



TACKLING POVERTY REPORT 2015

Vale of Glamorgan
Local Service Board

Bwrdd Gwasanaethau Lleol
Bro Morgannwg



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Executive summary

The Vale of Glamorgan asked the Data Unit to carry out an analysis of a number of datasets relating to poverty and deprivation in order to better understand the inequalities that exist within the local authority. This report sets out the findings from this analysis.

The datasets used include:

- Welsh Index of Multiple Deprivation (WIMD) 2014;
- CACI Paycheck data;
- Census 2011 data; and
- Census Output Area Classification (OAC).

All of the data used are available at Lower Super Output Area (LSOA) geographies (around 1,600 people), except for the OAC which are available at Output Area geographies (around 400 people). This report covers a number of areas of data relating to poverty and deprivation, including:

- People & Households;
- Education;
- Income & Employment;
- Health;
- Safety; and
- Physical Environment.

The key highlights are:

- The geographic divide in terms of poverty and deprivation between the less deprived and most deprived areas within the Vale of Glamorgan is displayed at small area level in the majority of indicators.
- When looking at the same data at local authority level the average for the Vale of Glamorgan is in line with the Wales average. This is due to the differences between the less deprived and more deprived small areas, which can mask serious issues relating to poverty and deprivation experienced at a small area level.
- Within the areas of highly concentrated deprivation, the 'Gibbonsdown 2' LSOA is most frequently highlighted by the data as being the LSOA within the local authority with the highest level of deprivation and/or poverty.
- Areas that are considered less deprived overall still experience some levels of deprivation for specific areas of data. As an example, the 'St. Athan 1' LSOA is in the 31% - 50% most deprived LSOAs in Wales according to WIMD, but has a number of education indicators that fall within the most deprived fifth of LSOAs in the Vale of Glamorgan.
- The likelihood of the needs of individual LSOAs, including those in close proximity to one another, varying greatly should be taken into account during the policy process.

Introduction

The Vale of Glamorgan Local Service Board (LSB) agreed in 2014 that a new Community Strategy Delivery Plan (the delivery plan), covering 2014 to 2018, would need to focus on a smaller number of priorities than previous plans. This would specifically focus on those topics that the LSB could add value to, by working in partnership.

It was agreed that the activity of the LSB over the period 2014 to 2018 should fall under the theme of 'Tackling Poverty', and that this should be further divided into three workstreams aligned to the Welsh Government's Anti-Poverty Strategy. These workstreams are:

- **Preventing poverty;**
- **Helping people into work; and**
- **Mitigating the impact of poverty.**

In order to inform the work of the LSB in these priority workstreams, and to ensure that resources are targeted at the correct areas, there needs to be an effective and up-to-date evidence base, that focuses on all elements of poverty and deprivation across the Vale of Glamorgan at a small area level.

In 2013, the LSB Business Intelligence Group (BIG) led on producing an updated Unified Needs Assessment (UNA) containing a wealth of data relating to the area. This has been essential in understanding the needs of the Vale of Glamorgan. One of the key findings emerging from the analysis was the inequalities that exist within the authority which are often masked at local authority level. In response to the findings the LSB agreed to focus the delivery plan on 'Tackling Poverty'.

Therefore, the need to further understand the inequalities that exist within communities in the Vale of Glamorgan and the reasons for this was identified. The LSB commissioned the Local Government Data Unit ~ Wales (Data Unit) to produce a report which seeks to extend and enhance the work of the UNA. The report will provide a further evidence base to support the work of the LSB, by including a number of new datasets that have been identified as being particularly relevant to the understanding of poverty and/or deprivation within the Vale of Glamorgan at a small area level.

Data sources

There are four sources of data used in this analysis. These are:

- **Census 2011;**
- **Welsh Index of Multiple Deprivation (WIMD) 2014;**
- **CACI Paycheck; and the**
- **Department for Work and Pensions (DWP).**

Census 2011

The Census 2011 data has been sourced from the NOMIS website, and relates to the national census in England and Wales taken on 27 March 2011¹.

WIMD 2014

This has been sourced from the Welsh Government's StatsWales website. The WIMD is the Welsh Government's official measure of relative deprivation for small areas in Wales, and has been designed to identify those small areas that are experiencing the highest concentration of several different types of deprivation². The most recent update to the index was released in 2014. Whilst the index itself is useful when looking at the relative deprivation in an area, it cannot be used to determine how much more deprivation an area is experiencing compared to another. To do this, the underlying indicators that make up the overall index and the difference between each areas data need to be examined. A more detailed guide to the WIMD and how it can be used can be found on the Welsh Government's website³.

Paycheck

Paycheck is a dataset constructed by CACI, a commercial organisation that develop and distribute statistical products based on public and private data. Paycheck is CACI's gross household income model. The data takes into account investments, welfare support and income supplements and is available at geographies as low as postcode level.

Job Seeker's Allowance claimants at small areas

This data has been sourced from the Department for Work and Pensions (DWP) and downloaded from the InfoBaseVale system⁴.

¹ <https://www.nomisweb.co.uk/census/2011> - Accessed 12/04/2015

<http://wimd.wales.gov.uk/> - Accessed 08/04/2015

³ <http://gov.wales/statistics-and-research/welsh-index-multiple-deprivation/?lang=en> - Accessed 12/04/2015

⁴ <http://vale.infobasecymru.net/> - Accessed 20/04/2015

Statistical geographies

Statistical geographies were developed by the Office for National Statistics (ONS) following the 2001 Census. They are a set of geographies that work in layers to cover the whole of Wales. The layers are:

- **Output Area - OA (around 400 people);**
- **Lower Super Output Area - LSOA (around 1,600 people);**
- **Middle Super Output Area - MSOA (around 7,700 people);**
- **Upper Super Output Area - USOA (around 25,000 people); and**
- **Local authority – LA.**

Following the 2011 Census a number of LSOAs were changed to allow for population growth. In the Vale of Glamorgan, there was a single change, with the 'Castleland' LSOA being split into two LSOAs in 2011. These are 'Castleland 2G' and 'Castleland 2H'. The LSOA data used in this analysis is based upon the 2011 geographies.

Methodology

The analysis undertaken followed a process that was broken up into four separate stages.

Stage 1 identified the data that was to be used in the analysis. This was primarily conducted through desk-based research, covering all the main statistical provider websites. Once a list of indicators had been identified, the list was agreed with the Strategy and Partnership team. Also, an update was given at a LSB Business Intelligence Group (BIG) meeting in order to identify further available data and to consolidate the existing datasets that had been collected.

Stage 2 involved the design and development of maps presented in this analysis for each of the indicators identified in Stage 1. We chose to prepare these as one of the initial steps to ensure that the data identified in Stage 1 was available, was pertinent to the analysis and was able to be analysed further.

Stage 3 involved the analysis and research work. This focused on identifying those aspects of the data that helped us to understand or to develop the objectives set out in the introduction.

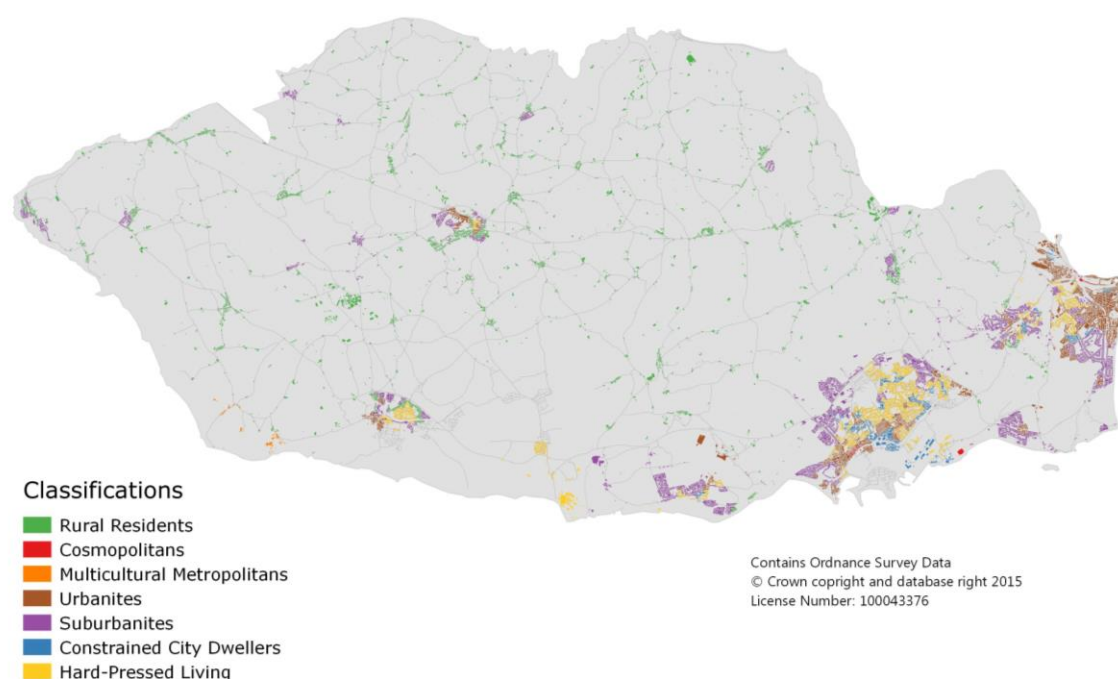
Stage 4 focused on drafting the report, identifying the most relevant and pertinent messages from the data to produce an overview of poverty and deprivation across the Vale of Glamorgan.

People & Households

People

In order to understand the characteristics of poverty and deprivation in an area, it is important to understand the demographics of that area. This is particularly so in the Vale of Glamorgan, which is one of Wales' most diverse local authority areas in terms of poverty and deprivation. Of the 382 LSOAs classed as being the 20% most deprived in Wales 12 are located in the Vale of Glamorgan, and of the 953 LSOAs that make up the 50% least deprived LSOAs in Wales 50 are located in the Vale of Glamorgan, according to the WIMD 2014 overall index.

Figure 1: Census 2011 Output Area Classifications in the Vale of Glamorgan



Source: Census 2011, ONS, UCL

A useful measure of variation in the characteristics of population is the Census 2011 Output Area Classification dataset. This has been developed by the University College London (UCL) in partnership with the Office for National Statistics (ONS) and aims to group together geographic areas according to key characteristics common to the population in that grouping (called clusters) that are derived from Census 2011 data⁵.

60 variables were used to construct the classifications under the headings of 'Demographic Structure', 'Household Composition', 'Housing', 'Socio-economic' and 'Employment'. Further information on the variables used is available on ONS' website⁵.

These classifications are produced on Output Area (OA) geographies, and therefore contained around 150 households on Census day (27 March 2011). These are broken down into eight

⁵ <http://www.ons.gov.uk/ons/guide-method/geography/products/area-classifications/ns-area-classifications/ns-2011-area-classifications/index.html> - Accessed 09/04/2015

'supergroups', 26 'groups' and 76 'subgroups'. In this analysis we have looked at the eight main supergroups (Rural Residents, Cosmopolitans, Ethnicity Central, Multicultural Metropolitan, Urbanites, Suburbanites, Constrained City Dwellers and Hard-pressed Living) and mapped these at LSOA level as shown in **Figure 1**.

