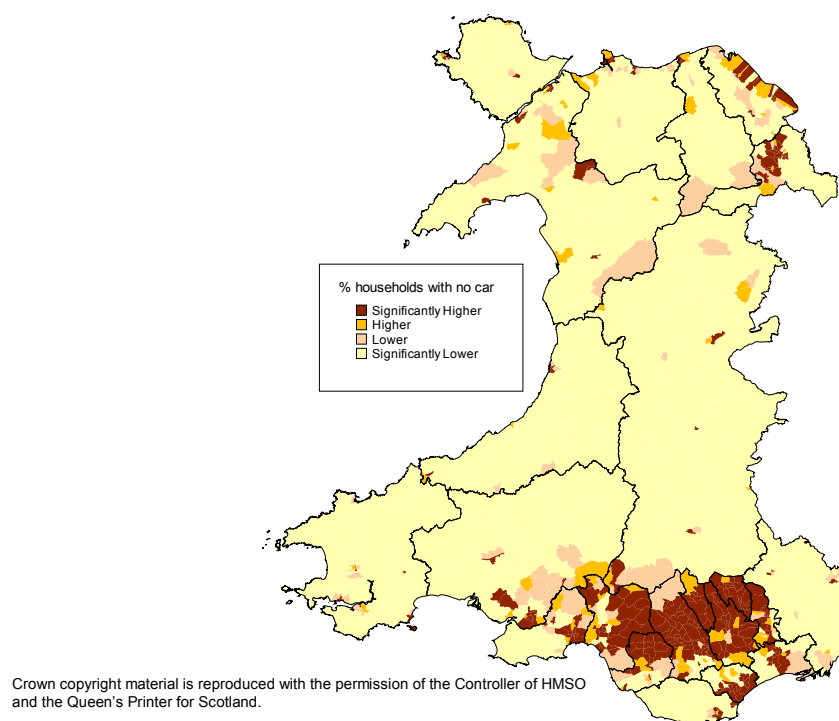
**% pensioner households with no car, Welsh local authorities, 2001**

Source: Census 2001

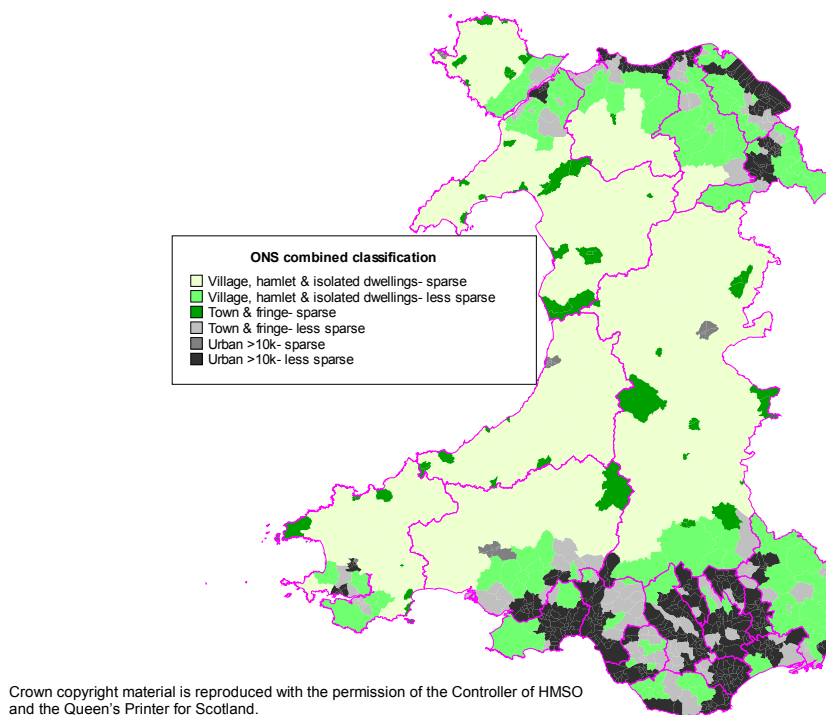


In areas where public transport availability is good, persons without a car will not be disadvantaged in terms of their ability to access services. Urban areas tend to have relatively good public transport systems and in Wales pensioners are able to travel free of charge on buses. However, in more rural areas public transport is often infrequent or non-existent and therefore persons without access to private transport will be disadvantaged. Figure 3.6.3 shows car availability for pensioner households at ediv level. It is clear that the south Wales valleys along with areas of Cardiff, Newport, Swansea, Wrexham and the north Wales coast have the highest proportions of households with no car. However, it is also clear that in many areas of rural Wales, between a third and half of pensioner households do not have access to a car. Figure 3.6.4 shows the ONS urban rural area classification at ediv level and confirms that most of mid, west and north Wales is rural in character.

**Figure 3.6.3 % pensioner households with no car, Welsh electoral divisions, 2001**  
Source: Census 2001



**Figure 3.6.4 Office for National Statistics rural and urban area classification, 2004**  
Source: ONS



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