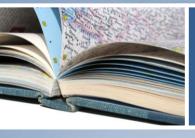


Wider Determinants of Health



Aneurin Bevan 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 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 MSOA 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 MSOA 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 England 5 , 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				
2 Inequality in male life expectancy	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			
3 Inequality in male disability free life expectancy				
4 Female life expectancy at birth				
5 Inequality in female life expectancy	http://www.wales.nhs.uk/sitesplus/922/pa			
6 Inequality in female disability free life expectancy	ge/58379			
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**.

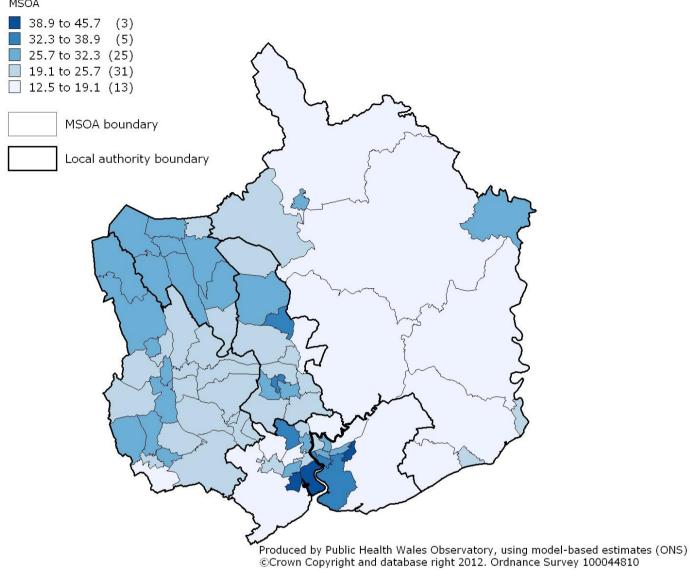
Pattern

Whilst it must be remembered that these are model based estimates, across the health board there was a threefold difference in the proportion of households estimated to be living in poverty from 12.5% (Monmouthshire MSOA 007) to 45.7% (Newport MSOA 018).

Estimates at the local authority level were not available but the median MSOA percentages suggest Newport to be slightly higher than the rest with Monmouthshire by far the lowest.

The map suggests this with the higher levels seen in areas in the south of Newport with lower levels throughout Monmouthshire. Six of the seven MSOAs with the highest proportion of households estimated to be living in poverty are in the Newport area; with the three highest found in Ringland, Pillgwenlly and Tredegar Park areas. Isolated higher levels are also seen in the Torfaen local authority, around Trevethin and Upper Cwmbran.

Percentage of households living in poverty, 2007/08



Percentage of households living in poverty in Aneurin Bevan Health Board area, 2007/08

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



006

005

-

21.7

17.4 —O—I % of households

Monmouthshire Caerphilly 018 002 31.4 \sim 27.9 -0-004 001 $\overline{\mathbf{C}}$ <u>~</u> 27.2 31.2 002 29.5 010 25.3 012 29.1 \sim 800 25.0 0 022 003 28.8 20.2 ----0-001 18.0 ├── 019 27.9 0 004 27.0 005 17.4 ---0-007 26.4 006 17.0 ├── 021 **-**0-011 17.0 —── 25.6 023 0-009 25.5 16.5 ----011 0 007 12.5 —○— 25.2 003 25.1 \sim % of households 015 φ 25.0 Newport 020 24.9 800 24.8 -018 45.7 -0 016 <u></u> 24.1 019 41.0 010 23.4 010 40.1 \sim 017 23.1 -0-003 37.2 006 23.0 **-**0-013 36.6 014 φ 22.3 015 36.3 005 21.4 ├─── 006 31.3 013 21.2 ----0-005 29 4 009 21.1 ├─── 011 29.0 ~ 17.6 ├── 024 017 27.3 **∽** % of households 800 **∼** 26.0 **Blaenau Gwent** 014 25.2 002 24.8 __ 005 30.3 \sim 007 21.8 ├──○ 004 27.6 -0-016 19.7 ├─── 003 27.2 0 004 18.5 ---800 26.3 $-\circ$ 009 18.5 ——○ 001 0 26.1 18.4 ├─── 001 006 26.1 012 18.3 ├─── 007 25.8 -020 17.4 ├─── 009 25.1 **-**0-% of households 002 24.4 -0-% of households Torfaen 009 37.6 \sim 0 003 32.3 010 27.7 002 27.1 011 25.7 007 25.5 004 -0-24.4 001 -0-24.0 013 23.5 Ф-800 —о 22.9 012 22.6 _0-

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.