To demonstrate the disparity between the relatively dense areas of Barry, Penarth and Llantwit Major compared to the remainder of the Vale of Glamorgan we have limited the classification to areas where there are buildings present. This gives a clearer view of the spread of these characteristics across the area, for instance it is clear from the map that the majority of OAs outside of these major settlements are classified as 'Rural Residents', which reflects the rural nature of much of the Vale of Glamorgan.

What is perhaps more interesting are the clear geographic divides that are present in some of the settlements, including the clear north/south divide in Penarth between 'Constrained City Dwellers' and 'Suburbanites'. The former tending to have higher levels of unemployment, lower levels of qualification, and a higher proportion of people whose day-to-day activities are limited than nationally. The latter more likely to have individuals with higher-level qualifications than the national average and lower unemployment levels.

In Barry, there is a far less clear divide, with the addition of a number of OAs classed as 'Hard-pressed Living'. Within this classification rates of unemployment are more likely to be above the national average; households are more likely to live in socially rented accommodation; and there is likely to be a smaller percentage of people with higher-level qualifications.

Whilst it is beyond the scope of this analysis to divide these classifications further, an interactive online resource for doing so is available⁶; the ONS has also made available pen-portraits for each individual classification type⁷.

The number of usual residents taken from Census 2011 is another key piece of demographic information. For the Vale of Glamorgan, there were 126,336 usual residents. This is 4.12% of the total Wales population of 3,063,456. The number of usual residents for LSOAs in the Vale of Glamorgan varies between 1,071 in 'Illtyd 1' to 2,950 in 'St. Athan 2', a difference of 1,879 people.

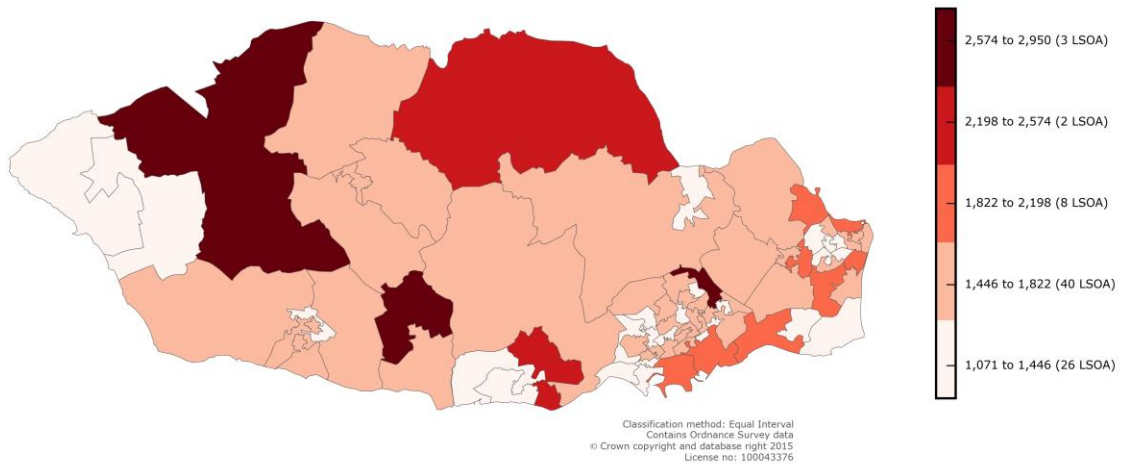
We have used Census 2011 population estimates in this report, as this data has been used to create rates for a number of indicators. It therefore provides a greater level of consistency throughout the report. More recent Mid-Year Estimates are available from InfoBaseVale⁸.

⁶ http://oac.datashine.org.uk/#datalayer=oac11_s&layers=BTTT&zoom=12&lon=-3.3617&lat=51.4375 - Accessed 20/04/2015

⁷ <http://www.ons.gov.uk/ons/guide-method/geography/products/area-classifications/ns-area-classifications/ns-2011-area-classifications/pen-portraits-and-radial-plots/pen-portraits.pdf> - Accessed 20/04/2015

⁸ <http://vale.infobaseymru.net/IAS/themes/databytheme/people> - Last accessed 06/07/2015

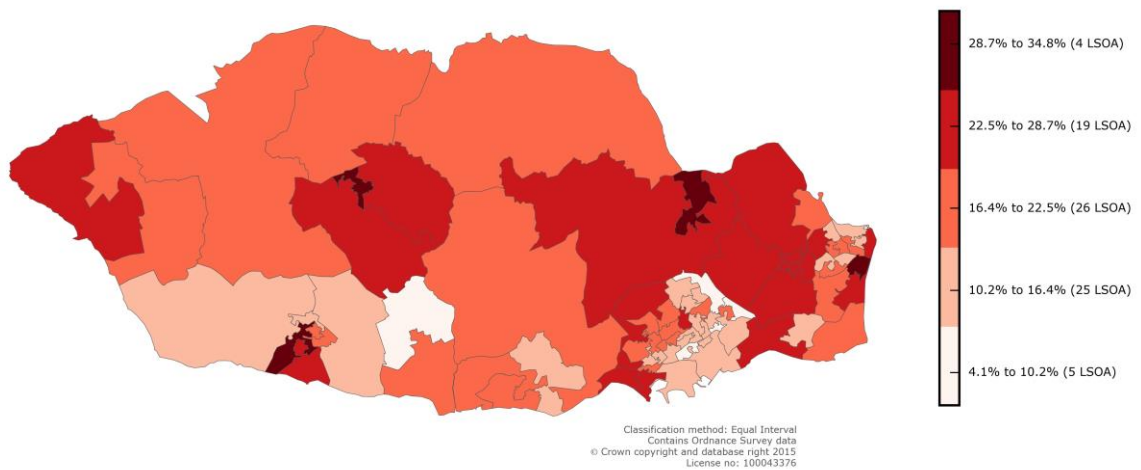
Figure 2: Usual resident population in the Vale of Glamorgan



Source: Census 2011, ONS

Census 2011 data shows that in the Vale of Glamorgan, 18.9% of residents were aged 0 – 15 compared to 18.2% for Wales. 18.3% of residents were aged 65 or over which was slightly below the Wales figure of 18.4%, and 62.9% of residents were aged between 16 and 64, compared to 63.5% for Wales. There is a clear disparity at small area level in terms of the age structure, for instance, the proportion of usual residents that are aged 65 or over ranged from 4.1% in 'St. Athan 2' to 34.8% in 'Cowbridge 1'. The data shows that there are a higher proportion of usual residents aged 65 or over in more rural LSOAs.

Figure 3: Percentage of the usual resident population aged 65 or over in the Vale of Glamorgan

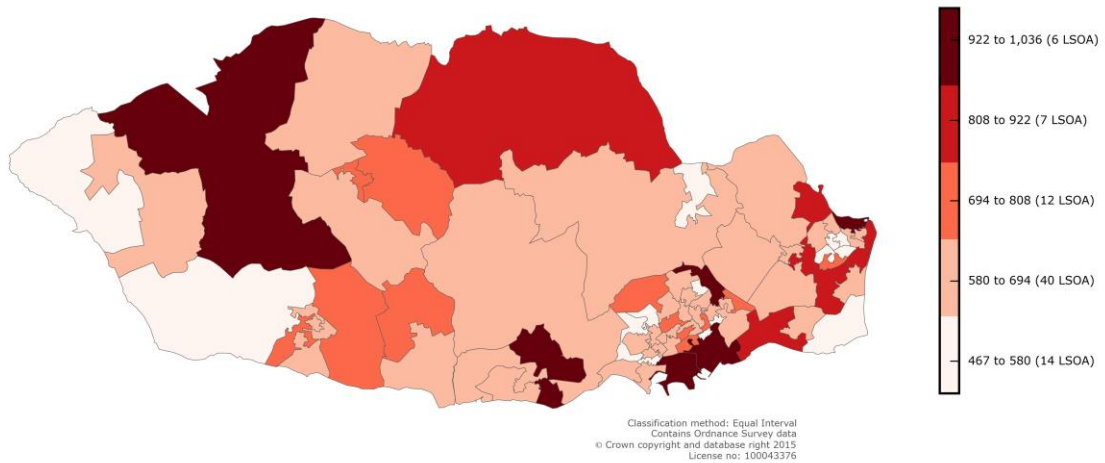


Source: Census 2011, ONS

Households

The number of households within individual LSOAs in the Vale of Glamorgan ranges from 467 in 'Illtyd 1' to 1,036 in 'St. Augustine's 4'. This difference is a result of the methodology used when defining the boundaries of LSOAs, and is within the lower and upper thresholds set by the ONS (400 households and 1,200 households respectively)⁹.

Figure 4 : Number of households in the Vale of Glamorgan



Source: Census 2011, ONS

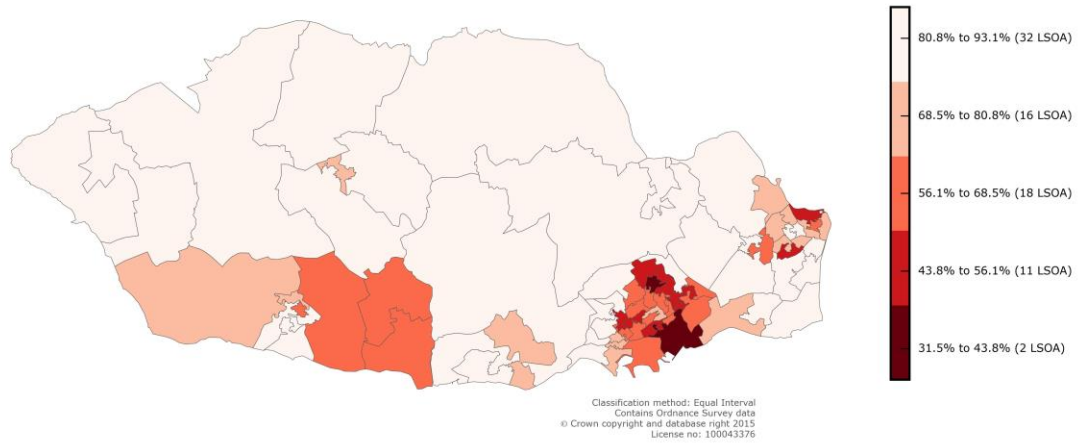
It is important to consider the types of tenure that are most prevalent in each of the LSOAs, as direct links have been made between types of tenure and poverty¹⁰. For example, socially rented tenure has specifically been shown to be a strong predictor for falling into poverty over the next year¹¹.

