



Measuring inequalities

Trends in mortality and life expectancy in Wales



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This publication consists of

- individual profiles for all 22 local authorities
- this more detailed Wales profile
- selected data files covering Wales, health boards and local authorities
- a technical guide to help with understanding the concepts and measures used.

These are available at: www.publichealthwalesobservatory.wales.nhs.uk/inequalities.

For further information or to request printed copies of the Wales profile please contact us through the website or email us on: publichealthwalesobservatory@wales.nhs.uk.

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Contents

1	Introduction	5
2	Deprivation measures and local fifths	7
3	Life expectancy, healthy life expectancy and disability-free life expectancy at birth	8
3.1	Overview of measures	8
3.2	National inequalities in life expectancy measures	9
3.3	Geographical variations	11
3.4	Local inequalities	11
3.5	Comparison amongst UK nations	14
4	Mortality for the main causes of death	15
5	Mortality due to alcohol	19
6	Mortality due to smoking	22
7	Conclusions	24
8	References	26

Abbreviations

ADDE	Annual District Death Extract
CI	Confidence interval
DFLE	Disability-free life expectancy
EASR	European age-standardised rate
EMPHO	East Midlands Public Health Observatory
HLE	Healthy life expectancy
LE	Life expectancy
LHO	London Health Observatory
MYE	Mid-year population estimate
ONS	Office for National Statistics
SII	Slope Index of Inequality
UHB/THB	University/Teaching Health Board
WIMD	Welsh Index of Multiple Deprivation
WG	Welsh Government
WHS	Welsh Health Survey
NWPHO	North West Public Health Observatory

Figures and tables

Figures

Figure 1:	Life expectancy, healthy life expectancy and disability-free life expectancy, with inequality gap, males and females, Wales, 2001-05 and 2005-09	9
Figure 2:	Male life expectancy, healthy life expectancy and disability-free life expectancy by deprivation fifth, Wales, 2001-05 and 2005-09	10
Figure 3:	Female life expectancy, healthy life expectancy and disability-free life expectancy by deprivation fifth, Wales, 2001-05 and 2005-09	10
Figure 4:	Life expectancy, healthy life expectancy and disability-free life expectancy at birth, UK nations, by sex, 2007-09	14
Figure 5:	Mortality trends for all causes of death	16
Figure 6:	Mortality trends for specific causes of death	17
Figure 7:	Trends in mortality due to alcohol	19
Figure 8:	Self-reported alcohol consumption, age-standardised percentage by deprivation fifth, persons aged 16 and over, Wales, 2009	21
Figure 9:	Alcohol-attributable mortality, persons, European age-standardised rate per 100,000, Wales and health boards, 2001-03 and 2007-09	21
Figure 10:	Trends in mortality due to smoking	22
Figure 11:	Self-reported smoking, age-standardised percentage by deprivation fifth, persons aged 16 and over, Wales, 2009	23

Tables

Table 1:	Overview of male life expectancy, healthy life expectancy and disability-free life expectancy at birth, with Slope Index of Inequality, 2005-2009, Wales, health boards and local authorities	12
Table 2:	Overview of female life expectancy, healthy life expectancy and disability-free life expectancy at birth, with Slope Index of Inequality, 2005-2009, Wales, health boards and local authorities	13

Foreword

People across Wales are living longer and they're living in good health for longer. But this health gain is not distributed equally across our nation. The experience is vastly different for people living in our most deprived communities compared with the least deprived parts of the country. The gap between the two for healthy life expectancy is as much as 19 years for men in Wales. Similar inequalities exist within many local areas of Wales. This profile gives us a sobering illustration of the way that deprivation, poverty and the social determinants of health affect the life chances of individuals and communities across Wales. We welcome the information, but not the findings. The report is a strategic landmark in helping establish a baseline for action on *Fairer Health Outcomes for All*.

These inequalities are the product of circumstances into which people are born, grow, work and live. These are further influenced by the wider socio-economic environment. The socio-economic conditions of life affect individual behaviours and the ability to improve and protect health. In the Wales of the 21st century these inequalities are unjust, unfair and unacceptable.