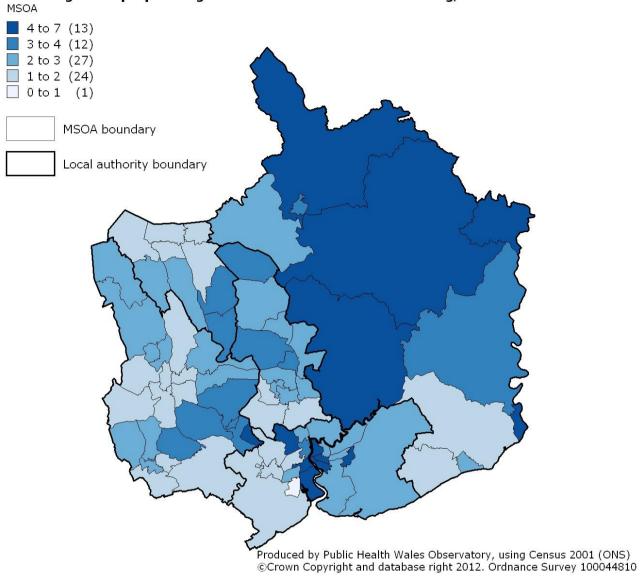
This indicator is taken from the 2001 Census and is hence out of date. However, in the absence of any other national housing data, and pending the release of the 2011 Census data, it is the most up to date source of housing data. More detailed information on this indicator can be found in the Indicator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

Pattern

The percentage of people living in households with no central heating was lower than the Welsh average in all local authorities within this health board, with none of the 77 MSOAs in the health board higher than the Welsh average. Blaenau Gwent had the lowest percentage of all local authorities in Wales, while all the other local authorities within the health board were amongst the lowest throughout Wales.

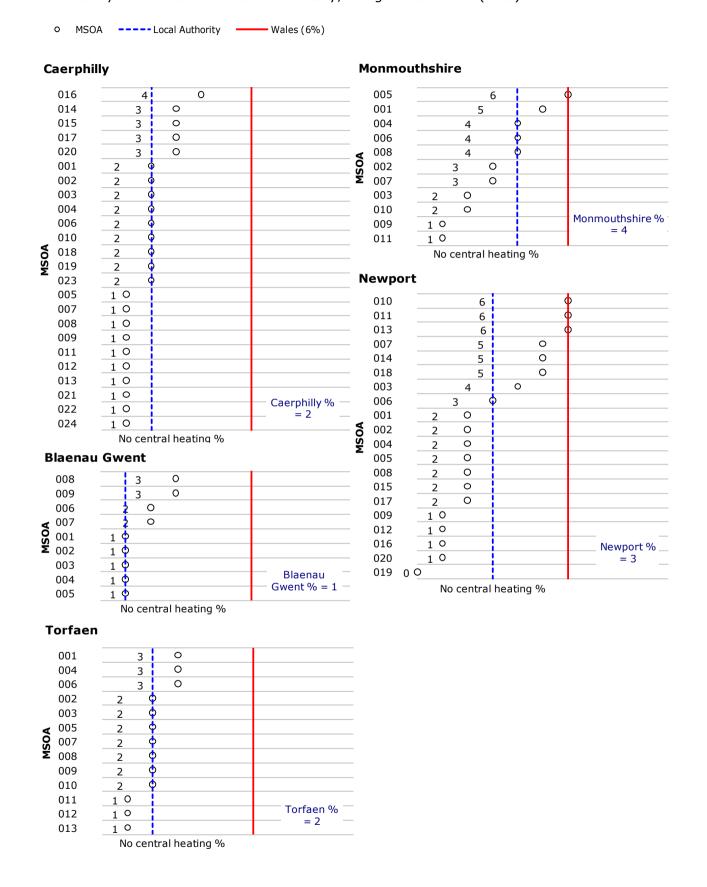
There was little variation within this health board but the higher percentages were seen in the north and west of Monmouthshire along with southern areas of Newport.

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



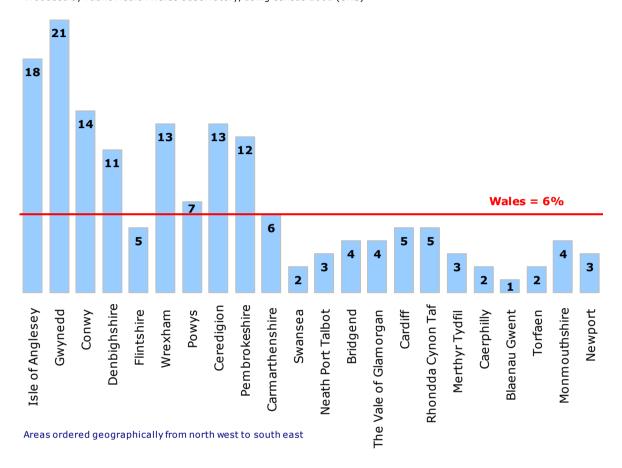
Percentage of all people living in houses which had no central heating in any room or rooms in Aneurin Bevan Health Board area, 2001

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.