⁹ http://www.ons.gov.uk/ons/dcp171778_288463.pdf - Accessed 06/07/2015

¹⁰ Tunstall, R. et.al. (2013), *The Links Between Housing and Poverty: An Evidence Review*

¹¹ Jenkins, S. P. (2011), *Changing Fortunes: Income Mobility and Poverty Dynamics in Britain*, Oxford, Oxford University Press

Figure 5: Percentage of households owned either with a mortgage or outright in the Vale of Glamorgan



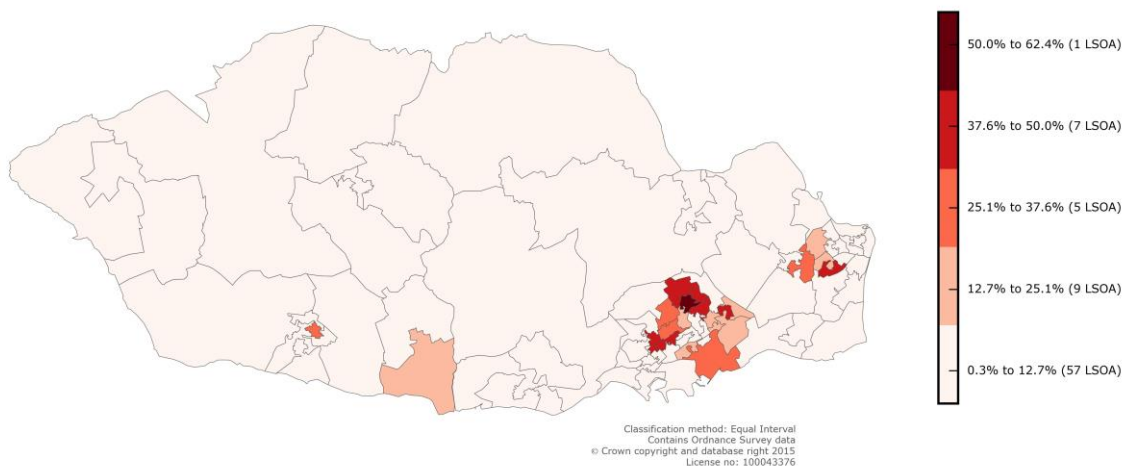
Source: Census 2011, ONS

Figure 5 shows that there is a clear geographic disparity in the percentage of households that are owned between the more rural north, west and central Vale compared to the areas of Llantwit Major, Barry and northern Penarth. This ranged from 31.5% in 'Gibbonsdown 2' to 93.1% in 'Dyfan 1'; the Welsh average is 67.4%.

Figure 6 shows that the LSOAs with the highest percentages of socially rented households, with the highest being largely isolated to the northern parts of Barry. Within this area, the Gibbonsdown 2 LSOA has a particularly high percentage of socially rented housing (62.4%). This is higher than the Vale of Glamorgan and Wales rates at 11.9% and 16.5% respectively.

There is a slightly less obvious pattern in terms of the percentage of households that are privately rented, with the highest proportion in Llantwit Major, St. Athan and in some areas of Penarth and Barry. The overall percentage in the Vale of Glamorgan is 14.6%.

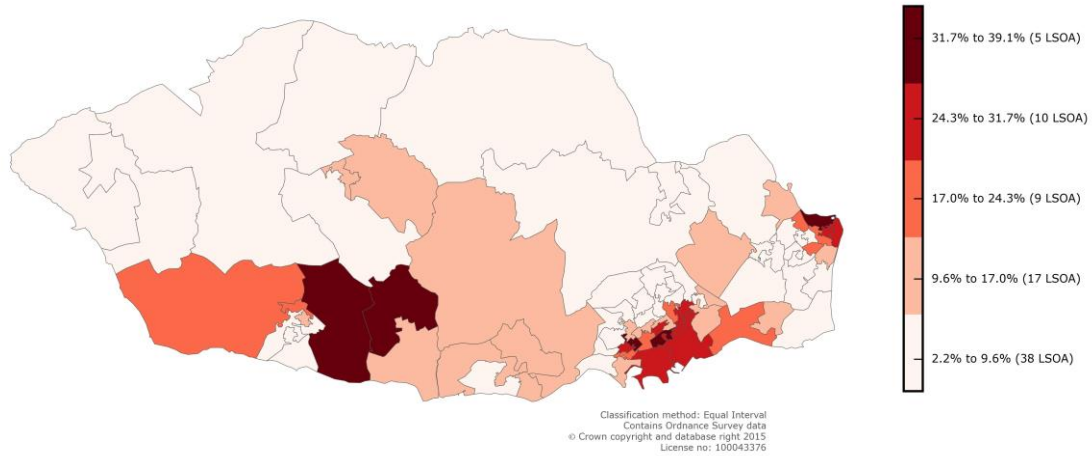
Figure 6: Percentage of households that are socially rented in the Vale of Glamorgan



Source: Census 2011, ONS

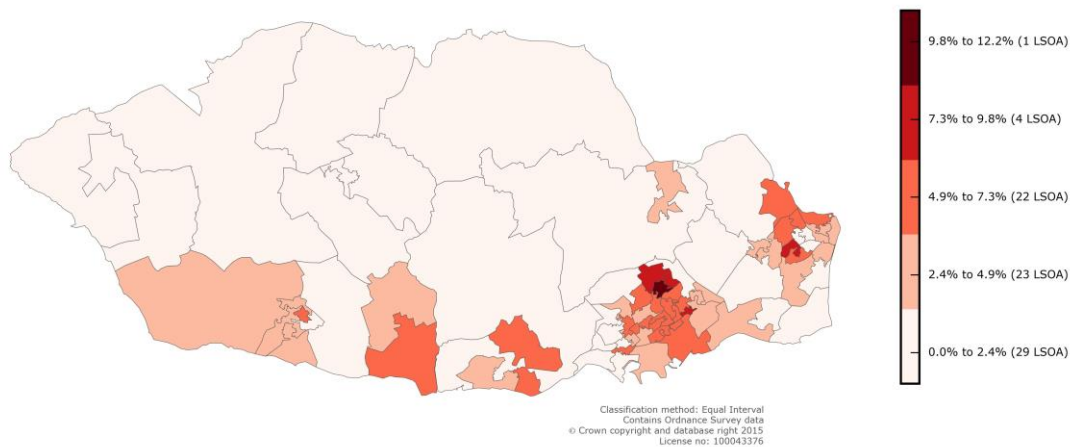
Overcrowding in households has been shown to be one of the key factors that can contribute to negative outcomes for a child that is experiencing poverty. Also, a child that experiences overcrowding is more likely to go on to experience poverty and deprivation as an adult¹². The measure of overcrowded households is derived from Census 2011 data; it provides a measure of whether a household's accommodation is overcrowded (based on the number of bedrooms). The ages of the household members and their relationships to each other are used to determine the number of bedrooms they require, based on a standard formula.

Figure 7: Percentage of households that are privately rented in the Vale of Glamorgan



Source: Census 2011, ONS

Figure 8: Percentage of people living in overcrowded households in the Vale of Glamorgan



Source: Census 2011, ONS

¹² Frank, F (2010). *The Foundation Years: preventing poor children becoming poor adults*, HM Government

For the Vale of Glamorgan, the percentage of overcrowded households is 3.86%, which is lower than Wales at 5.53%. However, across the Vale of Glamorgan there is again a wide range between the lowest (0.0% in 'Illtyd 1') and the highest (12.2% in 'Gibbonsdown 2') LSOAs.

In summary, by looking at the above housing datasets at small area level, it has been possible to identify spatial trends in data relating to poverty and deprivation that are masked by the relative affluence of the Vale of Glamorgan. In particular, small area data highlights a difference in the 'Gibbonsdown 2' and surrounding LSOAs to the Wales figures.

Education

Education is seen as an important facet of deprivation; in addition to the immediate impact of being educationally deprived as a child, educational attainment is a key factor in experiencing poverty as an adult. This section explores two areas; educational attainment and attendance.

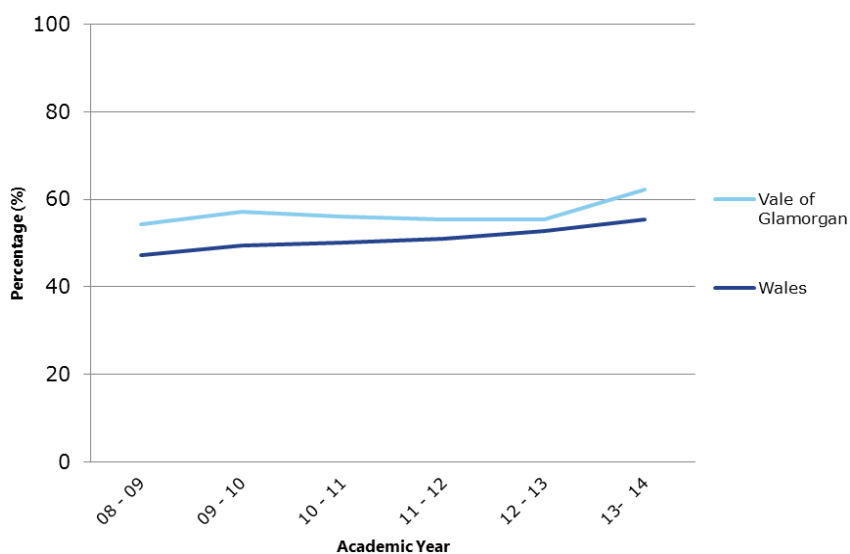
“Educational attainment has the largest impact on the likelihood of being in poverty and severely materially deprived as an adult... Holding all else equal, in the UK, those with a low level of educational attainment are almost five times as likely to be in poverty now and 11 times as likely to be severely materially deprived as those with a high level of education.”

Intergenerational transmission of disadvantage in the UK & EU, ONS 2014

Educational attainment

Pupil attainment levels in the Vale of Glamorgan compare favourably with other local authority areas in Wales. For example in 2013-14, 62.2% of pupils in the Vale of Glamorgan achieved Level 2 inclusive¹³, making it the second highest local authority in Wales. This compares to an all Wales figure of 55.4%.

Figure 9: Percentage of pupils achieving Level 2 inclusive in the Vale of Glamorgan

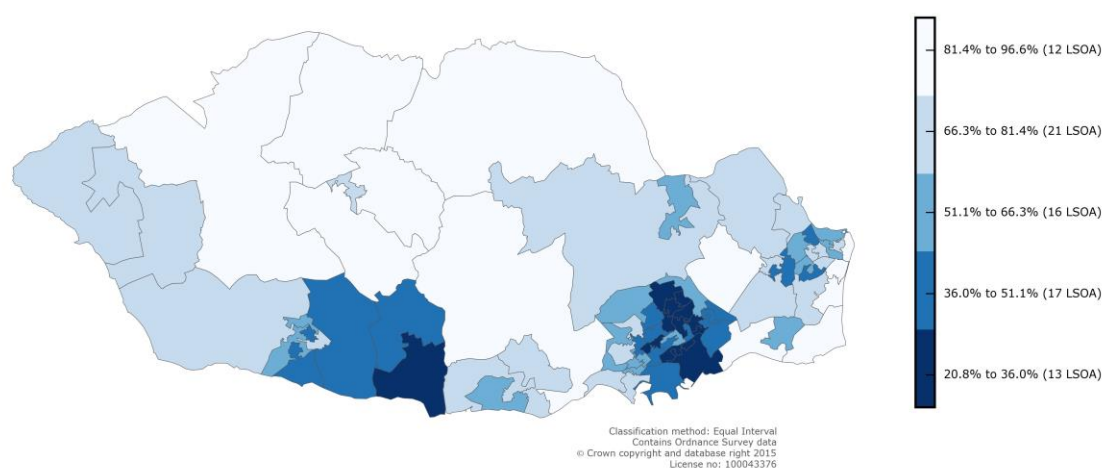


Source: Welsh Government

¹³ Key Stage 4 Level 2 Inclusive – the proportion of 15 year olds achieving the equivalent of 5 A*-C grades at GCSE including Maths and English/Welsh first language

While overall the Vale of Glamorgan performs well when compared to others in Wales, levels of attainment vary greatly. This variation in the percentage of pupils achieving Level 2 inclusive is shown in **Figure 10**. This is based on a three year average, 2010/11 to 2012/13, and ranges from 21% in the 'Gibbonsdown 4' LSOA to 97% in the 'Plymouth (VoG) 3' LSOA.