However we do not have to accept this situation, together we can achieve change and promote equity. Together we need to improve health for everyone, but work with a scale and intensity that is proportionate to the level of disadvantage.

We must inform our action by evidence of what works and critically evaluate the effectiveness of what we do. This requires action and commitment across the whole of the NHS, whole of government and whole of society.

In the NHS we must build on the founding principles recently reaffirmed by the Bevan Commission. Universal access, based on need must be the cornerstone of our provision of health services. We must work to ensure that health is reflected in all policies within local partnerships across the country. Tackling inequities in health is a cornerstone of government public health policy in Wales. The recently released *Programme for Government* contains actions aimed at improving outcomes for the people of Wales. This complements the public health approach outlined in *Our Healthy Future: the Public Health Strategic Framework* and the *Fairer Health Outcomes for All* action plan to reduce inequities.

During these times of financial uncertainty it is more important than ever that we take actions that promote health equity. Past experience shows that we must continue to promote solidarity and ensure no one gets left behind. This report shows inequity as a threat to the health and well-being of the people of Wales. Our challenge is to use the innovation and resources of our country to build and sustain a movement for action, delivery and change.



A handwritten signature in black ink that reads "Tony Jewell".

Dr. Tony Jewell
Chief Medical Officer for Wales



A handwritten signature in black ink that reads "Mansel Aylward".

Professor Sir Mansel Aylward CB
Chair, Public Health Wales

Key messages

- Nationally, the inequality gap in life expectancy has slightly widened. Life expectancy has increased more slowly in the most deprived areas compared to the least deprived in Wales.
- There are substantial geographical variations in all types of life expectancy. For example, healthy life expectancy in males ranges from 57.1 in Blaenau Gwent to 68.2 years in Monmouthshire, a difference of around 11 years. For females the largest difference is around 10 years.
- National inequalities are particularly wide in healthy life expectancy. The gap between the most and least deprived areas is 18.9 years for males and 17.8 years for females. This contrasts with the national inequality gap in life expectancy overall of 9.2 years for males and 7.1 years for females.
- There are inequalities in the quality of life. People in the least deprived areas experience a substantially higher proportion of their life expectancy in good health (87% in males) than those in the most deprived areas (75% in males).
- Females can expect to live 4.4 years longer than males. Females are, however, estimated to spend only around two years longer than males in good health or free from limiting long-term illness or disability.
- Mortality rates in Wales for the main causes of death have fallen, but the inequality gap has widened over time, with the exception of mortality from respiratory disease in males.
- The largest inequality gaps are in alcohol-related mortality. Rates are three and a half times as high in the most deprived areas as in the least deprived areas for males, and more than twice as high for females.
- Inequality gaps are particularly wide for mortality from all causes aged under 75, and mortality from respiratory disease and smoking. For these causes, rates in the most deprived areas are more than twice those in least deprived areas.
- Alcohol-related and alcohol-attributable mortality rates in Wales have risen. However, there is no clear trend in the inequality gap over time.
- Smoking-attributable mortality rates in Wales have fallen, although the inequality gap has widened slightly. The inequality gap is more pronounced in females than males.
- Locally, trends in inequality gaps in types of life expectancy and mortality vary substantially and are often not conclusive. Inequalities have widened in some local authorities and health boards, but narrowed or stayed the same in others. The gap within an area which has largely similar levels of deprivation, such as Blaenau Gwent, is smaller than the gap within an area which has greater variation in deprivation levels, such as Swansea.
- Most of the measures presented in this publication have been produced for the first time at local level. This publication provides vital new evidence to improve understanding of inequalities, both locally and nationally, to inform action.

1. Introduction

Health inequalities are not inevitable and are not simply a matter of chance but are strongly influenced by the actions of individuals, governments and stakeholders ¹. In 1980, the Black report ² demonstrated that although health in the UK had improved since the introduction of the welfare state there were widespread inequalities. The Acheson inquiry, *Independent inquiry into inequalities in health* ³, confirmed persisting inequalities and recommended that all policies should be assessed for their likely impact on health inequalities and also that the gap in living standards between the worst-off and the average should be reduced. The Marmot review into health inequalities in England, *Fair society, healthy lives* ⁴, reiterated the link between the socio-economic gradient and health, emphasising the need for evidence-based policies and actions based on the principles of social justice.