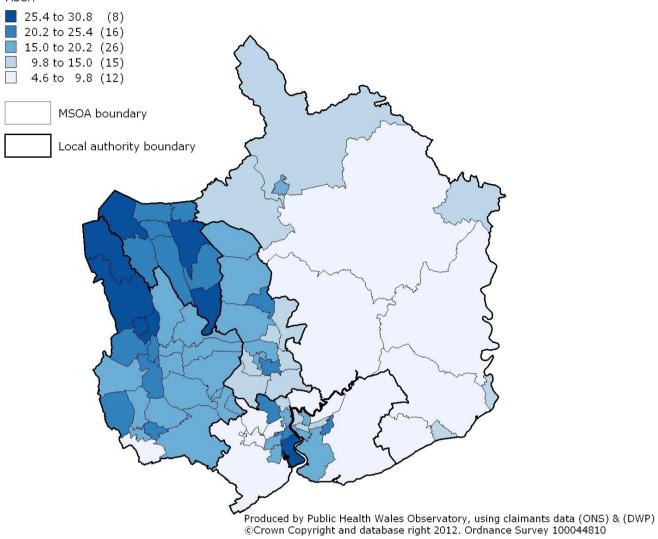
This indicator is the de-duplicated total number of working age people claiming one or more employment benefits, including Job Seeker's Allowance, Employment and Support Allowance and Incapacity Benefit. People claiming more than one such benefit are only counted once. More detailed information on this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

Pattern

All but one of the local authority averages in this health board area were above the Welsh average, with Blaenau Gwent's average of 22.9% the highest of all local authorities in Wales. Monmouthshire was the only local authority within the health board below the Welsh average with 9.9%. This was the 2^{nd} lowest of all local authorities in Wales.

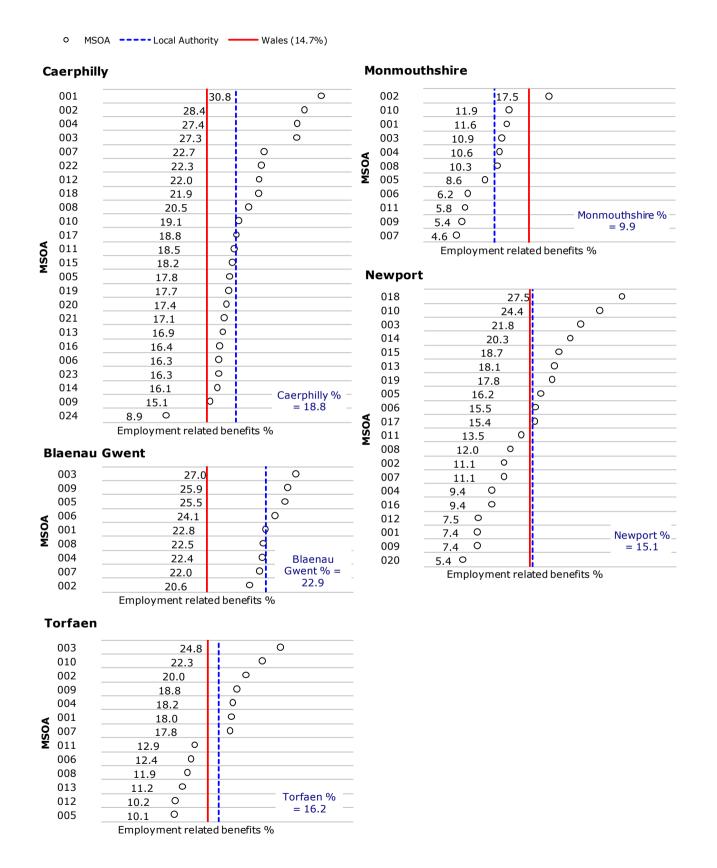
The highest percentages are seen in a cluster in the west of the health board towards the heads of the Gwent valleys; in Blaenau Gwent and the north of Caerphilly. The upper Rhymney Valley area, had the two highest percentages in the health board, 30.8% (Caerphilly MSOA 001) and 28.4% (Caerphilly MSOA 002). Areas of Blaenau Gwent with high percentages were Tredegar central & west, Blaina and Nantyglo, and the Llanhilleth area. The Pillgwenlly area of Newport was also amongst the highest in the health board.