Figure 10: Key Stage 4 Level 2 inclusive attainment in the Vale of Glamorgan (2010 - 2013)



Source: WIMD 2014

The areas with the lowest attainment levels at Key Stage 4 are very similar to those areas of greatest overall deprivation, as measured by WIMD 2014. Of the 5 LSOAs with the lowest Level 2 attainment levels, 4 of these are in the 10 most deprived LSOAs in the local authority as measured by WIMD 2014.

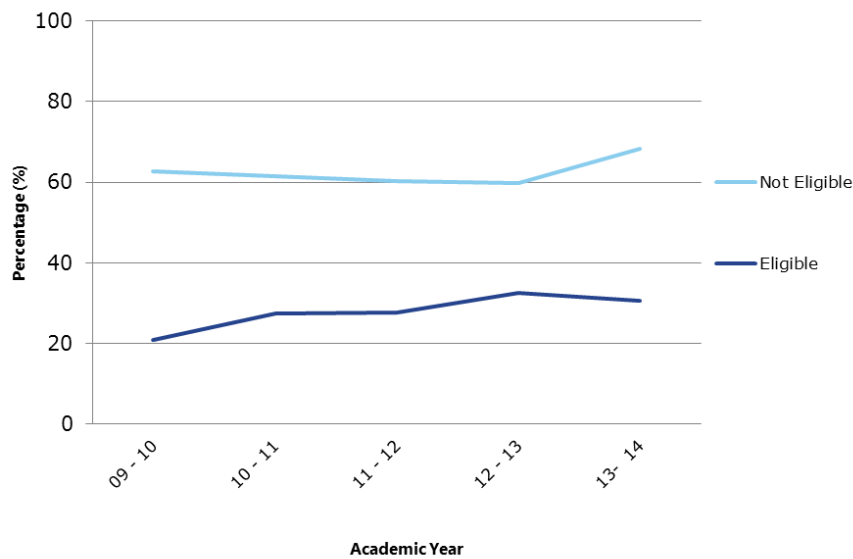
The difference between the attainment levels of pupils entitled to Free School Meals (FSM) and those not entitled to FSM are also important, where FSM entitlement is used as a proxy measure for children living in low income/disadvantaged households. These form part of the set of measures within the Welsh Government's Tackling Poverty Action Plan¹⁴.

At a local authority level, for 2012/13, the difference between seven year olds achieving the expected level at the end of the Foundation Phase entitled to FSM and not entitled to FSM was 21.5 percentage points. This was the second highest gap for local authorities in Wales.

At Key Stage 4, for 2013/14 the difference between 15 year olds achieving Level 2+ entitled to FSM and not entitled to FSM was 37.6 percentage points. This was the fourth highest gap across local authorities in Wales and was an increase of over 10 percentage points compared to the previous academic year.

¹⁴ <http://gov.wales/topics/people-and-communities/tackling-poverty/taking-forward-tackling-poverty-action-plan/?lang=en> Accessed 07/07/2015

Figure 11: Percentage of pupils eligible for Free School Meals (FSMs) achieving Key Stage 4 Level 2 inclusive in the Vale of Glamorgan



Source: Welsh Government

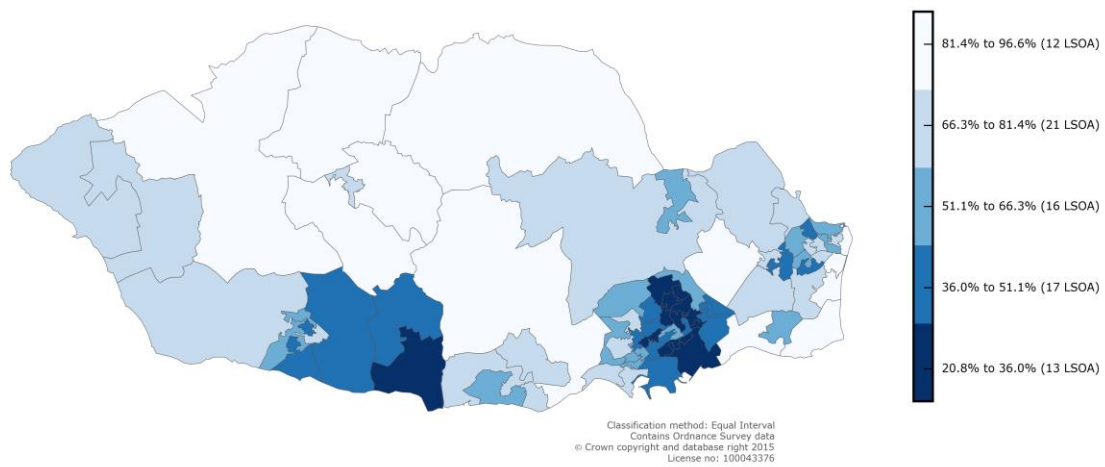
Absenteeism

"There is a clear link between poor attendance at school and lower academic achievement. Of pupils who miss more than 50 per cent of school only three per cent manage to achieve five or more GCSEs at grades A to C including Maths and English. 73 per cent of pupils who have over 95 per cent attendance achieve five or more GCSEs at grades A* to C"*

Improving attendance at school, Charlie Taylor, The Government's Expert Adviser on Behaviour 2012

Pupil absence in the Vale of Glamorgan compares favourably with other local authority areas in Wales. In 2013/14, the percentage of half day sessions missed in secondary schools in the Vale of Glamorgan (due to all absences) was 5.8%. This compared to an all Wales figure of 6.4%. For primary schools the percentage of half day sessions missed in 2013/14 was 4.7%, compared to an all Wales figure of 5.2%.

Figure 12: Percentage of pupils missing 15% or more of school sessions in the Vale of Glamorgan (2010 – 2013)



Source: WIMD 2014

However, as with attainment, when you examine the absenteeism rates by area they vary greatly. WIMD 2014 used a measure of repeat absenteeism based on the combined percentage of both primary and secondary school pupils who missed 15% or more of the school sessions (three year average, 2010/11 to 2012/13). Using this measure, absenteeism rates in the local authority ranged from 21% of pupils missing 15% or more sessions in the 'Gibbonsdown 2' LSOA to 2% in the 'Cowbridge 2', 'Plymouth (VoG) 1' and 'Plymouth (VoG) 3' LSOAs.

Again, the areas with the highest levels of repeat absenteeism overlap with those LSOAs that are shown to have the highest levels of relative deprivation as measured by WIMD 2014. Of the 10 LSOAs in the Vale of Glamorgan with the highest rates of repeat absenteeism, eight of these are in the 10 most deprived LSOAs, as measured by WIMD 2014. This provides useful evidence when considering the appropriateness of area based approaches to understanding and tackling pupil absenteeism.

The distance a pupil lives from a school has been shown not to be a primary factor in a pupil's attendance¹⁵. This may be due to a number of factors, including better home to school transport for those pupils living further from their school. When looking at maps of the time taken to travel to primary schools (Figure 13) and secondary schools (Figure 14), the LSOAs where pupils typically have longer travel times to and from school are typically those LSOAs where pupil attainment is higher. A conclusion that could be drawn from this is that, in the Vale of Glamorgan, pupil attendance is influenced more by social factors than geographical distance from school.

¹⁵ <http://eprints.lse.ac.uk/27863/1/WP116.pdf> - Accessed 12/06/2015

Figure 13: Average time in minutes taken using public transport to travel to a primary school in the Vale of Glamorgan (2013 - 14)

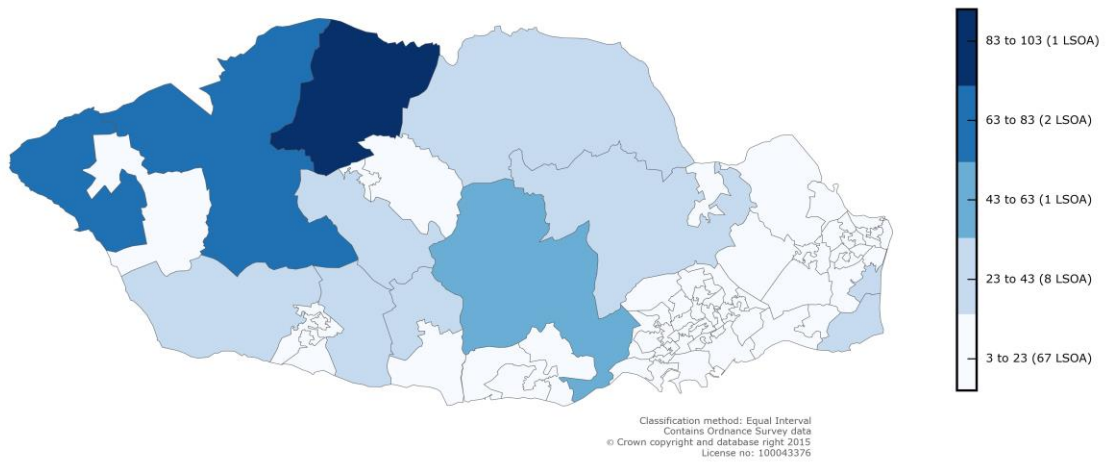
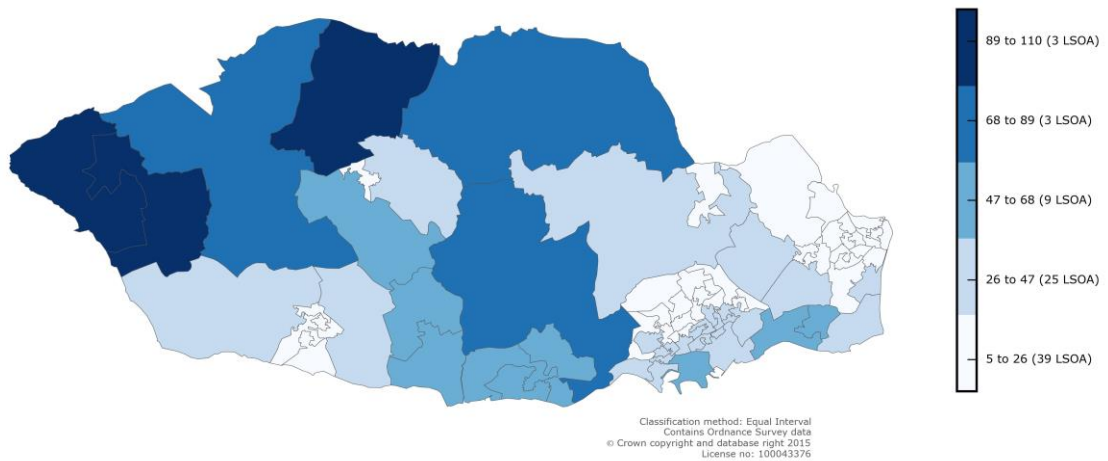


Figure 14: Average time in minutes taken using public transport to travel to a secondary school in the Vale of Glamorgan (2013 - 2014)



Overall, the picture of education in the Vale of Glamorgan appears to be fairly in line with the expected level across Wales. However, there are variations between the least deprived and most deprived areas, with the level of attainment being generally lower in those LSOAs that have higher relative deprivation as measured by WIMD 2014.