Reducing health inequalities has been a priority for government in Wales since devolution and remains a key theme within the Public Health Framework, *Our healthy future* ⁵. The Welsh Government's Strategic Action Plan for reducing inequities in health, *Fairer health outcomes for all* ⁶, sets out a systematic approach to achieve greater health equity.

Some health inequalities are difficult to avoid because they result from inherent differences between individuals and population groups. Examples of such inequalities would be families where there is an increased genetic risk of congenital abnormality or the higher risk of diabetes in people from the Indian subcontinent. By far the greater proportion of health inequalities, however, are strongly associated with factors such as income, education, domestic and wider environment and by lifestyle choices. Lifestyle choices, for example, can be constrained by social circumstances such as peer pressure, community norms and low income.

The term health inequality simply refers to variation in health, including across socio-economic groups. Health inequity, however, refers to those inequalities in health that are deemed unfair and also avoidable, and involve a moral judgement ⁷. These profiles are reporting differences between socio-economic groups, but also between males and females and between different geographical areas. As such, they are presenting the picture of inequality in Wales.

This publication aims to support national and local government, the health sector and others who can take action to reduce inequalities in Wales. It aims to increase understanding and monitoring of health inequalities at local and national levels. The measurement of inequalities in Wales has tended to focus on geographical variation (e.g. difference in life expectancy between local authorities) or variation by socio-economic group at the Wales level (e.g. mortality rates by deprivation fifth). This new analysis examines the gap between outcome measures in the most deprived and the least deprived *within* each local authority or health board area and over time. This inequality gap is therefore providing a local measure of the trend in inequalities that exist *within* each area.

The first part of this profile examines and compares different types of life expectancy, and their trend over time. For the first time, healthy life expectancy (HLE) and disability-free life expectancy (DFLE), both relating to quality of life, have been produced at the local level and by deprivation fifths in Wales. The second part concentrates on mortality trends for the main causes of death, and for mortality relating to alcohol and smoking. This allows an analysis of patterns of inequalities by cause of death, sex and over time.

This publication is designed as a suite of complementary components. There are 22 individual local authority profiles which contain the main charts and information to examine inequalities locally. It is at the local authority level that partnerships operate which can take action to try and reduce inequalities. These individual local authority profiles are complemented by this Wales profile which investigates inequalities at the national level in more detail including summaries of some local patterns. Both the Wales profile and the local authority profiles are designed to be used in conjunction with the technical guide which provides further guidance on the interpretation of the measures, their limitations, the method and data sources used. In addition, the main data files used in the profiles and additional data, for example at health board level, are also published on our website. The data can provide the basis for further detailed investigations.

2. Deprivation measures and local fifths

The work presented here examines differences in health outcomes between those living in the most deprived and those living in least deprived areas. A measure of deprivation for each individual would be the ideal. In the absence of suitable individual level socio-economic data, an area-based deprivation measure is used: the Welsh Index of Multiple Deprivation 2008 (WIMD). As with all area-based measures, it has to be noted that not everyone living in a deprived area is necessarily living in deprived circumstances and, equally, some people living in an area classed as least deprived may experience deprivation. The analysis also uses the residence at the time of death and the associated deprivation fifth. This may not necessarily be the area or deprivation fifth where individuals have grown up or lived for most of their lives.

As WIMD data are not directly comparable between releases, the latest release of WIMD (2008) was used for all of the analyses. The trend in outcomes, therefore, does not take into account any potential change in deprivation level over time. This means that the analysis is covering the trend in time for fixed areas which have a fixed deprivation fifth.

For the Wales-level analysis, all Lower Super Output Areas (LSOAs) in Wales were grouped into fifths according to their published rank. These deprivation fifths are commonly used. For the health board and local authority level analysis, however, specific deprivation fifths *within* each area have been produced, as some areas do not have sufficient numbers of LSOAs in each national fifth. In Blaenau Gwent for example, there are no LSOAs that are nationally classed as least deprived. This approach is consistent with those used elsewhere in the UK, including in the development of Fair Society Healthy Lives (Marmot) indicators ⁴ at a local level in England.

