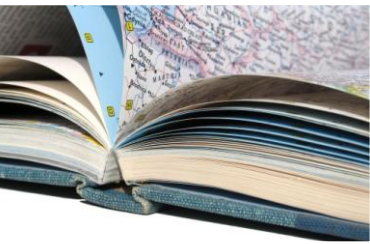




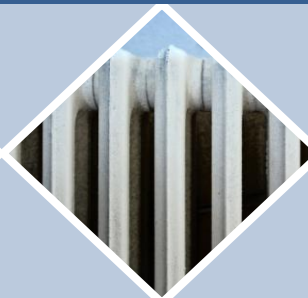
GIG
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Cyhoeddus Cymru
Public Health
Wales Observatory

Wider Determinants of Health



Powys Teaching Health Board



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1 Introduction

1.1 Factors affecting health

Health is affected, positively and negatively, by many factors. At an individual level there are fixed biological factors, such as age, sex and genetic (or inherited) makeup, and potentially modifiable lifestyle factors, such as smoking, diet and exercise.

The society within which individuals live can influence their health, with involvement in social and community networks, including friendships, contact with relatives and supportive community interactions, playing an important role in maintaining health.

Then, at a higher level again, are the wider determinants of health, or the “causes of the causes”, the environmental, social and economic contexts of lives. Factors such as education, employment, income and housing all influence health both directly and indirectly¹.

Many of these wider determinants of health are both inter-related and beyond the direct control of individuals. For example, an individual with few qualifications is more likely to be unemployed or to have a low income, which in turn limits their housing choice. Similarly there is evidence of a link between unemployment and health whereby ill health may be caused by, or result from, unemployment².

All of these circumstances may act to influence what is often wrongly perceived as solely a personal lifestyle choice. For example, whilst smoking may appear to an individual’s lifestyle choice, it is possible that their decision to smoke is pushed by the effects of the context of their lives and is in effect a response to those stresses³.

It follows then that any attempt to tackle poor health must address the wider contextual factors, rather than simply looking to influence individuals and their specific behaviours in isolation. As such, “building health into all policies and all policies into health” is rightly the first of the seven action areas of “Fairer Health Outcomes For All”, the Welsh Government’s strategic action plan to reduce inequities in health⁴.

1.2 Purpose of this report

The purpose of this brief report is not to establish associations between the wider determinants of health and health outcomes themselves, this has been done elsewhere¹. Nor is the purpose of this report to prescribe actions to tackle the wider determinants of health.

Rather, this report simply describes a number of indicators of the wider determinants of health at a small area level for each of the health boards in Wales. It has been produced by the Public Health Wales Observatory specifically to illustrate the variation in such indicators at small area level within health boards and their constituent local authorities.

Although a purely descriptive report, it is hoped that it will be of interest and use to the local Director of Public Health, the local Public Health Team and their stakeholders.

1.3 Content of this report

All bar one of the indicators are presented at middle super output area (MSOA). There are 413 MSOAs in Wales with an average population of approximately 7,000 people. Therefore MSOAs provide a reasonably sized population for analyses whilst retaining a local small area focus.

In part, the (un)availability of determinants of health data at small area level has dictated the selection of the indicators presented here. In some instances, such as community safety, there were multiple alternatives with no definitive single indicator. In such circumstances a pragmatic choice had to be made, with the reality being that similar indicators will show a similar pattern. In other instances, such as housing, there was no up to date information available pending the release of 2011 Census data.

The indicators are presented under the following chapter headings: income, housing, employment, education and community safety. For most of the indicators, the following are presented:

- an overview of the meaning of the indicator and a description of the patterns observed within each area;
- a map of all the MSOAs by fifths of equal range within the health board area;
- a chart for each local authority within the health board;
- a chart of all local authorities across Wales.

In addition, an [Indicator Guide](#) is available providing further information on each indicator.

The one education indicator that was not available at MSA level was the percentage of school leavers not in education, employment or training (NEET). This indicator is presented at local authority level only.

Where possible, confidence intervals are shown around the indicators. Confidence intervals are indications of the random variation that would be expected around these indicators. Unfortunately, in many instances it was not possible to provide confidence intervals due to the nature of the data. Confidence intervals and MSOAs are described in more detail in Appendix A.

Appendix B comprises a series of local authority area maps showing the MSA boundaries for each local authority within the health board area.

Further information on health inequalities and the relationship of health to deprivation can be found in the Observatory topic page 'Inequalities and inequities' available: <http://www.wales.nhs.uk/sitesplus/922/page/49811>.

1.4 Fair Society, Healthy Lives

The Marmot Review, Fair Society, Healthy Lives, published in 2010, suggested a number of indicators that would support the monitoring of work that aimed to tackle health inequalities, which arise largely from the wider determinants of health.

Joint work by the London Health Observatory and The Marmot Review Team led to the publication of 10 such indicators for England⁵, shown below with details of the equivalent indicators for Wales.

Marmot Indicators for Local Authorities in England	Equivalent indicators for Wales
1 Male life expectancy at birth	<p>Produced and published for Wales by the Public Health Observatory for Wales in the report 'Measuring Inequalities 2011: Trends in mortality and life expectancy in Wales', available at</p> <p>http://www.wales.nhs.uk/sitesplus/922/page/58379</p>
2 Inequality in male life expectancy	
3 Inequality in male disability free life expectancy	
4 Female life expectancy at birth	
5 Inequality in female life expectancy	
6 Inequality in female disability free life expectancy	
7 Children achieving a good level of development at age 5	There is no current equivalent measure in Wales. A measure of achievement at the end of compulsory secondary education is presented here instead.
8 Young people not in employment, education or training (NEET)	Different recording systems in England and Wales mean the NEET data presented here are slightly different to those in England. However they are very similar so remain of use.
9 People in households in receipt of means tested benefit (%)	In England this is used as part of IMD. Here a similar measure is shown; percentage of working age population in receipt of employment related benefits, which itself is used in the WIMD.
10 Inequality in receipt of means-tested benefits	Not possible here as WIMD is based on LSOA whereas MSOA is the geographical level of this report.

2 Income

2.1 Household poverty

Definition

An experimental modelled estimate of the proportion of households living in poverty, after housing costs has been deducted. This is a relative measure of poverty as it is defined here as having less than 60% of the UK median net equivalised household income.

About

Low income and poor health are strongly associated, with low income leading to poor health and poor health leading to low income. A low income is likely to reduce the household's ability to access or maintain key aspects such as healthy food and warm accommodation. Low income is also likely to reduce societal participation and limit access to enabling resources and choices. Those on low incomes are more likely to engage in health damaging behaviours, such as smoking and eating high calorie foods, as coping mechanisms or short term fixes⁶.

More detailed information on this indicator can be found in the [Indicator Guide](#).

Pattern

Across the health board the model-based estimates for the proportion of households estimated to be living in poverty range from 17.2% (Powys 016) to 31.8% (Powys 009).

The map suggests higher levels clustering in the south west of Newtown, Llandrindod Wells, Welshpool, Knighton and Presteigne.