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



Percentage of the working-age population claiming one or more employment related benefits in Aneurin Bevan Health Board area, November 2009 – August 2010

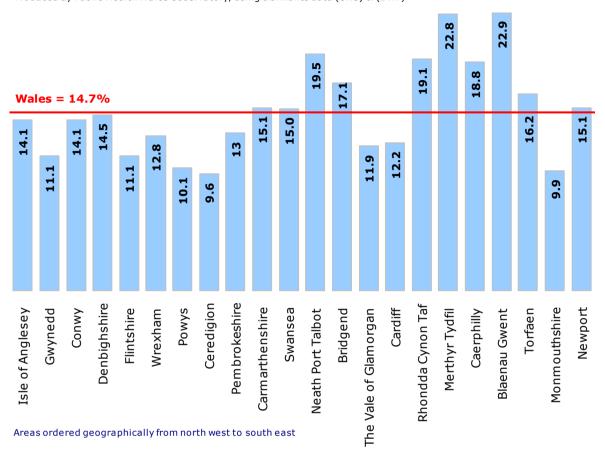
Produced by Public Health Wales Observatory, using claimants data (ONS) & (DWP)



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.

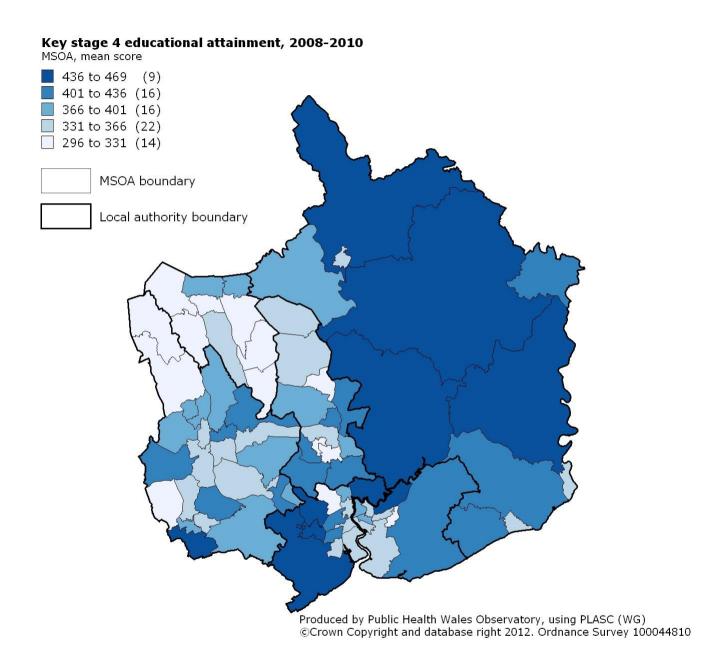
Pattern

The local authorities within this health board area do not compare favourably when compared with the Welsh average with only Monmouthshire local authority having a higher Key Stage 4 mean score than the Welsh average of 394.

Blaenau Gwent actually had the lowest Key Stage 4 mean score of all local authorities in Wales with a score of 330. Blaenau Gwent was also the only local authority within the area not to have one MSOA with a mean score over the Welsh average, with the Blaina and Nantyglo area of the local authority mean score of 296 being the lowest within the health board.

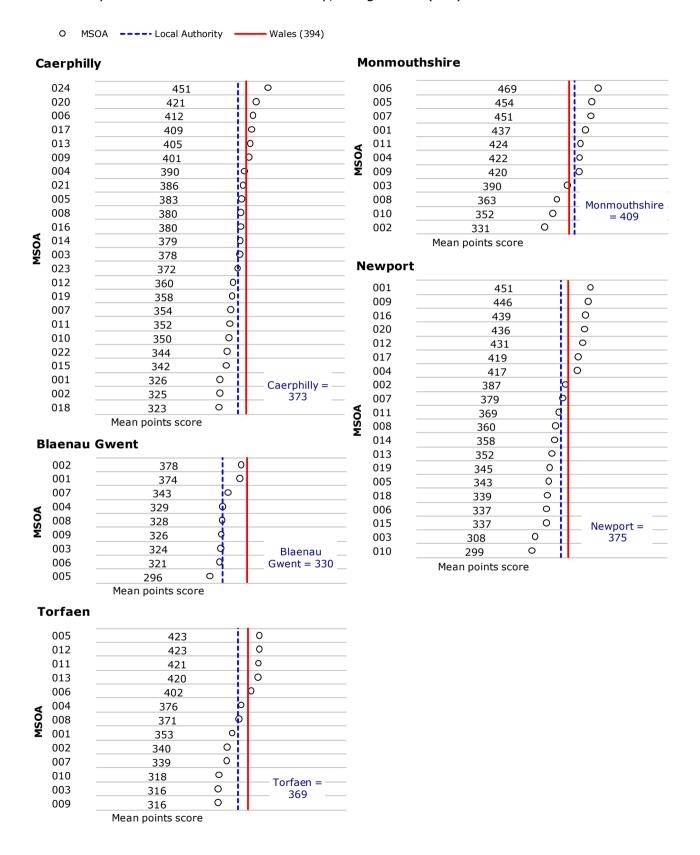
The upper Rhymney Valley area of Caerphilly bordering with Blaenau Gwent had a cluster of low Key Stage 4 mean scores, along with the Cwmbran (Torfaen MSOA 009 and MSOA 010) and Trevethin (Torfaen MSOA 003) areas of Torfaen. Other isolated low Key Stage 4 mean scores were seen in the Bettws and Ringland areas of Newport; the Aber Valley area of Caerphilly; and in Abergavenny in Monmouthshire.