Local deprivation fifths for each local authority or health board have been produced by ranking all LSOAs *within* the local authority and grouping them into fifths, based on the WIMD. Each local authority and health board therefore has its own local fifths depending on the deprivation distribution *within* that area. In areas with a greater range of deprivation levels, the inequality gap is inevitably larger than in areas where there is less diversity. Comparisons, therefore, often illustrate the difference in the range of deprivation between areas, rather than how outcomes relate to particular levels of deprivation for those areas. The specific distributions are described in the individual local authority profiles and further details can be found in the technical guide.

3. Life expectancy, healthy life expectancy and disability-free life expectancy at birth

3.1 Overview of measures

Life expectancy at birth is a widely used statistical measure of the average expected years of life for a newborn based on currently observed mortality rates. As such, life expectancy at birth is also a measure of mortality across all ages. In addition to general life expectancy it is important to consider quality of life. Two such measures are presented here. Healthy life expectancy at birth (HLE) represents the number of years a person can expect to live in good health. Similarly, disability-free life expectancy at birth (DFLE) estimates the number of years of life expected to be free from a limiting long-term illness or disability. HLE and DFLE incorporate survey data on health and limiting long-term illness or disability in Wales and hence their estimation may be affected by any survey sampling error. All three measures are presented at the Wales level, and at the local level by deprivation fifth with estimates of their respective inequality gaps.

The inequality gap in life expectancy is measured here using the Slope Index of Inequality (SII). The SII is a measure of the difference in life expectancy between the most deprived and the least deprived whilst taking into account the distribution across all deprivation fifths. Whilst the SII is an absolute measure of the difference in years, there is also a relative measure of inequality. The Relative Index of Inequality, although not covered in the profile, is available in the data published online. For details on the method, interpretation and limitations of these measures please see the technical guide.

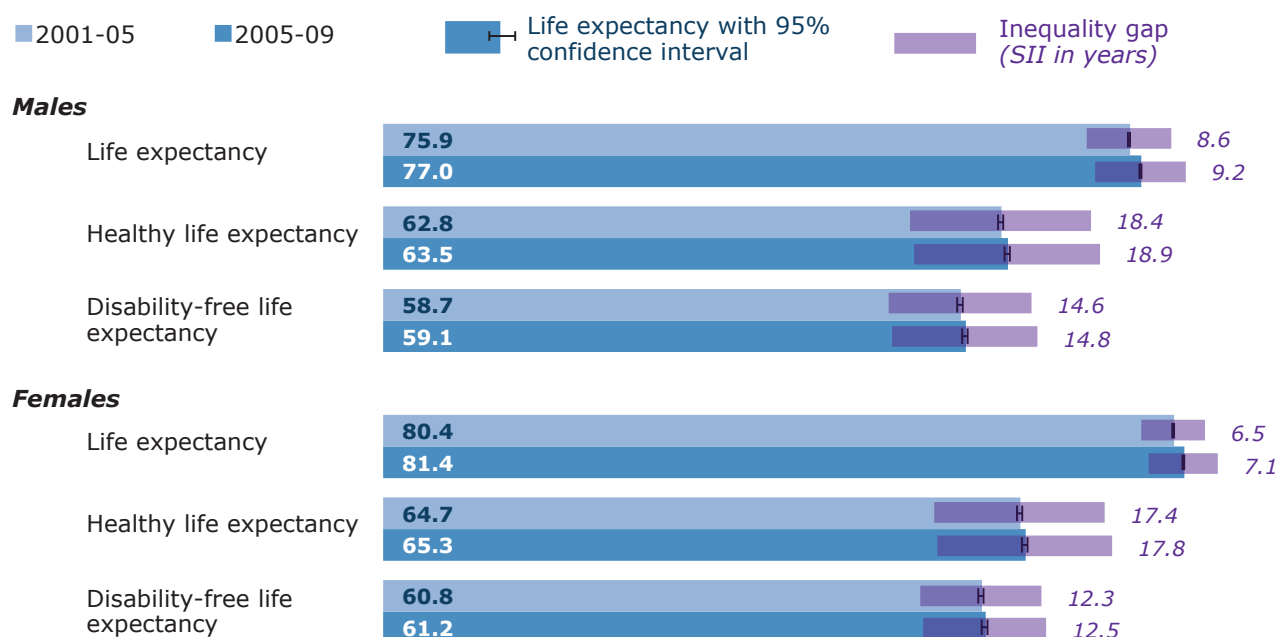
Figure 1 draws comparisons between life expectancy, HLE and DFLE in Wales for the time periods of 2001-05 and 2005-09. It illustrates substantial differences between measures, between males and females and, to a lesser extent, between the two time periods. By 2005-09 life expectancy in Wales had increased to 77.0 years for males and 81.4 for females. Of these years males are estimated to spend 63.5 years in good health (82.4% of overall life expectancy) and 59.1 years without a limiting long-term illness or disability (76.8% of overall life expectancy). Females can expect to live 65.3 years in good health (80.2% of overall life expectancy) and 61.2 years without a limiting long-term illness or disability (75.1% of overall life expectancy).