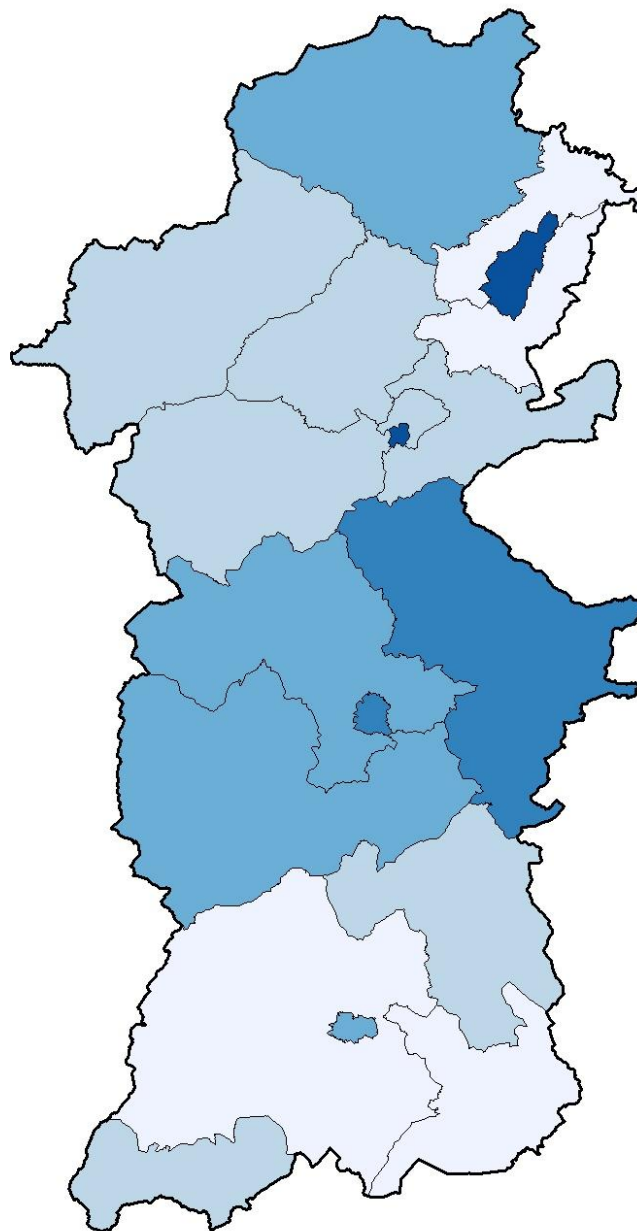
Percentage of households living in poverty, 2007/08

MSOA

- 28.8 to 31.8 (2)
- 25.9 to 28.8 (2)
- 23.0 to 25.9 (4)
- 20.1 to 23.0 (7)
- 17.2 to 20.1 (4)

□ MSOA boundary

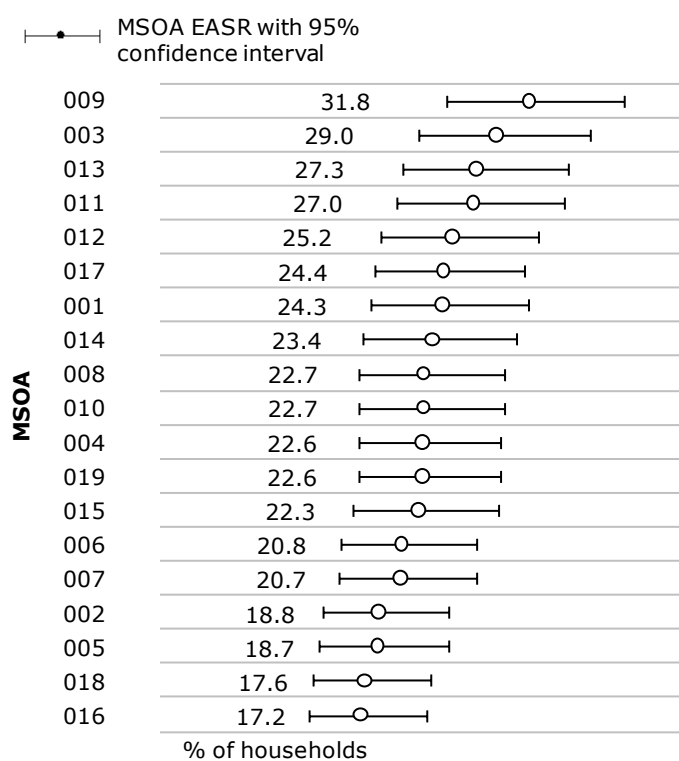
□ Local authority boundary



Produced by Public Health Wales Observatory, using model-based estimates (ONS)
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Percentage of households living in poverty in Powys Teaching Health Board area, 2007/08

Produced by Public Health Wales Observatory, using model-based estimates (ONS)



3 Housing

3.1 No central heating

Definition

The percentage of all people living in households which had no central heating in any room or rooms.

About

The inability to adequately heat a house can have major health consequences. The cold itself can exacerbate many respiratory and circulatory problems, especially in the elderly, and is likely to contribute to excess winter deaths. Inadequate heating causes dampness and condensation within a house. Dust mites and fungal spores proliferate in such conditions, which then exacerbate respiratory problems such as asthma, wheezing and other lung inflammations⁷.

This indicator is taken from the 2001 Census and is hence out of date. However, in the absence of any other national housing data, and pending the release of the 2011 Census data, it is the most up to date source of housing data. More detailed information on this indicator can be found in the [Indicator Guide](#).

Pattern

The percentage of people living in households with no central heating in Powys local authority was equal to the Welsh average. Across Wales as whole the highest percentages were seen in the more rural local authorities of the north and west. Areas without access to mains gas are less likely to have central heating.

Within this health board, there was variation at the MSOA level, ranging from just 1% (Powys MSOA 009) to 15% (Powys MSOA 001). Generally speaking the map shows a difference between the north and south of the health board; the highest percentages being in the north; the lowest being in the south. The area to the south west of Newtown is an exception to this pattern having the lowest percentage of people living in households with no central heating at 1%.