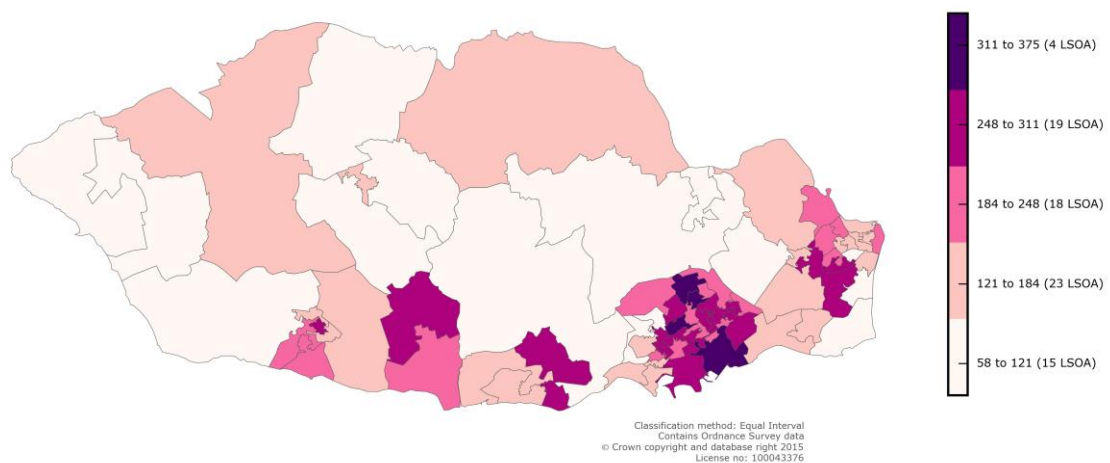
Income & Employment

Income is widely accepted as one of the main determinants of whether an individual or a household experiences some form of poverty or deprivation. As previously mentioned, the official UK government measure on poverty is based on taking the number of households that have an income less than 60% of the GB median income. As an individual's employment status is by and large the determining factor of whether they have a household income below the official threshold for being in poverty, and to what extent they experience it, indicators looking at both income and employment have been included in this section.

Income

The average gross weekly full time pay in the Vale of Glamorgan was £534.60 in 2014, which was almost £50 a week more than the figure for Wales, which was £479.40¹⁶. Whilst at a local authority level the data points to a higher income than other parts of Wales, when we begin to look at the data at lower geographies, it becomes clear that at the small area level there is a great deal of variation across the Vale of Glamorgan. **Figure 15** shows that there are a higher number of households with income levels below 60% of GB median income in the southern areas of the Vale of Glamorgan, particularly in Barry.

Figure 15: Number of households below 60% of GB median income in the Vale of Glamorgan



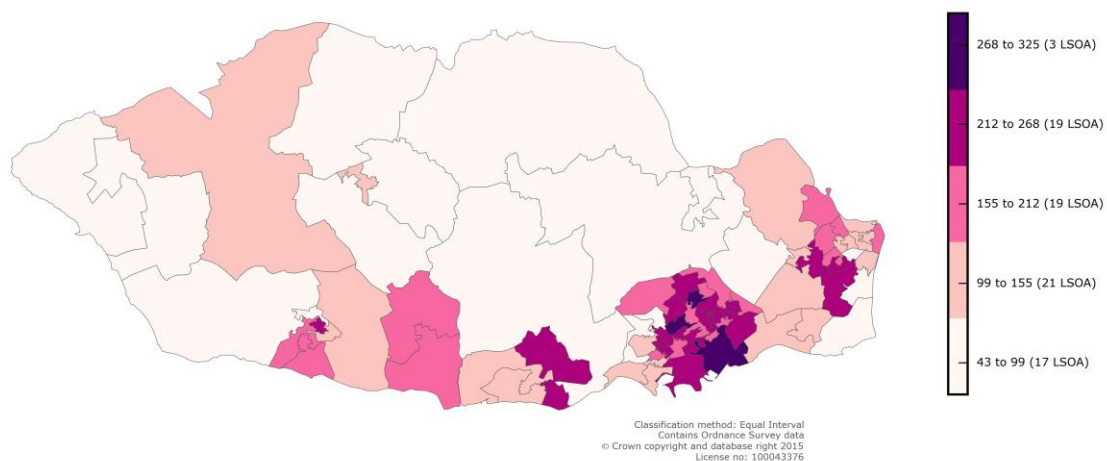
Source: CACI Paycheck 2014

Whilst the data shows the numbers of as opposed to rates of households, and as such will naturally vary across the area, it is worth noting that there appears to be little correlation between the LSOAs with the highest number of households in **Figure 4** and the LSOAs with the highest number of households whose income is less than 60% of GB median income. The

¹⁶ Annual Survey of Hours and Earnings 2014

same is also true for households with an income of below 50% of the GB median shown in **Figure 16**. 3 of the 4 LSOAs that have incomes 60% below the GB median income also have incomes 50% below the GB median income.

Figure 16: Number of households below 50% of GB median income in the Vale of Glamorgan

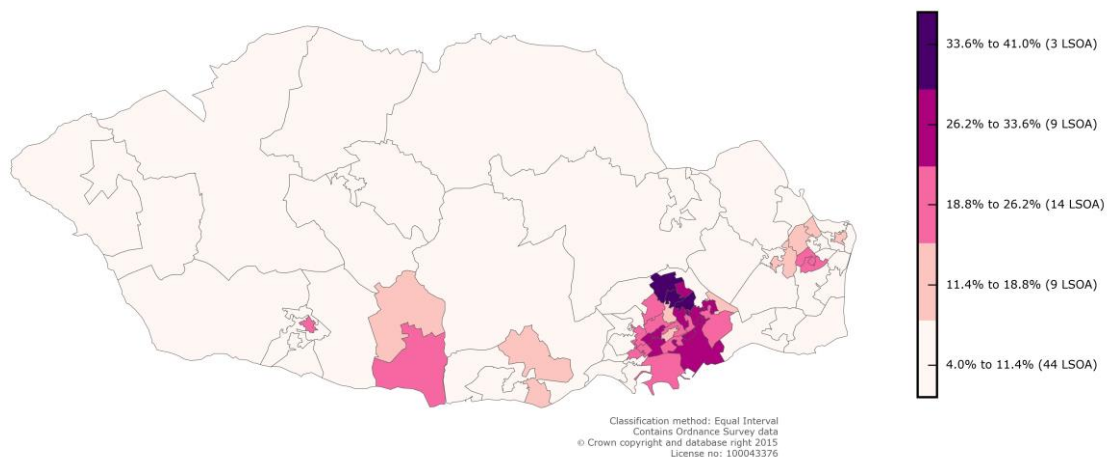


Source: CACI Paycheck 2014

The WIMD 2014 Income Domain provides the indicator 'Percentage of the population considered to be income deprived', which is a single composite indicator covering the years 2012-2013 and which is calculated from three elements:

- **Income-Related Benefit claimants;**
- **Tax Credit recipients; and**
- **Supported Asylum Seekers.**

Figure 17: Percentage of the population considered to be income deprived in the Vale of Glamorgan (2012 – 2014)



Source: WIMD 2014

Across Wales, 17% of the population are experiencing income deprivation compared to 14% in the Vale of Glamorgan. At LSOA level, 'Dinas Powys 1' has the lowest percentage experiencing income deprivation at 4% of its population, compared to 'Gibbonsdown 2' with the highest at 41%, which is more than double the Wales figure. This disparity in income deprivation at a local level is masked when considering the Vale of Glamorgan average, which is in line with the Wales national average. To fully comprehend the range of the percentage of the population experiencing income deprivation, lower level geography data should be considered.

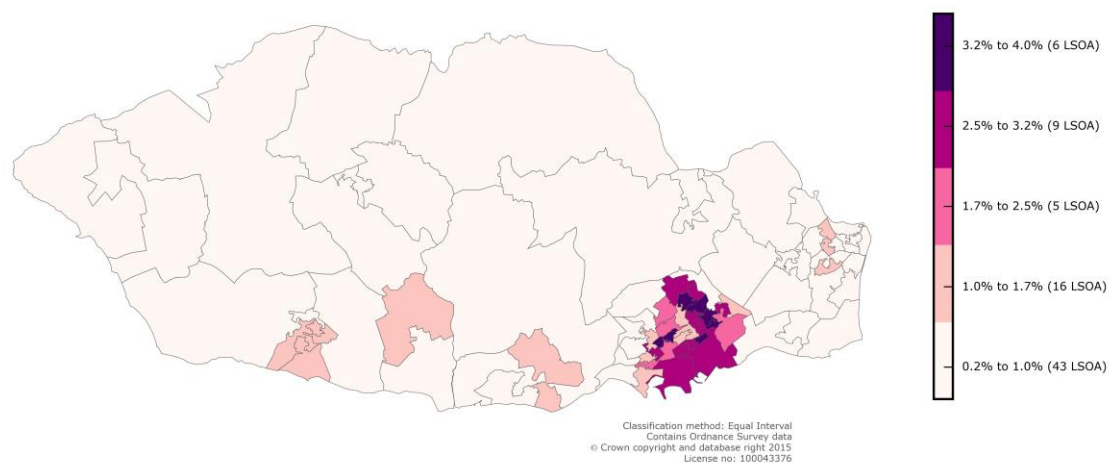
Employment

The United Nations refers to unemployment and underemployment as the '*core of poverty*'. Others have argued that being in employment is the opposite of poverty, leading to social inclusion, a sense of purpose, and engagement with the local community¹⁷, whereas unemployment can bring about a range of issues linked to poverty, including poor mental health and alcohol abuse¹⁸.

¹⁷ <http://www.newstatesman.com/politics/2014/02/slaying-giants-poverty-and-unemployment> - Last accessed 18/04/2015

¹⁸ Gili, M. et. al. (2013), *The mental health risks of economic crisis in Spain: evidence from primary care centres, 2006 and 2010*, The European Journal of Public Health, Vol. 23(1)

Figure 18: Percentage of the working age population claiming Job Seeker’s Allowance in the Vale of Glamorgan (December 2014)



Source: DWP

LSOAs in the Vale of Glamorgan show some of the lowest levels of Job Seeker’s Allowance (JSA) claimants in Wales. ‘Plymouth 1’ and ‘Plymouth 3’ both had 0.2% of residents who are of working age claiming JSA in December 2014. This compares to ‘Buttrills 2’ at 4%. Although the Vale of Glamorgan’s overall level of 2% is less than Wales at 2.4%, there are still variations in the rate of JSA claimants within the working age population, and in particular rates in many of the LSOAs making up the town of Barry are relatively high.