Whilst female life expectancy is 4.4 years longer than for males, HLE is only 1.8 years longer and DFLE only 2.1 years longer than for males. As a result the proportions of years experienced in good health or free from limiting long-term illness or disability are slightly lower in females than in males.

Between 2001-05 and 2005-09 both HLE and DFLE increased, but to a lesser extent than life expectancy. Therefore, the number of years of HLE and DFLE relative to overall life expectancy has fallen slightly for both sexes. For example, the number of years of DFLE relative to life expectancy overall has decreased from 77.3% to 76.8% for males and from 75.6% to 75.1% for females. This means that, whilst there are increases in overall life expectancy, the increases in the measures relating to quality of life experienced (HLE/DFLE) are falling behind. Life expectancy has therefore improved more than quality of life and health.

Figure 1: Life expectancy, healthy life expectancy and disability-free life expectancy, with inequality gap, males and females, Wales, 2001-05 and 2005-09.

Produced by Public Health Wales Observatory, using ADDE/MYE (ONS), WHS/WIMD (WG)



3.2 National inequalities in life expectancy measures

The inequality gap in life expectancy between the most and least deprived is substantial at 9.2 years for males and 7.1 years for females in 2005-09. This has increased slightly since 2001-05, but the change in SII is not statistically significant. This increase is due to the slower rate of improvement in life expectancy in the most deprived fifth in comparison to the rate of improvement in the least deprived fifth.

The largest inequality gaps are found in HLE with 18.9 years for males and 17.8 years for females. There have been small increases in the inequality gap over time, but these are not statistically significant. The inequality gaps in DFLE are also larger than in life expectancy overall at 14.8 years for males and 12.5 years for females in 2005-09. This has slightly increased since 2001-05, but the change in SII is not statistically significant.

The inequality gaps are based on the estimate of life expectancy in each fifth through the calculation of the SII (see the technical guide for details).

An investigation of the estimates for each fifth and their distribution provides additional information. Figures 2 and 3 show life expectancy, HLE and DFLE by deprivation fifth for males and females. Examining the linearity of the distribution of the estimates across the fifths can help with the interpretation of the SII and its confidence interval. These charts are available for every health board and local authority area on our website, and further information on their interpretation can be found in the technical guide.

People in the least deprived areas not only live longer than those in the most deprived areas, but they also spend a substantially higher proportion of their life expectancy in good health. The proportion of male life expectancy in good health is around 87% in the least deprived areas, but only around 75% in the most deprived areas. For females these proportions are 85% in the least deprived compared to just over 73% in the most deprived.

This pattern is similar for the proportion of their life expectancy free from limiting long-term illness and disability, although the differences between the most and least deprived are not as stark.

This illustrates the inequality in the quality of life and proportionally poorer health experienced by people living in the more deprived areas.