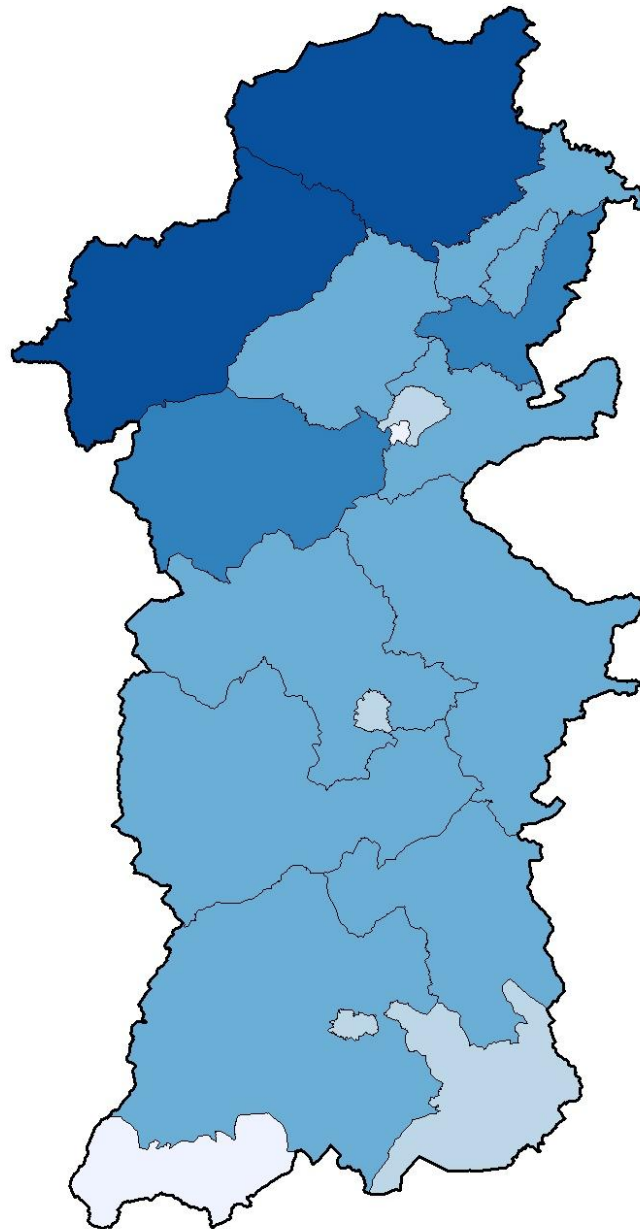
Percentage of all people living in households with no central heating, 2001

MSOA

- 13 to 15 (2)
- 10 to 13 (2)
- 7 to 10 (9)
- 4 to 7 (4)
- 1 to 4 (2)

MSOA boundary

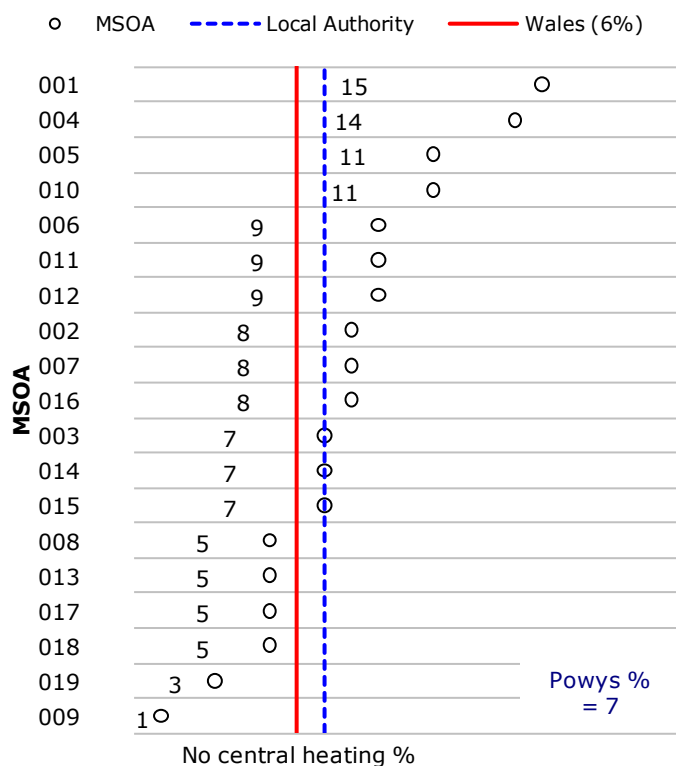
Local authority boundary



Produced by Public Health Wales Observatory, using Census 2001 (ONS)
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Percentage of all people living in houses which had no central heating in any room or rooms in Powys Teaching Health Board area, 2001

Produced by Public Health Wales Observatory, using Census 2001 (ONS)



Local authorities

Percentage of all people living in households with no central heating by local authority, 2001

Produced by Public Health Wales Observatory, using Census 2001 (ONS)



4 Employment

4.1 Employment related benefits

Definition

The percentage of the working age population claiming one or more (un)employment related benefits.

About

The lack, or loss, of employment will limit, or reduce, income. Unemployment can result in poverty, with all of its attendant negative health effects. Unemployment may also adversely affect psychological wellbeing which in turn may reduce societal participation⁸. It is likely that poor health may contribute to the loss of employment and may also limit the chances of gaining employment². Living in communities where unemployment levels are high, and therefore the expectation of finding work is low, can cause anxiety and depression as well as leading some to turn to drugs, alcohol and crime¹¹. Children growing up in such communities are similarly affected.

This indicator is the de-duplicated total number of working age people claiming one or more employment benefits, including Job Seeker's Allowance, Employment and Support Allowance and Incapacity Benefit. People claiming more than one such benefit are only counted once. More detailed information on this indicator can be found in the [Indicator Guide](#).

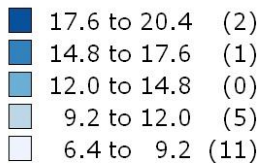
Pattern

The average percentage of the working age population claiming employment related benefits in Powys was lower than the Wales average and one of the lowest percentages in Wales.

There was a great deal of variation at the MSOA level from just 6.4% (Powys MSOA 016) to 20.4% (Powys MSOA 019). The highest levels of claims are found in isolated areas such as Llandrindod Wells, to the south west of Newtown, Ystradfellte, Coelbren, Ystradgynlais and Cwm Twrch. Employment related benefit uptake rates are generally highest in the more urbanised areas of the health board.

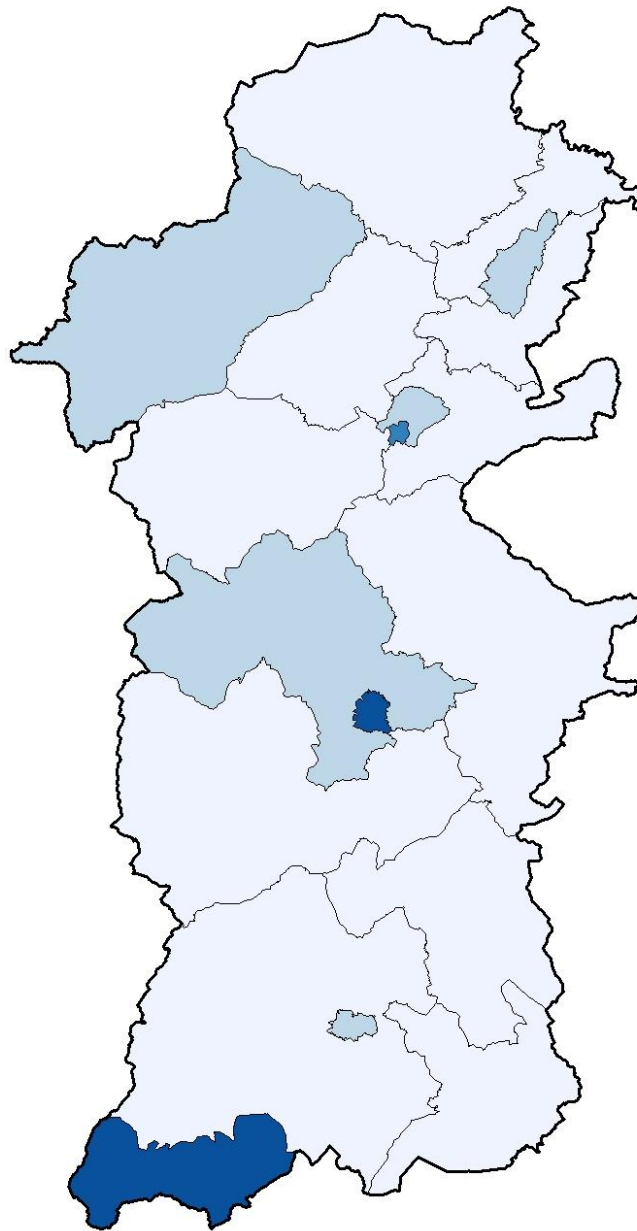
Percentage of working-age population claiming employment-related benefits, November 2009 - August 2010