The highest scores for the health board were seen throughout most of Monmouthshire along with the Rogerstone, Marshfield and Caerleon areas of Newport.



Key stage 4 educational attainment mean scores in Aneurin Bevan Health Board area, 2008-10

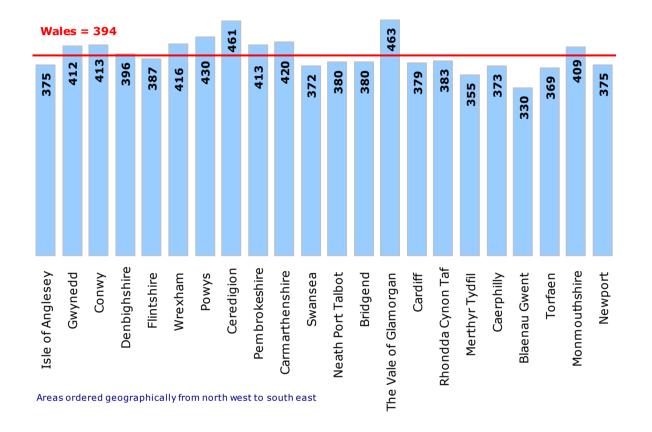
Produced by Public Health Wales Observatory, using PLASC (WG)



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.

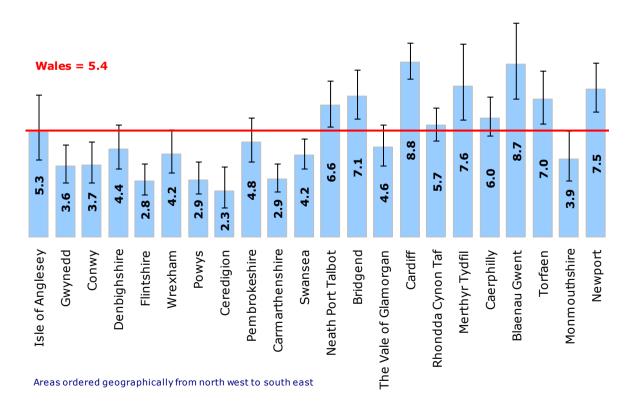
Pattern

The chart shows that Blaenau Gwent has the second highest percentage of NEETs in Wales. Monmouthshire is the only local authority within the health board whose percentage is below the Welsh average.

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

95% confidence interval

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



6 Community Safety

6.1 Criminal damage incidents

Definition

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

About

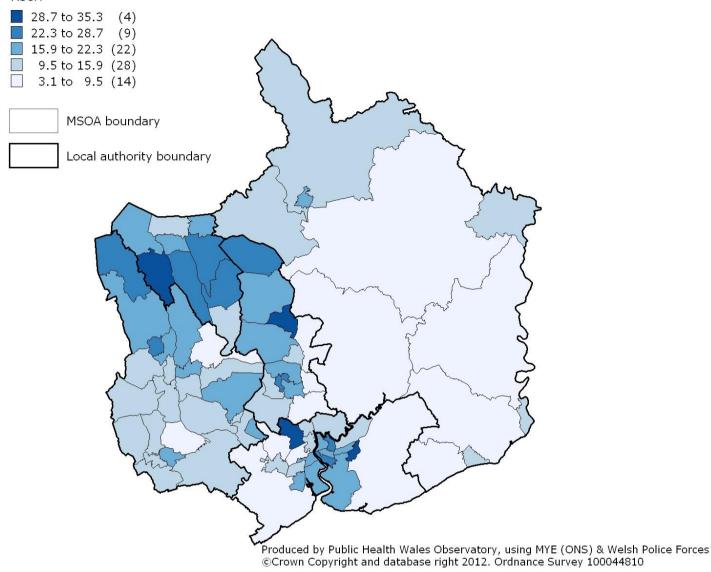
Criminal damage relates to unlawful damage or destruction of property. As well as the immediate effects of criminal damage to property, this, and all crime, can adversely affect mental wellbeing. The development of a fear of crime can lead to decreased social interactions. There are strong associations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

Pattern

Monmouthshire was the only local authority in the area with a rate below the Welsh average, while Blaenau Gwent exhibited the highest rate within Wales.