Figure 2: Male life expectancy, healthy life expectancy and disability-free life expectancy by deprivation fifth, Wales, 2001-05 and 2005-09

Produced by Public Health Wales Observatory, using ADDE/MYE (ONS), WHS/WIMD (WG)

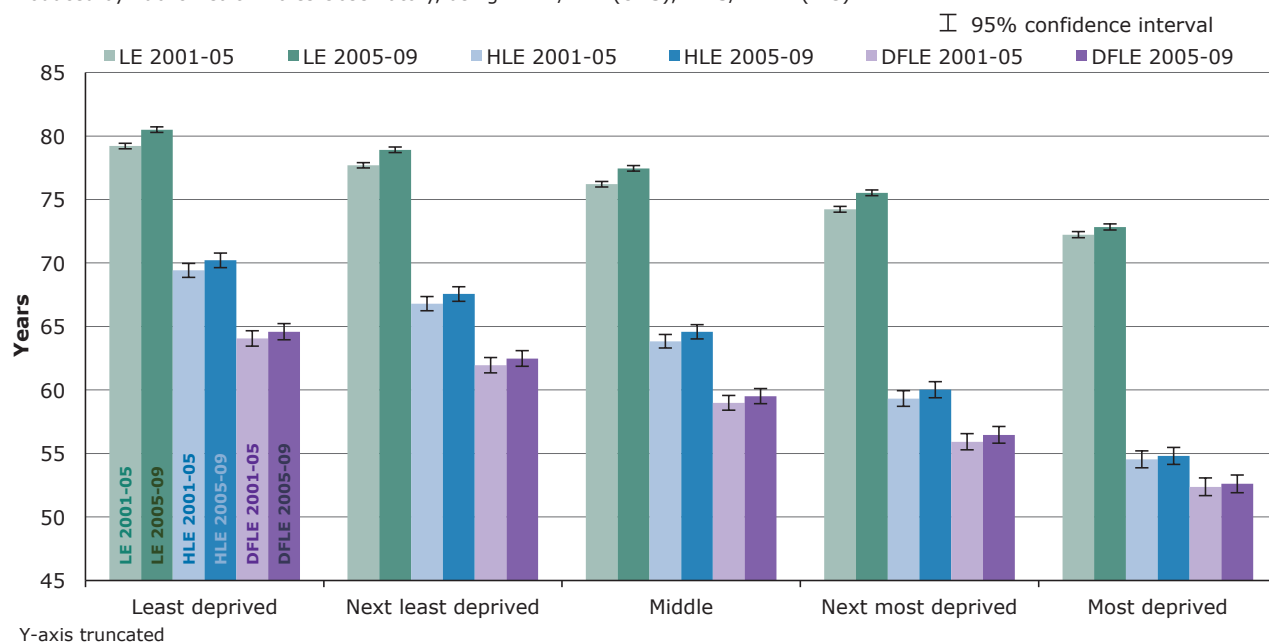
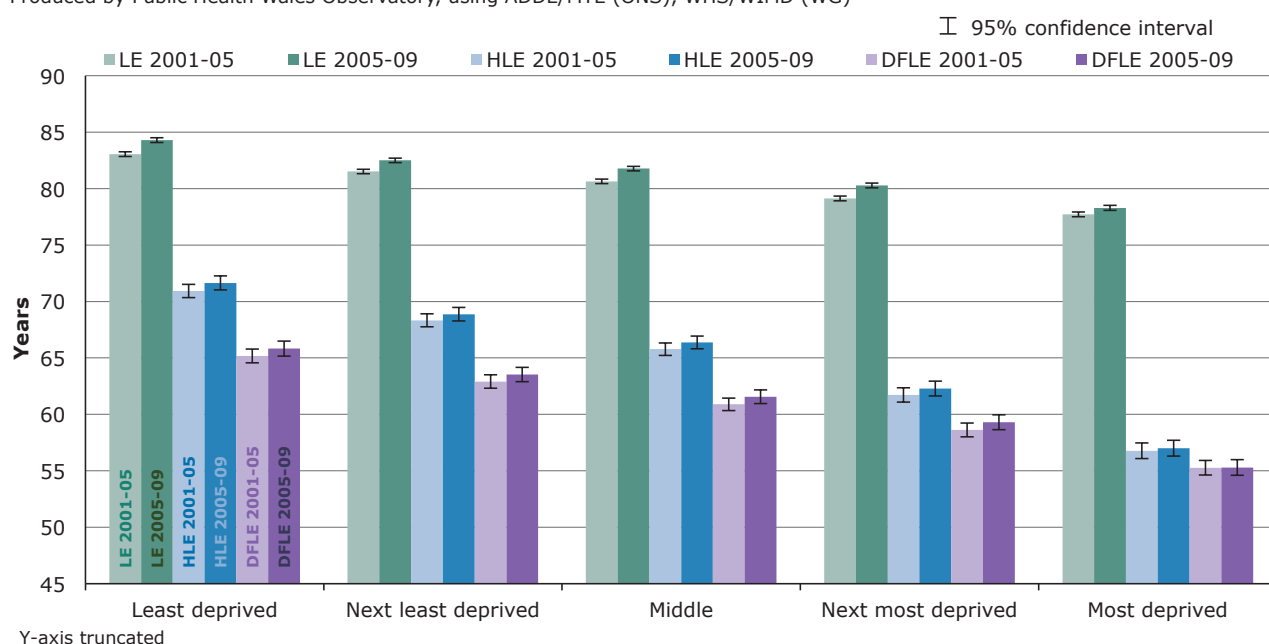