MSOA



MSOA boundary

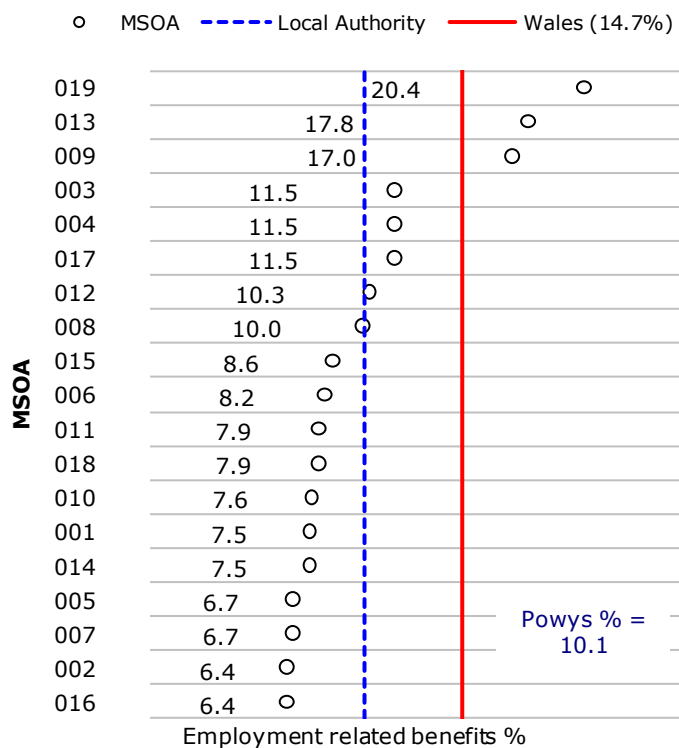
Local authority boundary



Produced by Public Health Wales Observatory, using claimants data (ONS) & (DWP)
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Percentage of the working-age population claiming one or more employment related benefits in Powys Teaching Health Board area, November 2009 – August 2010

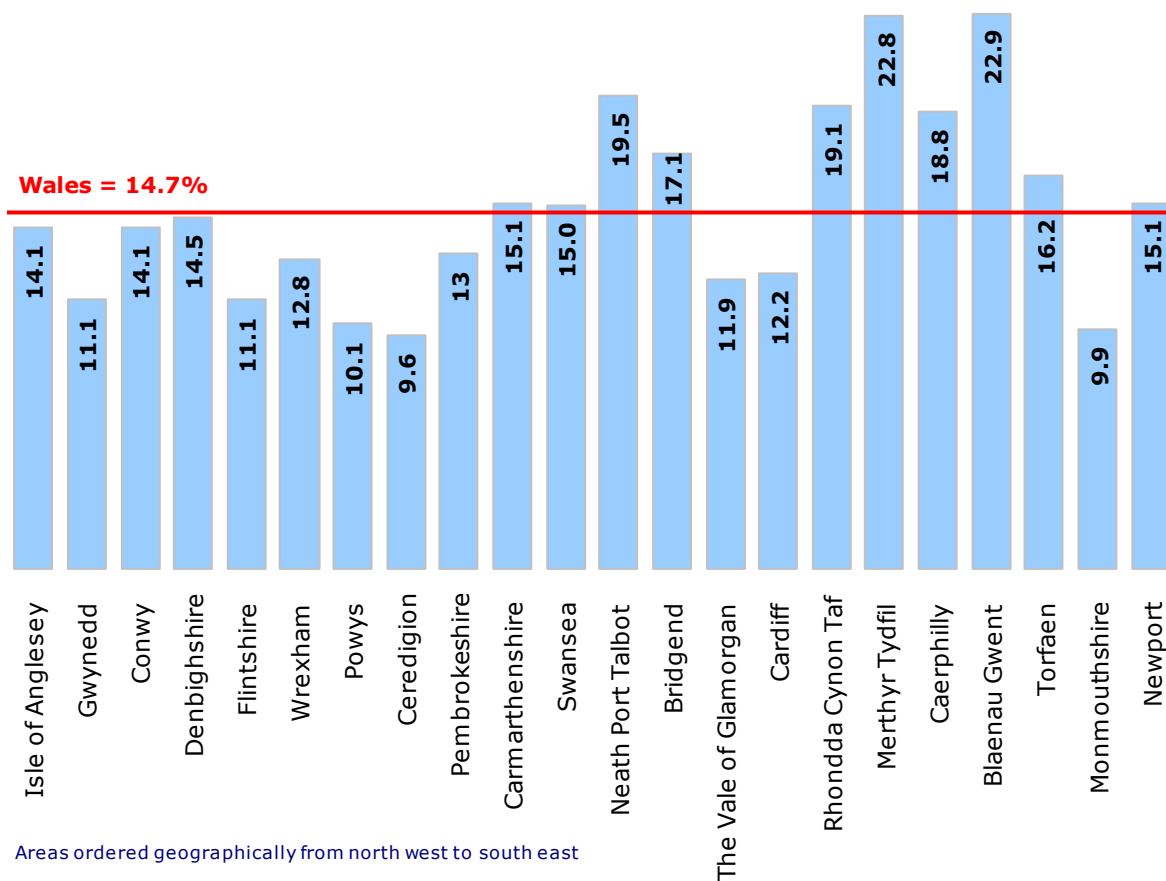
Produced by Public Health Wales Observatory, using claimants data (ONS) & (DWP)



Local authorities

Percentage of working-age population claiming employment-related benefits, November 2009 - August 2010

Produced by Public Health Wales Observatory, using claimants data (ONS) & (DWP)



5 Education

5.1 Educational attainment aged 16

Definition

Key stage 4 educational attainment at the end of compulsory education.

About

Educational attainment is a critical indicator of future education and employment opportunities. These opportunities in turn are critical indicators of income which, as discussed earlier, has a major effect on health⁸.