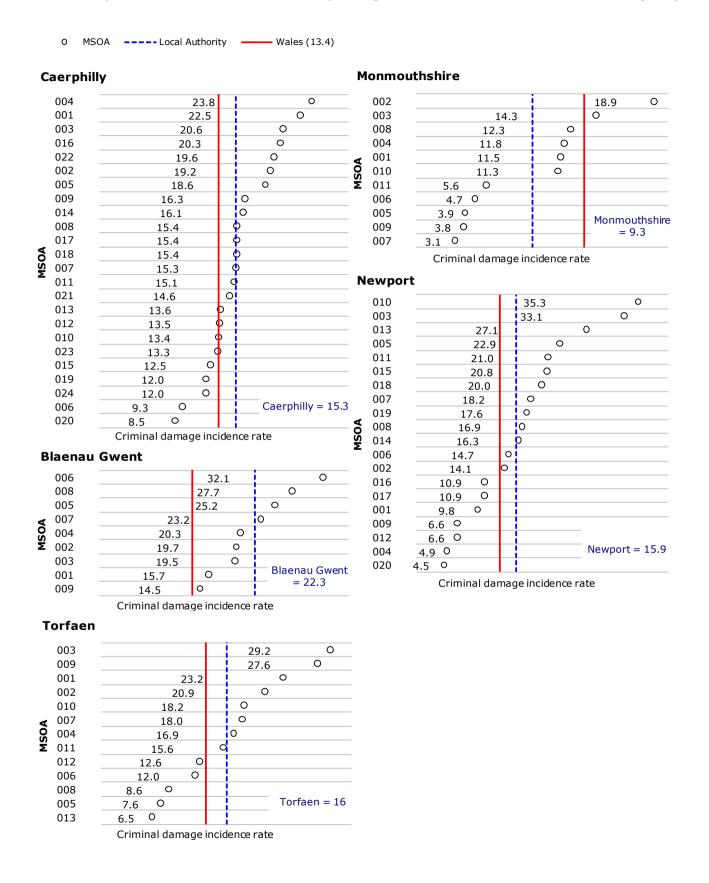
The biggest variation was in Newport with rates ranging from 4.5 per 1000 in the Marshfield area (Newport MSOA 020) to 35.3 in the Ringland area (MSOA 010) and 33.1 in the Bettws area of the city. Other high rates occurred in the Tredegar Central & West area of Blaenau Gwent and the Trevethin area of Torfaen.

The rate of incidents of criminal damage per 1,000 day time population, April 2008 - March 2010 $_{\mbox{\footnotesize MSOA}}$



The rate of incidents of criminal damage per 1,000 day time population in Aneurin Bevan Health Board area, April 2008 – March 2010

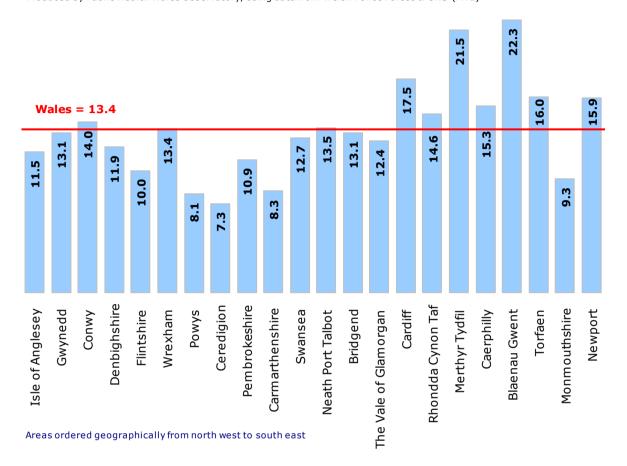
Produced by Public Health Wales Observatory, using data from Welsh Police Forces & MYE (ONS)



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

- 1 Benzeval M, Judge K Whitehead M, eds. *Tackling inequalities in health: an agenda for action*. London: Kings Fund; 1995.
- 2 Bambra C. et al. Tackling the wider social determinants of health and health inequalities: evidence from systematic reviews. *J Epidemiol Community Health* 2010; 64:284-91.
- 3 Layte R, Whelan C. *Explaining social class differentials in smoking: the role of education*. Working Paper No. 12. Dublin: Economic and Social research Institute, University College Dublin; 2004. Available at:
- http://www.esri.ie/pdf/OPEA043 Explaining%20Social%20Class%20Differentials%20in%20S moking.pdf [Accessed 16th Apr 2012]
- 4 Welsh Assembly Government. Fairer health outcomes for all: reducing inequalities in health strategic action plan. Cardiff: Welsh Assembly Government; 2011. Available at: http://wales.gov.uk/docs/phhs/publications/110329working2en.pdf [Accessed 16th Apr 2012]
- 5 London Health Observatory Marmot Indicators for local authorities in England, 2012. [Online] Available at:
- http://www.lho.org.uk/LHO Topics/national lead areas/marmot/marmotindicators.aspx. [Accessed 16th Apr 2012]
- 6 Benzeval M. & Webb S. Family poverty and poor health. In Benzeval M, Judge K Whitehead M, eds. *Tackling inequalities in health: an agenda for action.* London: Kings Fund; 1995. p:69-81
- 7 Best R. The housing dimension. In Benzeval M, Judge K Whitehead M, eds. *Tackling inequalities in health: an agenda for action.* London: Kings Fund; 1995. p:53-68.
- 8 Benzeval M, Judge K, Whitehead M. Unfinished business. In Benzeval M, Judge K Whitehead M, eds. *Tackling inequalities in health: an agenda for action.* London: Kings Fund; 1995. p:122-140
- 9 Marmot M. Fair society, healthy lives: The Marmot Review. London: University College London; 2010. Available at: http://www.instituteofhealthequity.org/projects/fair-society-healthy-lives-the-marmot-review [Accessed 16th Apr 2012]
- 10 Pantazic, C. Crime, 'disorder', insecurity and social exclusion. In: Pantazis, C, Gordon D, Levitas R, eds. *Poverty and social exclusion in Britain: the millennium survey*. Bristol: The Policy Press; 2006. p.249-283.
- 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