Figure 3: Female life expectancy, healthy life expectancy and disability-free life expectancy by deprivation fifth, Wales, 2001-05 and 2005-09

Produced by Public Health Wales Observatory, using ADDE/MYE (ONS), WHS/WIMD (WG)



3.3 Geographical variations

It has been widely reported that life expectancy differs between local authority and health board areas in Wales^{8,9}. Geographical variation in HLE and DFLE is even more stark as shown in Tables 1 for males and 2 for females.

In males DFLE is lowest in Blaenau Gwent at 54.3 years and highest in Monmouthshire at 63.2 years for 2005-09. HLE in males ranges from 57.1 in Blaenau Gwent to 68.2 in Monmouthshire, a difference of 11.1 years.

In females DFLE is lowest in Merthyr Tydfil at 57.0 years and highest in Gwynedd at 64.6 years for 2005-09. HLE in females ranges from 59.6 in Merthyr Tydfil to 69.7 in Monmouthshire, a difference of 10.1 years.

3.4 Local inequalities

Local inequalities in HLE and DFLE are based on local deprivation fifths *within* areas, which vary between local authorities and health boards depending on their deprivation distribution. More information on local fifths can be found in section 2 on local fifths and in the technical guide. The inequality gaps for all areas are shown in Tables 1 and 2.

The larger the SII, the greater the inequality within an area. In areas with a greater range of deprivation levels the inequality gap is inevitably larger than in areas with a lesser range of deprivation levels. For example, males in Blaenau Gwent are expected to live fewer years without a limiting long-term illness or disability (54.3 years) compared to Swansea (58.6 years). However, the inequality gap in DFLE in males in Blaenau Gwent is much smaller at 3.2 years than that in Swansea at 17.7 years. This difference is related to the different deprivation distributions *within* that area. This means that differences in the inequality gap between areas often illustrate the difference in the range of deprivation levels between areas, rather than how outcomes relate to particular levels of deprivation for those areas.

The local inequality gaps within an area, either between measures or over time, are directly comparable, as they use the same deprivation fifths *within*. Further details on the interpretation of the SII can be found in the technical guide.

Table 1: Overview of male life expectancy, healthy life expectancy and disability-free life expectancy at birth, with Slope Index of Inequality, 2005-2009, Wales, health boards and local authorities