Unlike all of the other indicators, here a higher value is better. The widely used school performance tables are, by design, based on the school's pupils irrespective of where they live. Hence school based performance indicators are not amenable to a small area of residence analysis. The indicator presented here is based on the area of residence of pupils irrespective of their school, though that of course means that it is possible for more than one school to draw pupils from any single MSOA. The wider average points scores presented here represent the absolute achievement of resident school pupils with regards to all approved qualifications taken up to the age of 16 including GCSEs, NVQs, City & Guilds and other vocational qualifications. To understand more about the complex composition of this score it is best to view the more detailed information on this indicator that can be found in the [Indicator Guide](#). Notwithstanding that, scores at the extreme ends of the scale represent substantial differences in educational achievement.

Pattern

The average mean score at key stage 4 for Powys pupils was higher than the Wales average score and was one of the highest in Wales.

The mean scores at the MSOA level ranged from just 358 (Powys MSOA 017) to 513 (Powys 001). The two highest (best) scores occurred in the north of the local authority in the area around Llanfyllin. The lowest (worst) scores generally occurred in the more densely populated areas such as Llandrindod Wells, Brecon, Ystradgynlais and Ystradfellte.

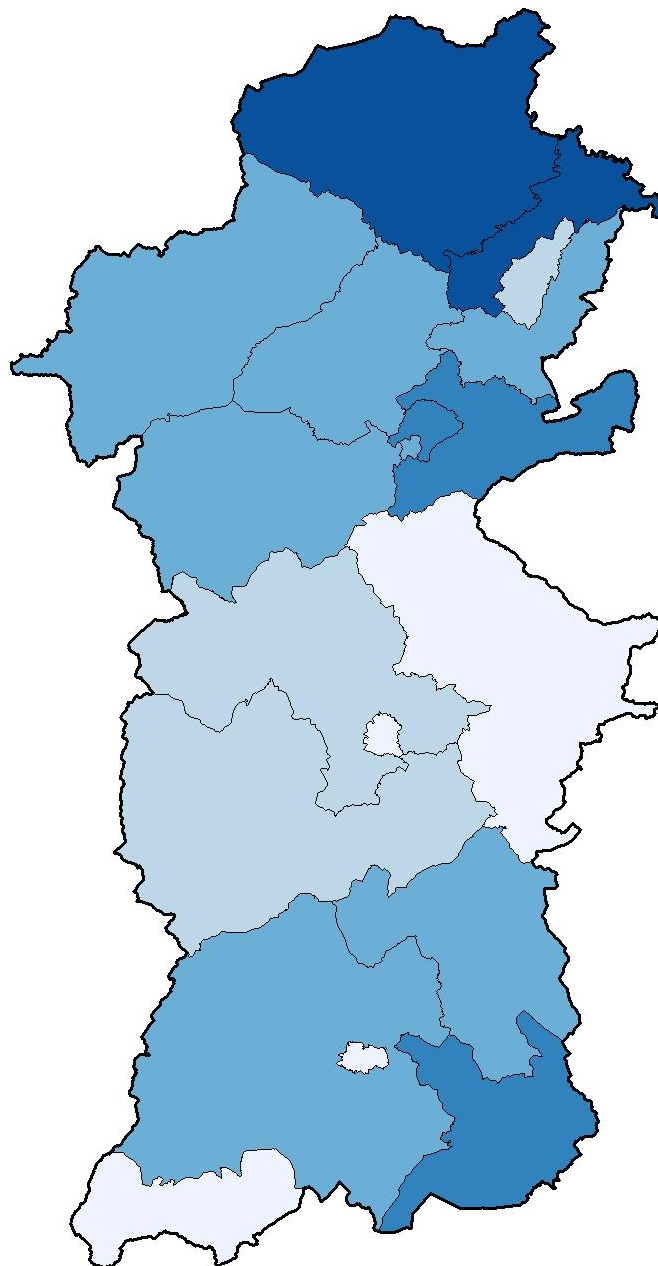
Key stage 4 educational attainment, 2008-2010

MSOA, mean score

- 482 to 513 (2)
- 451 to 482 (3)
- 420 to 451 (7)
- 389 to 420 (3)
- 358 to 389 (4)

□ MSOA boundary

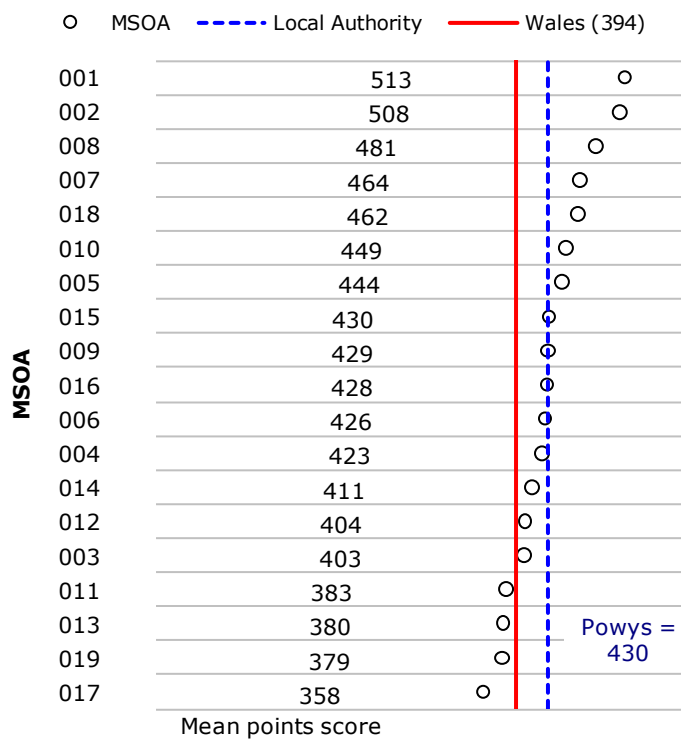
□ Local authority boundary



Produced by Public Health Wales Observatory, using PLASC (WG)
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Key stage 4 educational attainment mean scores in Powys Teaching Health Board area, 2008-10