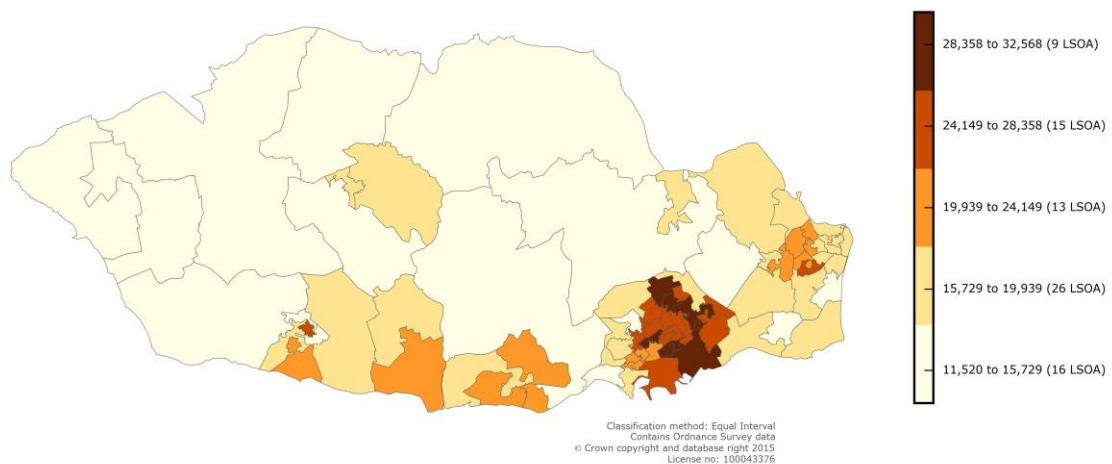
*The ONS states that:
 “Since the people claiming benefits are generally a particular subset of the unemployed, the Claimant Count can provide a useful indication of how unemployment is likely to vary between areas and over time.”*

Health

The link between poverty and ill-health has been well documented for a number of decades¹⁹. A recent study by the Joseph Rowntree Foundation (JRF) devised a framework that identifies four broad pathways through which income can influence health²⁰. This includes **material**, which relates to the ability of an individual to buy goods and/or services which improve their health; **psychosocial**, which identifies the biochemical changes caused by poverty-induced stress, leading to ill-health; **behavioural**, which identifies the higher likelihood of those on low-income to adopt unhealthy behaviours such as smoking; and **reverse causation**, where ill-health can prevent individuals from taking paid employment, and ill-health in childhood can affect educational outcomes and subsequent adult employment.

When examining the influence of poverty on health, it is therefore important to consider the multifaceted and complex relationship between health and poverty, and how each can influence the other, whilst also being aware that, although ill-health can be an indicator of poverty, it can also be a direct cause of it.

Figure 19: Rate of limiting long-term illness per 100,000 population in the Vale of Glamorgan (2011)



Source: WIMD 2014

The geographic distribution of limiting long-term illness per 100,000 population follows the typical distribution that has been previously shown in this analysis. Meaning that the more rural areas in the west and north of the Vale of Glamorgan generally have a lower level of limiting long-term illness, 11,520 to 15,729 per 100,000 population. This compares to areas in and around Barry that suffer rates of long-term illness nearly three times higher, at 28,358 to 32,568 per 100,000 population.

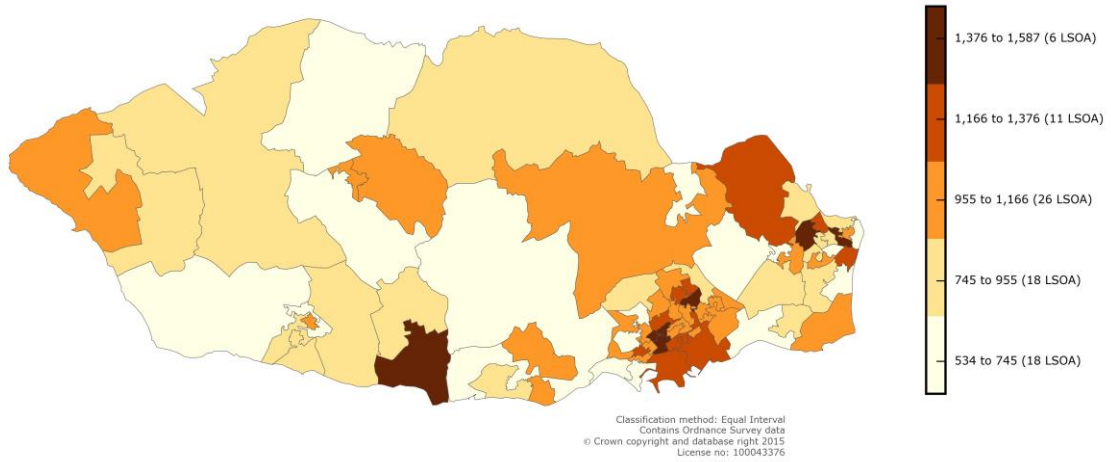
For the two other health domain indicators (the rate of all cause death per 100,000 population and the rate of cancer incidence per 100,000 population), there is far less of a distinct geographic clustering compared to the rate of limiting long-term illness, with limited

¹⁹ Spencer, N. J. (2000), *Poverty and Child Health*, Radcliffe Medical Press, 2000

²⁰ Benzeval, M. et. al. (2014), *How does money influence health?*, Joseph Rowntree Foundation

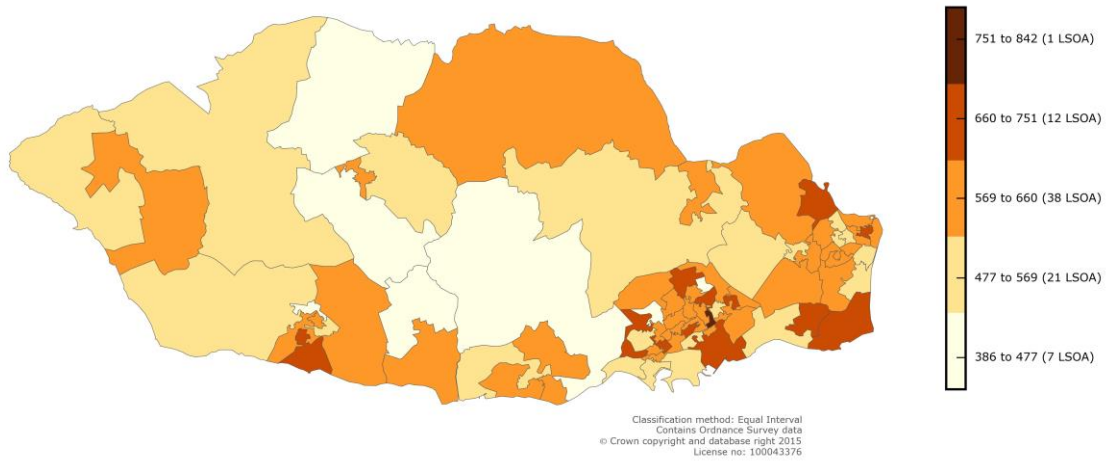
geographic distribution being observed across the Vale of Glamorgan, punctuated by small areas of particularly high rates.

Figure 20: Rate of all-cause death per 100,000 population in the Vale of Glamorgan (2004 – 2013)



Source: WIMD 2014

Figure 21: Rate of cancer incidence per 100,000 population in the Vale of Glamorgan (2003 – 2012)



Source: WIMD 2014

There could be a number of reasons for this. For instance, research has shown that there is a link between an individual’s level of income and the likelihood of them having a longstanding illness or disability²¹, whereas factors such as all-cause death and rate of cancer incidence are influenced by a wider group of social, economic and environmental determinants. What is clear though, is that the difference between the LSOA with the highest rate and the lowest rate for both indicators is large.

²¹ <http://www.poverty.org.uk/61/index.shtml> - Last accessed 29/04/2015

For the all-cause death per 100,000 population, the LSOA with the lowest rate was 'Cowbridge 2' at 534.5 per 100,000, while 'Buttrills 2' had the highest rate at 1,587.3 per 100,000, a difference of 1,052.8. This compares to a Wales rate of 1,049.7 per 100,000 population. While a number of LSOA rates within the Vale of Glamorgan are higher than the Wales rate, 67% of LSOAs (53) have an all-cause death rate per 100,000 population which is lower than Wales.

The data for cancer incidence per 100,000 population shows that the lowest rate is in 'Cowbridge 4' at 441.2 and the highest is 842.9 in 'Court 1', a difference of 401.7 per 100,000 population. The Wales rate is 582.5 per 100,000 population. 36 of the 79 LSOAs in the Vale of Glamorgan (45.6%) have rates below this.

There are differences in the geographic distribution of areas that experience high rates of limiting long-term illness and those areas that experience high rates of all-cause death and cancer incidence. It is clear from the maps in this section that rates of limiting long-term illnesses are more concentrated in areas that experience other aspects of deprivation and poverty.

The effect of such concentrated and high rates of limiting long-term illness on poverty and deprivation are likely to be profound, not least because the two are, as mentioned previously, complexly interlinked. Individuals living in poverty are less able to cope with disease and illness than the general population because of, social exclusion, and other disadvantages²², which in turn leads to a loss of opportunities to become less deprived.

²² Centre for Chronic Disease Prevention and Control. What are chronic and non-communicable diseases? Ottawa, ON: Public Health Agency of Canada; 2006.

Safety

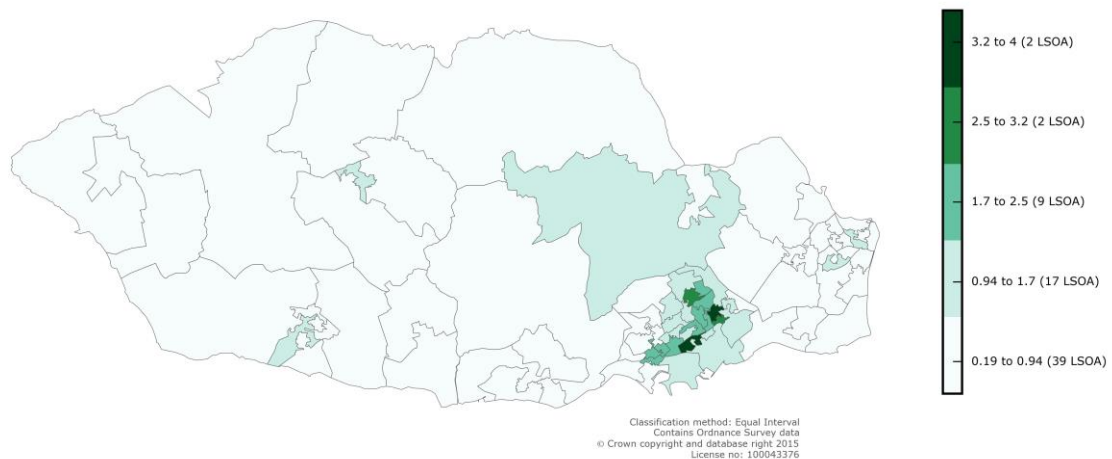
One of the main factors influencing the rate of crime in developed countries is often thought to be income inequality²³.

However, more recent research has shown that income or income inequality may not be the predominant factor in the rate of crime experienced in an area, and specifically that childhood family income and subsequent violent criminality and substance misuse have no association²⁴.

However, when the current evidence is viewed, there is no doubt from looking at the available data that there is an increased rate of crime and criminal activity in those areas of the Vale of Glamorgan that have the highest levels of deprivation and poverty (identified in earlier sections of this report).

For instance, the rate of recorded criminal damage per 100 resident population in Wales is 1.03. In the Vale of Glamorgan, four LSOAs have rates of over 2.5 and 13 with rates over 1.7 (Figure 22), all of which are LSOAs that also display characteristics of poverty and deprivation.