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.

MSOAs have a mean population of 7,500 and a minimum of 5,000. There are 413 MSOAs in Wales and 77 MSOAs in the Aneurin Bevan Health Board area. These are shown on the maps in Appendix B.

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.

Confidence intervals

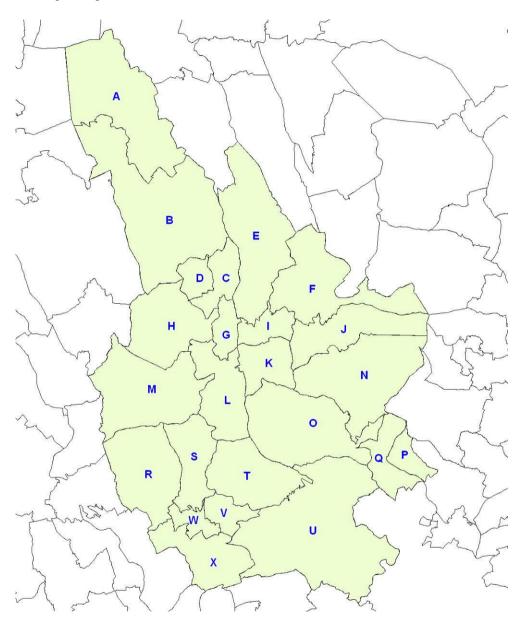
Confidence intervals are indications of the random variation that would be expected around a rate. Confidence intervals must be considered when assessing or interpreting a rate. The 95% confidence interval represents a range which has a 95% probability of including the underlying population rate.

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.

9 Appendix B: Maps showing Middle Super Output Areas in the Aneurin Bevan Health Board area

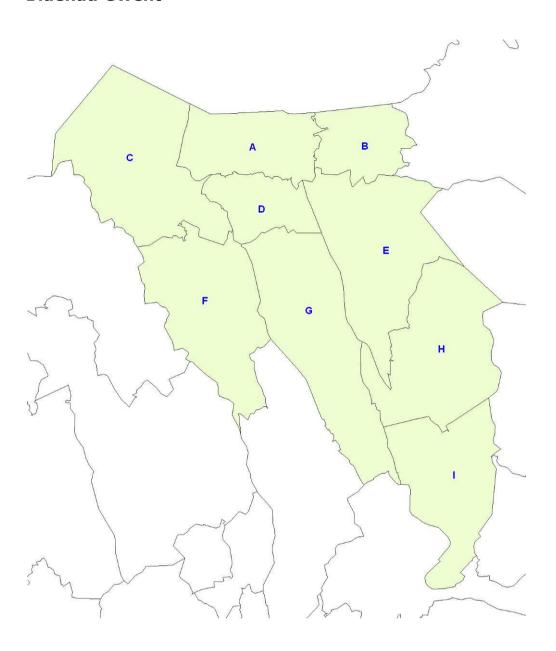
The Public Health Wales Observatory has also produced a web-based interactive map showing MSOA boundaries, with the added facility of background Ordnance Survey mapping. Follow this link: http://www2.nphs.wales.nhs.uk/InstantAtlas/GeographyTool/atlas.html