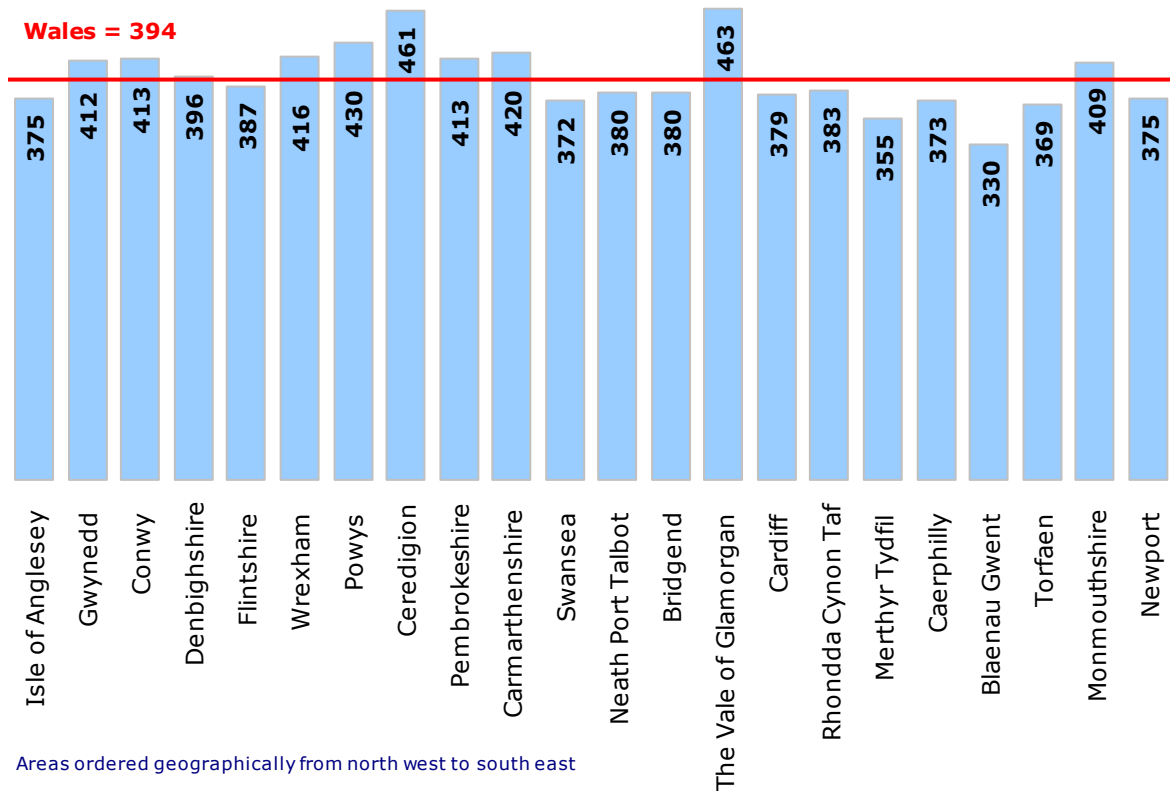
Produced by Public Health Wales Observatory, using PLASC (WG)



Local authorities

Key stage 4 educational attainment mean scores by local authority, 2008-10

Produced by Public Health Wales Observatory, using PLASC (WG)



5.2 Not in education employment or training

Definition

The percentage of year 11 school leavers who left school in the summer and who, by the end of October, were not known to be in full or part time education, employment or training (NEET).

About

The non-participation in education, employment or training after compulsory education is associated with subsequent unemployment, low income, mental illness and criminal activity⁹. More detailed information on this indicator can be found in the [Indicator Guide](#).

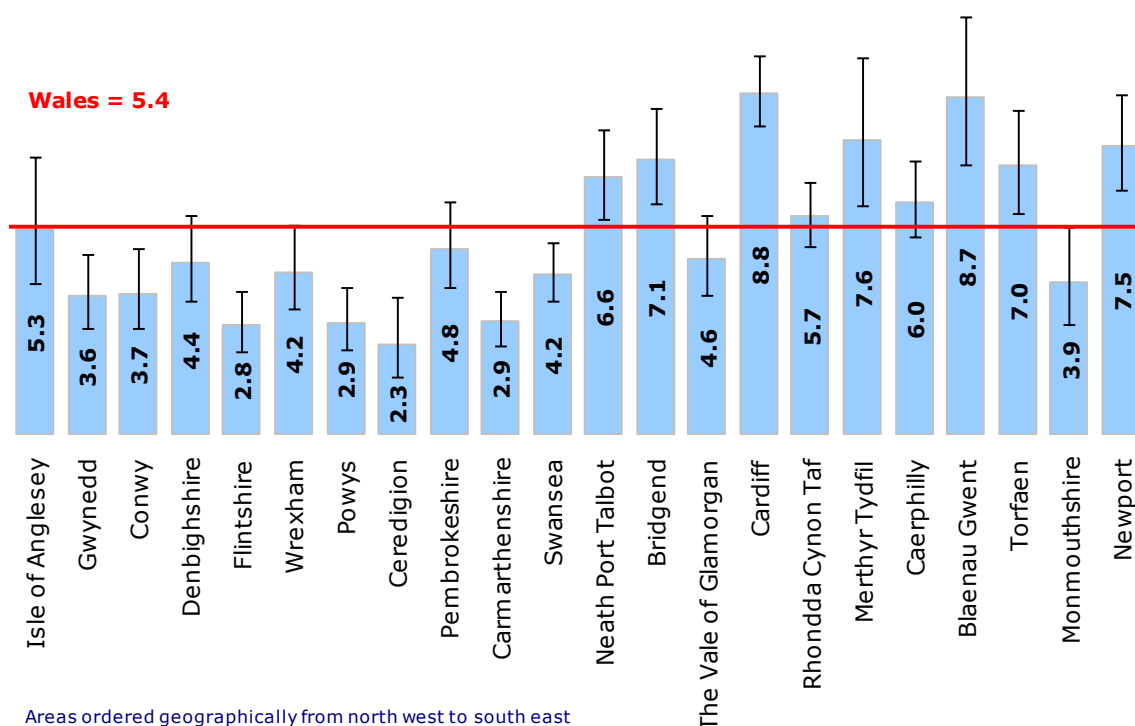
Pattern

At the local authority level within Wales, Powys had one of the lowest percentages of year 11 school leavers who were not known to be in education, employment or training by the end of October. The average for Powys was nearly half the average for Wales.

Percentage of year 11 school leavers known not to be in education, employment or training (NEET), 2010

Produced by Public Health Wales Observatory, using data from Careers Wales

95% confidence interval



6 Community Safety

6.1 Criminal damage incidents

Definition

The rate of incidents of criminal damage per 1,000 day time population.

About

Criminal damage relates to unlawful damage or destruction of property. As well as the immediate effects of criminal damage to property, this, and all crime, can adversely affect mental wellbeing. The development of a fear of crime can lead to decreased social interactions. There are strong associations between all levels of criminal activity and also with drug and alcohol misuse¹⁰. More detailed information on this indicator can be found in the [Indicator Guide](#).

Pattern

The rate of recorded incidents of criminal damage in Powys is the second lowest in Wales; Ceredigion being the lowest of all the local authorities. There is considerable variation at the MSOA level; the highest level was 17.5 in Powys 017 and the lowest was 2.8 in Powys 016. The map shows that there are concentrations of higher levels of criminal damage in the more densely populated areas; in particular, Newtown and Brecon.