Figure 22: Rate of recorded criminal damage per 100 resident population in the Vale of Glamorgan (2012 – 2014)

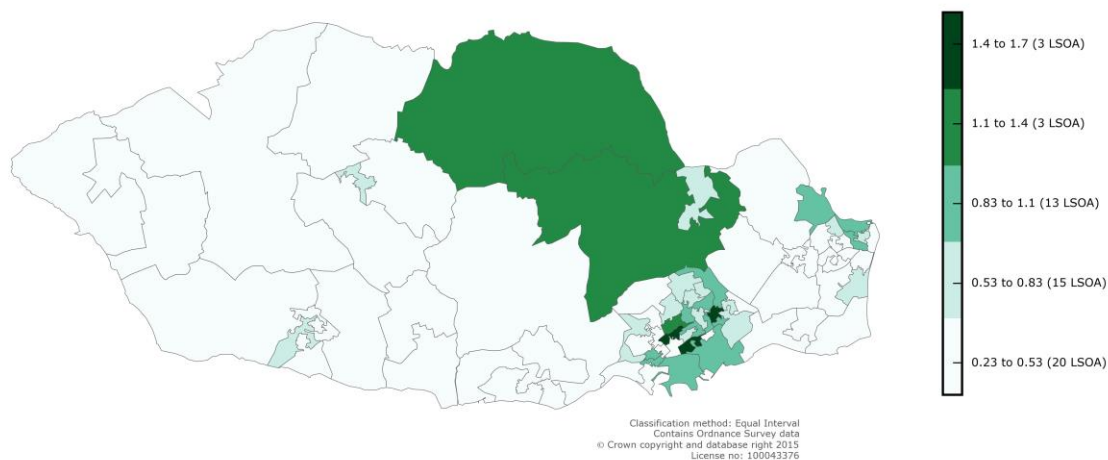


Source: WIMD 2014

²³ Lynch, J., Davey Smith, G., Hillemeier, M., Shaw, M., Raghunthan, T. and Kaplan, G. (2001) 'Income Inequality, the Psychosocial Environment, and Health: Comparisons of Wealthy Nations', *Lancet* 358, pp. 194–200.

²⁴ Amir Sariaslan, Henrik Larsson, Brian D'Onofrio, Niklas Långström, Paul Lichtenstein DOI: 10.1192/bjp.bp.113.136200
Published 21 August 2014

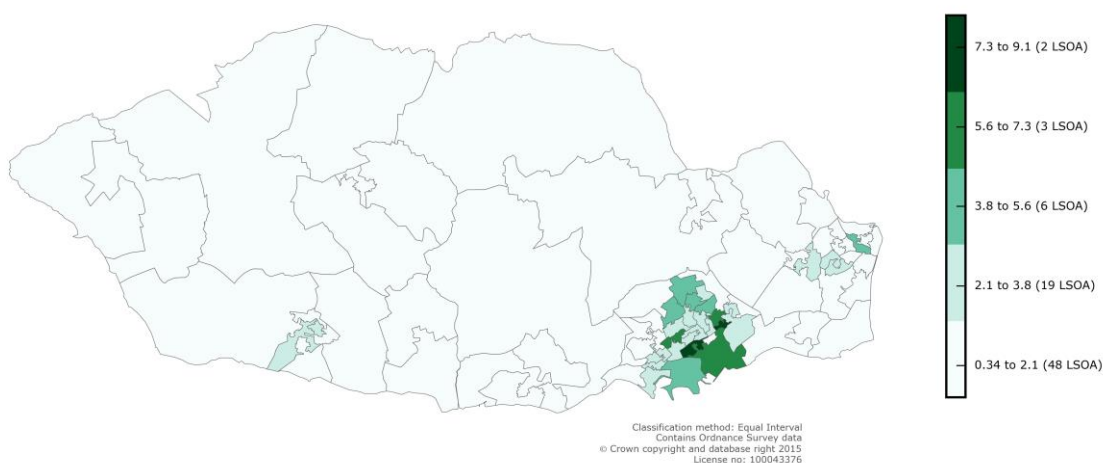
Figure 23- Rate of recorded theft per 100 resident population in the Vale of Glamorgan (2012 - 2014)



Source: WIMD 2014

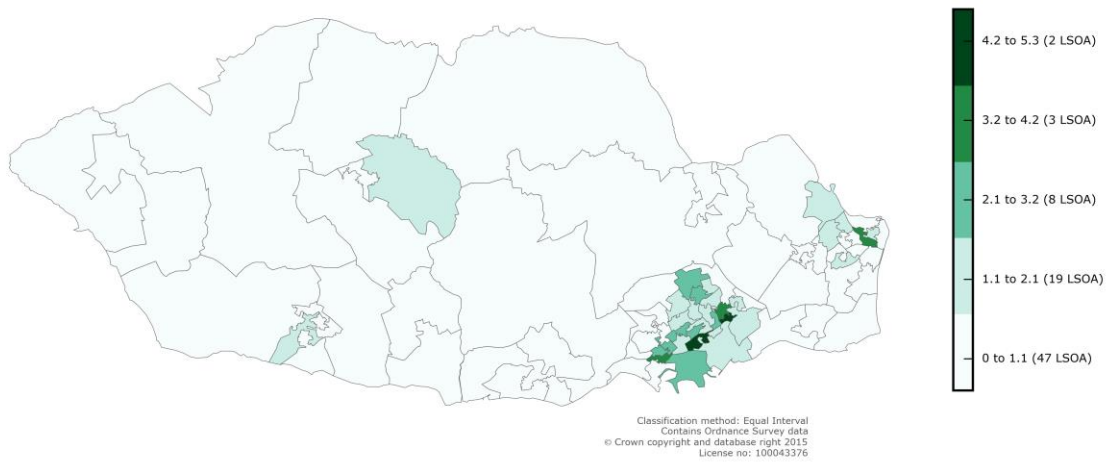
In fact, throughout the indicators in this section, a clear geographic distribution appears, with the highest crime rates being consistently located in areas in and around Barry town centre. This is perhaps most pronounced in the data relating to rates of anti-social behaviour (Figure 24) where 52 LSOAs, almost all of which are outside Barry, have a rate of less than 3 recorded incidents of anti-social behaviour per 100 resident population, whereas the 8 LSOAs with the highest rates are all located in Barry.

Figure 24: Rate of recorded anti-social behaviour per 100 resident population in the Vale of Glamorgan (2012 – 14)



Source: WIMD 2014

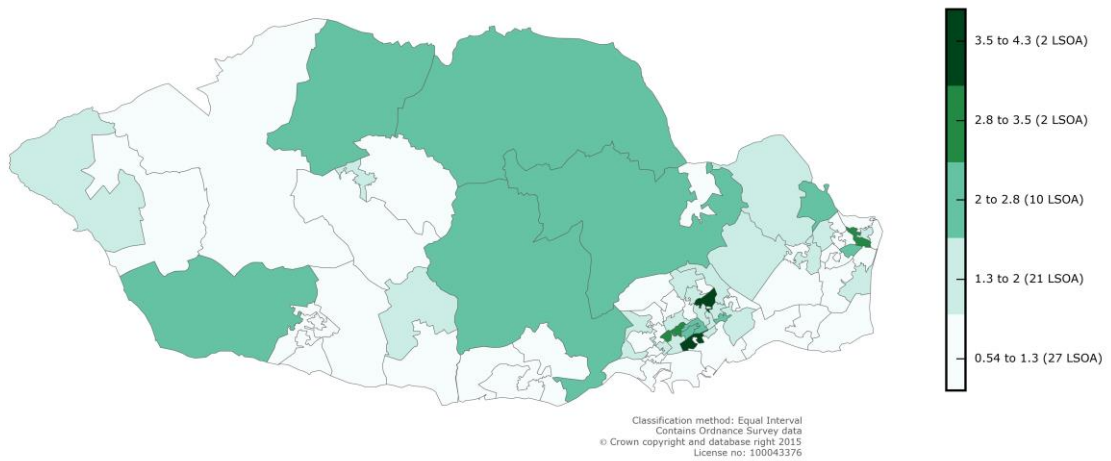
Figure 25: Rate of recorded violent crime per 100 usual resident population in the Vale of Glamorgan (2012 – 2014)



Source: WIMD 2014

As can be seen in **Figure 26**, one indicator within this section that does not fit with the overall geographic distribution of crime is the rate of burglaries per 100 dwellings and business addresses. It is difficult to determine the reason behind this without further research, as there are likely to be a number of different factors influencing this trend.

Figure 26: Rate of recorded burglaries per 100 dwellings and business addresses in the Vale of Glamorgan (2012 – 2014)



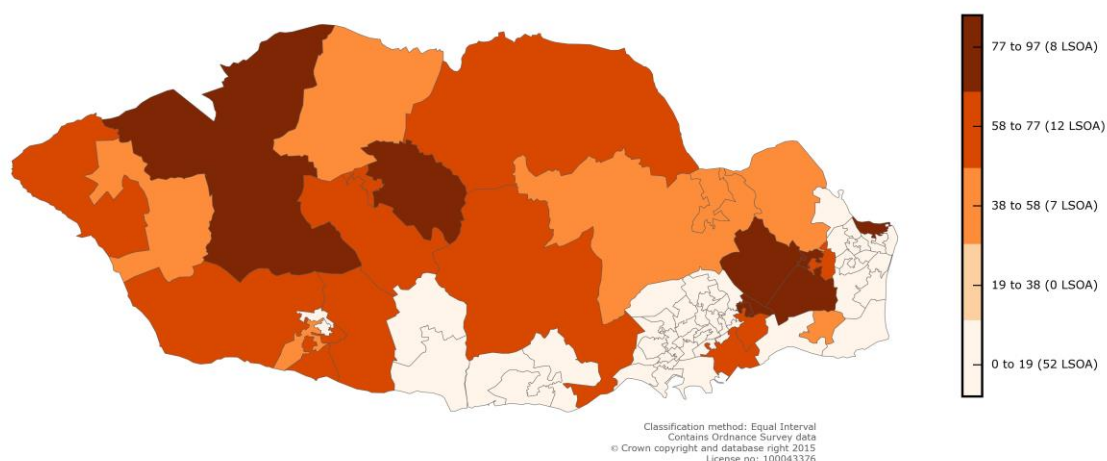
Source: WIMD 2014

Physical environment

The physical environment of an area can have a direct influence on the other indicators of deprivation and poverty, particularly in terms of mental and physical well-being. In particular, a number of academic studies have found links between the health of a population and its access to green spaces, where exposure to those green spaces may assist in reducing socioeconomic health inequalities²⁵. Whilst it would be possible to model the access to green space for each LSOA in the Vale of Glamorgan, it would be beyond the scope of this report to do so; in light of this, we have used the most recently available LSOA level data from the WIMD 2014 Physical Environment domain, to inform our understanding of the current level of physical deprivation within the area.

There is geographic variation in the flood risk score across the LSOAs in the Vale of Glamorgan (**Figure 27**). This score considers the proportion of households at risk of flooding from the sea and from rivers, but does not take into account the risk of flooding through surface water, where the risk of flooding is based on the predicted frequency that a flood event could affect the area as opposed to the potential level of damage caused by such a flood.