Caerphilly



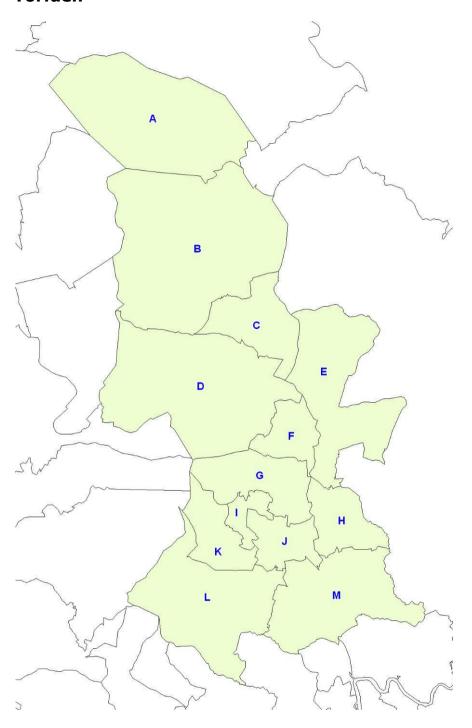
Α	Caerphilly 001	G	Caerphilly 007	М	Caerphilly 013	S	Caerphilly 019
В	Caerphilly 002	Н	Caerphilly 008	N	Caerphilly 014	Т	Caerphilly 020
С	Caerphilly 003	I	Caerphilly 009	0	Caerphilly 015	U	Caerphilly 021
D	Caerphilly 004	J	Caerphilly 010	Р	Caerphilly 016	V	Caerphilly 022
Е	Caerphilly 005	K	Caerphilly 011	Q	Caerphilly 017	W	Caerphilly 023
F	Caerphilly 006	L	Caerphilly 012	R	Caerphilly 018	Χ	Caerphilly 024

Blaenau Gwent



- A Blaenau Gwent 001
- B Blaenau Gwent 002
- C Blaenau Gwent 003
- D Blaenau Gwent 004
- E Blaenau Gwent 005
- F Blaenau Gwent 006
- G Blaenau Gwent 007
- H Blaenau Gwent 008
- I Blaenau Gwent 009

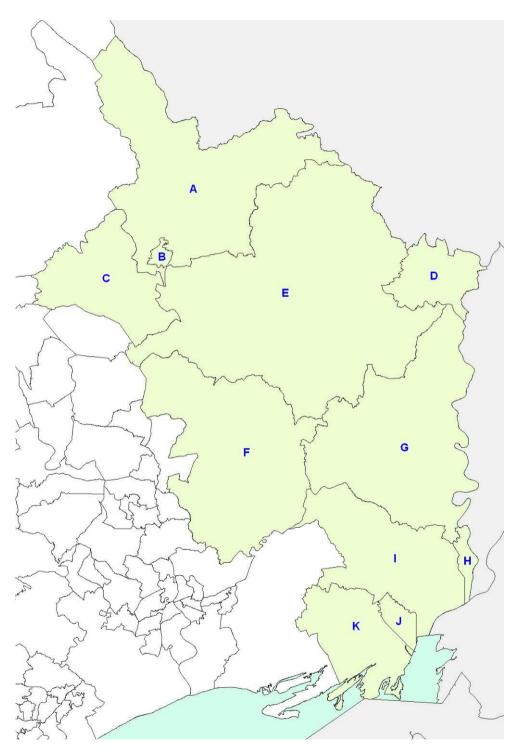
Torfaen



Α	Torfaen 001	Н	Torfaen 008
В	Torfaen 002	Ι	Torfaen 009
С	Torfaen 003	J	Torfaen 010
D	Torfaen 004	K	Torfaen 011
Е	Torfaen 005	L	Torfaen 012
F	Torfaen 006	Μ	Torfaen 013

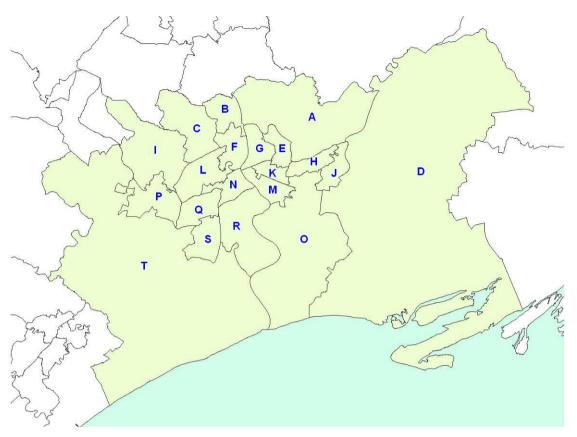
G Torfaen 007

Monmouthshire



- A Monmouthshire 001
- B Monmouthshire 002
- C Monmouthshire 003
- D Monmouthshire 004
- E Monmouthshire 005
- F Monmouthshire 006
- G Monmouthshire 007
- H Monmouthshire 008
- I Monmouthshire 009
- J Monmouthshire 010
- K Monmouthshire 011

Newport



Α	Newport 001	K	Newport 011
В	Newport 002	L	Newport 012
С	Newport 003	Μ	Newport 013
D	Newport 004	N	Newport 014
Е	Newport 005	Ο	Newport 015
F	Newport 006	Р	Newport 016
G	Newport 007	Q	Newport 017
Н	Newport 008	R	Newport 018
Ι	Newport 009	S	Newport 019
J	Newport 010	Т	Newport 020