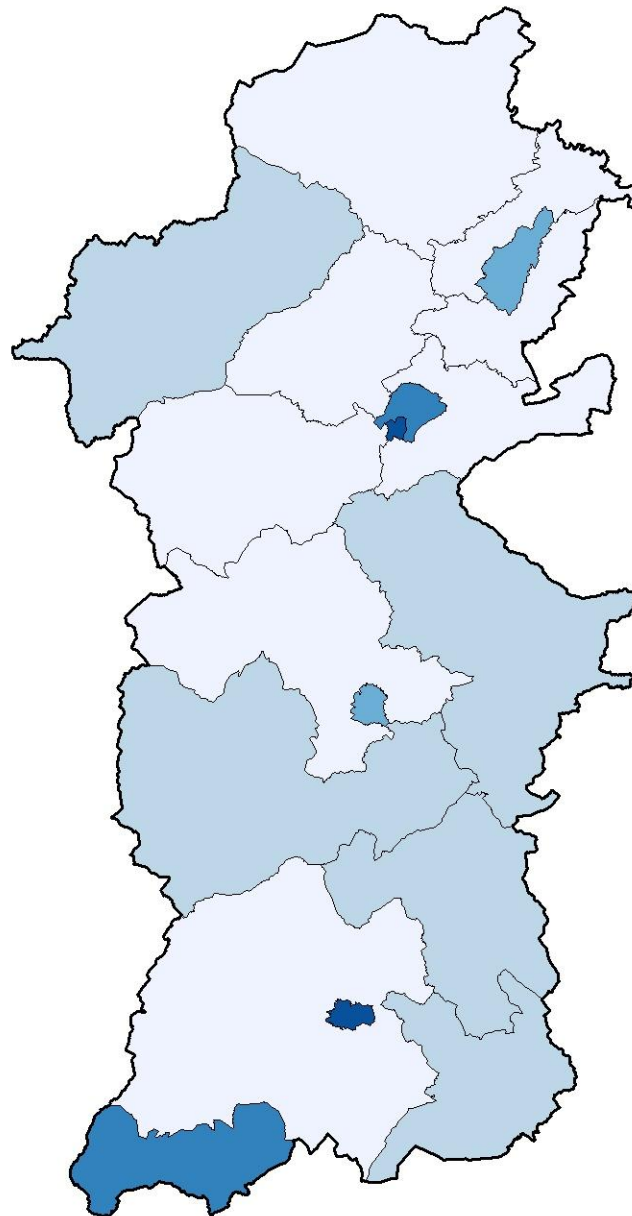
The rate of incidents of criminal damage per 1,000 day time population, April 2008 - March 2010

MSOA

- 14.4 to 17.5 (2)
- 11.5 to 14.4 (2)
- 8.6 to 11.5 (2)
- 5.7 to 8.6 (5)
- 2.8 to 5.7 (8)

MSOA boundary

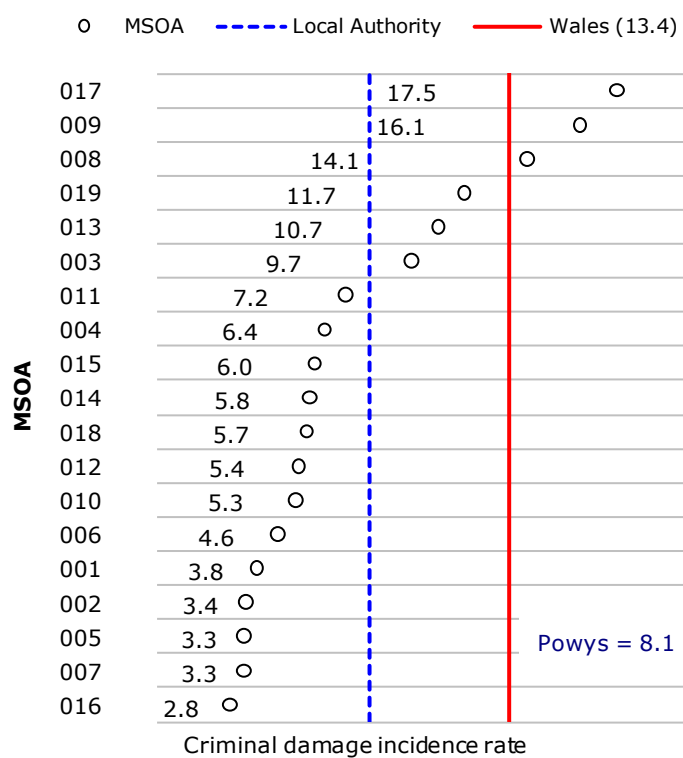
Local authority boundary



Produced by Public Health Wales Observatory, using MYE (ONS) & Welsh Police Forces
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The rate of incidents of criminal damage per 1,000 day time population in Powys Teaching Health Board area, April 2008 – March 2010

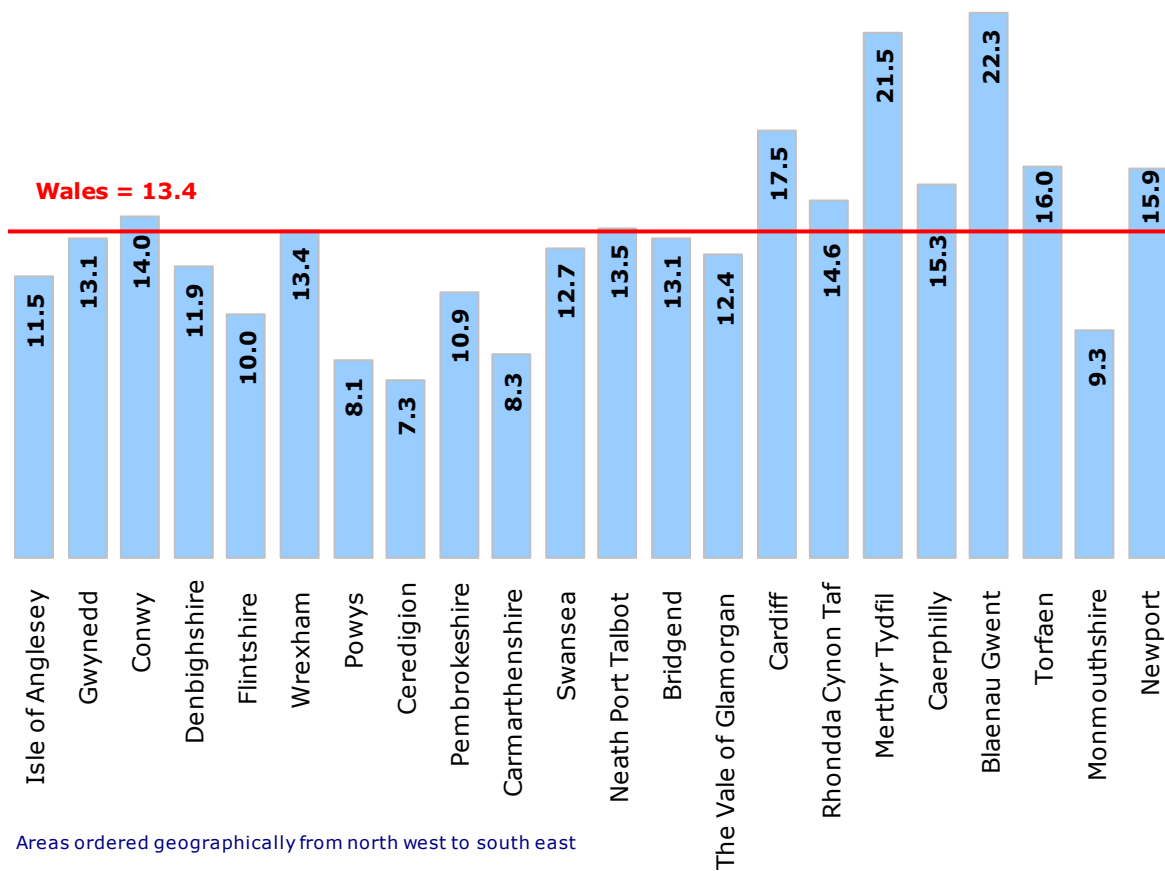
Produced by Public Health Wales Observatory, using data from Welsh Police Forces & MYE (ONS)