Figure 27: Flood risk score in the Vale of Glamorgan (2014)



Source: WIMD 2014

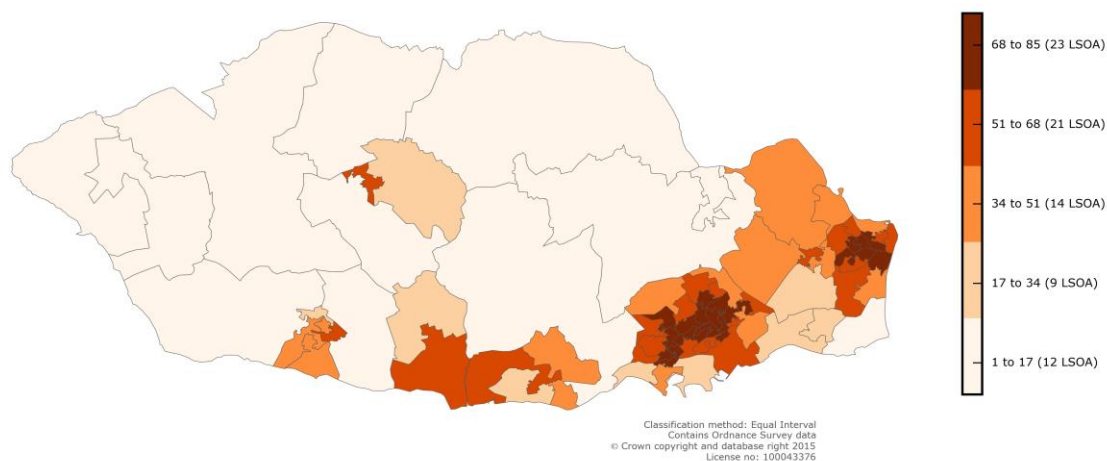
It is clear from looking at the map that, of the most deprived areas in the area, very few have a flood risk score above zero. In contrast to most other indicators found within this report, the areas with the highest flood risk score (and therefore the highest likelihood to suffer from flooding) are the more rural and less deprived LSOAs, such as 'Cowbridge 3', which has a flood risk score of 79. In terms of considering the effects of the physical environment on creating or exacerbating poverty in local areas within the Vale of Glamorgan it is unlikely that the flood risk will be of notable consequence for more deprived communities.

Perhaps more appropriate data items to consider when looking at deprivation and poverty and what may cause or enhance these within the Vale of Glamorgan are those indicators more directly linked to other major indicators deprivation and poverty, such as the air emissions score (**Figure 28**) and the air quality concentration score (**Figure 29**).

²⁵ Effect of exposure to natural environment on health inequalities: an observational population study. Mitchell, Richard et al. *The Lancet*, Volume 372, Issue 9650, 1655 - 1660

Both WIMD indicators were constructed using similar techniques. First a one km square grid was overlaid on the LSOAs across Wales. From this, concentration values of either pollutants or pollutant related statistics were extracted for each LSOA to form the air concentration score; annual emissions values for a number of pollutants were extracted as the basis of the air quality concentration score²⁶.

Figure 28: Air emissions score in the Vale of Glamorgan (2012)



Source: WIMD 2014

As would be expected, air emissions scores are much higher in the south and east of the county, where population densities, traffic volumes and proximity to heavy industry are likely to be higher than in the more rural areas of the county. This links to the idea that, as in many of the other indicators within this report, there is a clear difference in the Vale of Glamorgan between the generally less deprived rural areas and the urban developed areas to the south and east of the local authority. Higher levels of emissions within the areas prone to poverty and deprivation can exacerbate already high levels of health inequality by increasing levels of respiratory disease and other illnesses²⁷.

Similar high scores can also be seen for air quality concentration, though there is a less pronounced gradient between the eastern and north eastern areas of the county. As such, high air quality concentration scores can be found in the north-west of the county, in LSOAs such as 'Peterston-Super-Ely' and 'Wenvoe 1', which have air quality concentration of 48 and 47 respectively, yet have air emissions scores of 0.

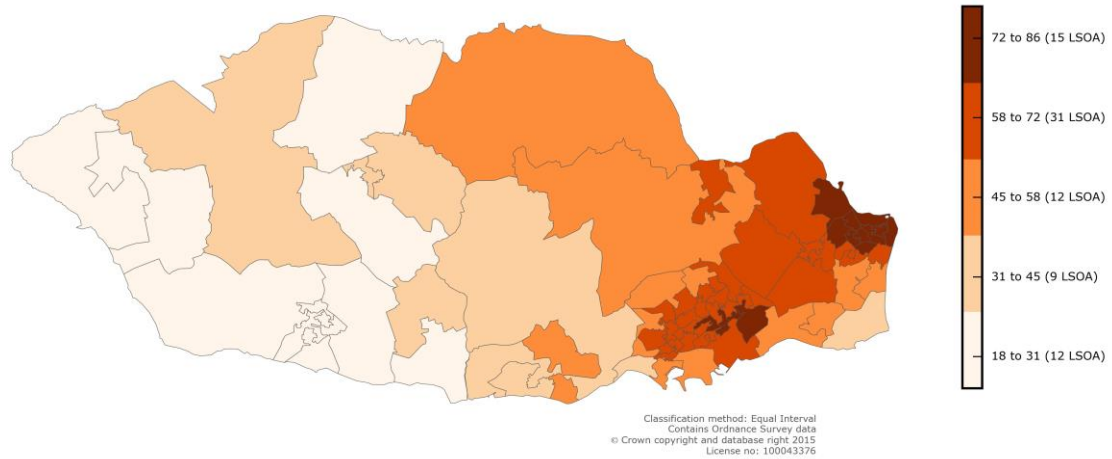
When comparing **Figure 29** and **Figure 30** with **Figure 19** (rate of limiting long-term illness), it can be seen that the rate of illness is substantially more in LSOAs that also have air quality concentration scores and air emissions scores that are relatively high. Whilst the data is not robust enough to establish a direct link the weight of medical evidence which shows the effect of poor air quality on health would likely mean that some long-term health issues are caused and/or aggravated by the relatively poor air quality in those areas. Further examination of this

²⁶ <http://gov.wales/docs/statistics/2014/141218-wimd-2014-technical-en.pdf> - Accessed 13/05/2015

²⁷ Acute respiratory effects of particulate air pollution. Dockery, D. W. and Pope III, C. A. *Annu. Rev. Public Health*, 1994, 15:107-32.

data, looking specifically at respiratory illnesses, could make a more tangible link between the two indicators, and possibly establish a rate at which long-term limiting illness in the south east of the Vale of Glamorgan is impacted by poor air quality.

Figure 29: Air quality concentration score in the Vale of Glamorgan (2012)



Source: WIMD 2014

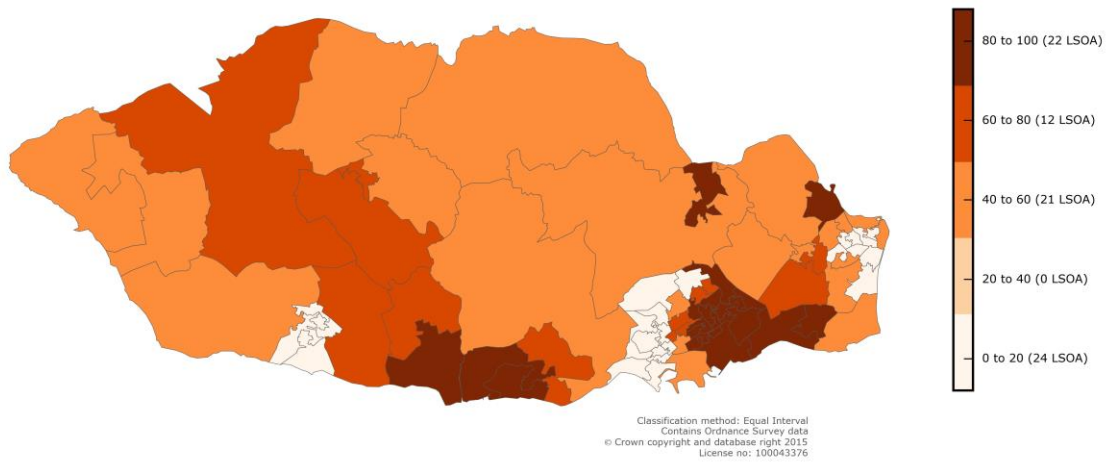
The proximity to waste disposal and industrial sites score is also a WIMD 2014 indicator. Each LSOA is given a score of between 0 and 100, based on the number of addresses within each LSOA multiplied by a proximity score, which itself is based on the number of waste and/or industrial sites and the actual or potential deprivation they may cause²⁶.

The map clearly shows that the majority of LSOAs within the county have some proximity to a waste or industrial site that may affect the deprivation or poverty experienced within an area. There is a concentration of LSOAs with high scores to the south of Barry, to the north and west of the docks. Outside of this area there are also notably high scores in the LSOAs of 'St. Athan 1' (94), 'Rhoose 1' (95), 'Rhoose 4' (94), 'Wenvoe 2' (87) and 'Llandough' (86).

The effect on the deprivation or poverty in an area through proximity to such sites is mainly through an increase in the health inequality experienced in the area. For example, through a decrease in access to green spaces and the impact on mental health resulting from stress associated with the intensity of industrially developed areas²⁸.

²⁸ <https://www.salford.gov.uk/d/JSNA-Chapter-2-Wider-causes-of-health-inequalities.pdf> - Accessed 13/05/20215

Figure 30: Proximity to waste disposal and industrial sites score in the Vale of Glamorgan (2014)



Source: WIMD 2014

What is clear from **Figure 27** through to **Figure 30** is that the concentrations of areas with the highest levels of deprivation relating to the physical environment that impact most on health inequality is that, in the majority, they are concentrated in areas of highest relative deprivation and poverty. Whilst it is beyond the scope of this report to indicate whether this is due to the environmental factors outlined in this section, it is likely that any existing poverty and deprivation are exacerbated through the well explored links between environmental deprivation and health inequalities.

Summary

This report has explored a variety of datasets relating to the geographic distribution of poverty and deprivation in the Vale of Glamorgan. Throughout this report, and in the majority of the data, it is clear that where there are areas of poverty and relative deprivation, there are generally multiple factors affecting the area, rather than one single factor.

Of all the LSOAs within the Vale of Glamorgan, 'Gibbonsdown 2' has been highlighted most frequently within this report as being an LSOA that is experiencing very high levels of relative deprivation and poverty across multiple sets of data; this is reflected in its WIMD 2014 rank of 84th most deprived LSOA in Wales. The next most deprived LSOA within the Vale of Glamorgan is 'Court 3', which is the 171st most deprived LSOA in Wales.

What perhaps stands out the most throughout this report is that there is a distinct geographic divide between the most deprived areas in the Vale of Glamorgan, such as those in the south east of the county, and the least deprived areas, such as those in the north and west. This divide is masked when looking at these indicators at a local authority level, due to the less deprived areas

and most deprived areas averaging out the data at that geography, increasing the importance of examining this data at the local level.

The geographic distribution of poverty and deprivation will impact on the ability to implement local authority wide policy strategies, as needs are likely to vary greatly across the local authority. This should be taken into account when developing policy interventions based around the need to tackle poverty in the local authority. This approach also needs to acknowledge that there are likely to be individuals experiencing poverty and deprivation across the whole of the Vale of Glamorgan, albeit in much smaller numbers than those LSOAs highlighted in this report as experiencing high levels of poverty and deprivation.