Local authorities

The rate of incidents of criminal damage per 1,000 day time population by local authority, April 2008 - March 2010

Produced by Public Health Wales Observatory, using data from Welsh Police Forces & ONS (MYE)



7 References

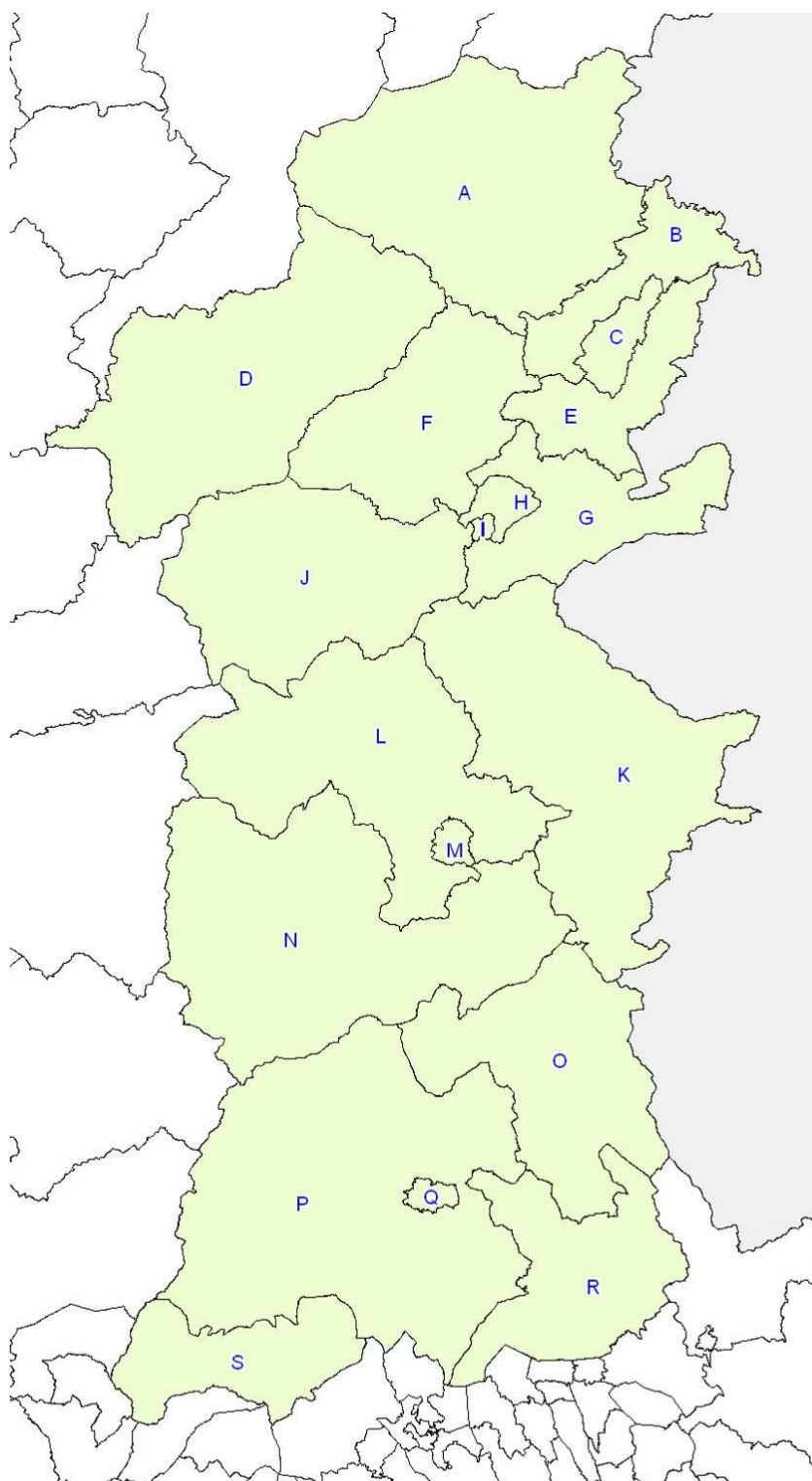
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- 11 Prince's Trust (2010) *Destined for the dole? Breaking the cycle of worklessness in the UK*. London: Prince's Trust; 2010. Available at: http://www.princes-trust.org.uk/about_the_trust/what_we_do/research/destined_for_the_dole.aspx [Accessed 16th Apr 2012]

8 Appendix A: Glossary

Middle Super Output Areas	<p>Middle super output areas (MSOAs) were released by the Office for National Statistics (ONS) in 2004. In contrast with administrative boundaries such as electoral divisions (wards), super output areas were created for the purpose of showing statistical data.</p> <p>MSOAs have a mean population of 7,500 and a minimum of 5,000. There are 413 MSOAs in Wales and 19 MSOAs in the Powys Teaching Health Board area. These are shown on the map in Appendix B.</p> <p>The ONS have stated that super output area geographies will be fixed for at least 10 years. The advantage of using these statistical geographies is stability and homogeneity. However, the main drawback is that they do not conform to known administrative boundaries such as electoral divisions (wards); this makes them less amenable to the public and local government.</p>
Confidence intervals	<p>Confidence intervals are indications of the random variation that would be expected around a rate. Confidence intervals must be considered when assessing or interpreting a rate. The 95% confidence interval represents a range which has a 95% probability of including the underlying population rate.</p> <p>The range of the confidence interval is dependent on the size of the population from which the events came. Rates based on small populations are likely to have wider confidence intervals and rates based on large populations are likely to have narrower confidence intervals.</p>

9 Appendix B: Map showing Middle Super Output Areas in the Powys Teaching Health Board area

The Public Health Wales Observatory has also produced a web-based interactive map showing MSOA boundaries, with the added facility of background Ordnance Survey mapping. Follow this link: <http://www2.nphs.wales.nhs.uk/InstantAtlas/GeographyTool/atlas.html>



- A Powys 001
- B Powys 002
- C Powys 003
- D Powys 004
- E Powys 005
- F Powys 006
- G Powys 007
- H Powys 008
- I Powys 009
- J Powys 010
- K Powys 011
- L Powys 012
- M Powys 013
- N Powys 014
- O Powys 015
- P Powys 016
- Q Powys 017
- R Powys 018
- S Powys 019