	LE	(95% CI) ¹	LE SII ²	(95% CI) ¹	HLE	(95% CI) ¹	HLE SII ²	(95% CI) ¹	DFLE	(95% CI) ¹	DFLE SII ²	(95% CI) ¹
Wales	77.0	(76.9;77.1)	9.2	(6.8;11.6)	63.5	(63.2;63.7)	18.9	(13.4;24.5)	59.1	(58.9;59.4)	14.8	(11.8;17.9)
Betsi Cadwaladr UHB	77.3	(77.1;77.6)	7.2	(2.9;11.5)	65.7	(65.2;66.2)	13.5	(7.8;19.3)	60.9	(60.4;61.5)	9.6	(6.0;13.3)
Isle of Anglesey	76.8	(76.1;77.5)	6.8	(-0.1;13.7)	65.3	(64.2;66.3)	12.9	(-2.2;28.0)	59.6	(58.4;60.9)	9.1	(6.1;12.1)
Gwynedd	77.1	(76.6;77.7)	3.4	(0.2; 6.7)	66.1	(64.9;67.2)	6.5	(-3.2;16.1)	61.1	(59.8;62.4)	7.4	(0.5;14.3)
Conwy	77.0	(76.4;77.5)	8.1	(5.8;10.3)	66.4	(65.3;67.5)	13.3	(6.9;19.7)	61.7	(60.4;63.0)	7.3	(-4.6;19.3)
Denbighshire	77.5	(76.9;78.1)	7.6	(-3.1;18.4)	64.9	(63.7;66.1)	15.0	(1.8;28.1)	59.9	(58.6;61.2)	11.4	(6.4;16.4)
Flintshire	77.7	(77.2;78.2)	7.5	(1.5;13.4)	66.2	(65.0;67.3)	14.2	(8.6;19.8)	60.8	(59.6;62.0)	10.8	(-2.0;23.5)
Wrexham	77.3	(76.9;77.8)	9.2	(5.5;12.8)	64.7	(63.5;65.9)	16.5	(9.9;23.0)	61.5	(60.2;62.8)	10.7	(7.7;13.7)
Powys THB	79.1	(78.6;79.6)	5.5	(-0.5;11.4)	67.7	(66.5;68.9)	5.9	(-7.0;18.8)	62.5	(61.2;63.8)	6.3	(-10.7;23.4)
Hywel Dda HB	77.4	(77.1;77.7)	6.8	(2.2;11.4)	64.0	(63.3;64.7)	13.5	(4.5;22.6)	59.5	(58.7;60.2)	10.0	(4.0;16.0)
Ceredigion	80.0	(79.3;80.7)	7.7	(2.9;12.5)	67.6	(66.5;68.8)	11.4	(1.7;21.1)	62.4	(61.0;63.8)	6.0	(-6.7;18.7)
Pembrokeshire	76.9	(76.3;77.4)	5.9	(-2.5;14.4)	64.7	(63.5;65.9)	8.8	(4.1;13.4)	60.3	(59.0;61.7)	10.6	(2.8;18.3)
Carmarthenshire	76.7	(76.3;77.2)	5.8	(-0.5;12.0)	62.1	(61.0;63.2)	13.8	(5.2;22.4)	57.9	(56.7;59.1)	8.5	(2.2;14.8)
ABM UHB	76.5	(76.2;76.7)	10.4	(8.9;11.8)	61.7	(61.1;62.4)	21.3	(20.0;22.7)	57.6	(56.9;58.3)	17.5	(11.7;23.3)
Swansea	76.7	(76.3;77.1)	12.2	(9.2;15.1)	63.0	(61.9;64.1)	22.9	(20.5;25.4)	58.6	(57.4;59.7)	17.7	(9.3;26.2)
Neath Port Talbot	76.3	(75.8;76.8)	10.4	(8.0;12.9)	59.9	(58.6;61.1)	20.1	(14.4;25.9)	56.2	(54.9;57.5)	15.3	(9.7;20.8)
Bridgend	76.2	(75.7;76.7)	7.8	(4.1;11.6)	61.3	(60.1;62.6)	19.4	(18.5;20.3)	57.0	(55.7;58.3)	17.2	(12.8;21.6)
Cardiff and Vale UHB	77.3	(77.1;77.6)	11.8	(8.5;15.1)	64.2	(63.4;64.9)	22.7	(17.8;27.5)	60.1	(59.3;60.9)	16.7	(14.0;19.5)
The Vale of Glamorgan	78.1	(77.6;78.6)	7.5	(3.1;11.9)	65.0	(63.7;66.2)	20.3	(8.9;31.7)	60.8	(59.5;62.1)	13.5	(-1.5;28.5)
Cardiff	76.9	(76.6;77.3)	12.8	(11.0;14.7)	63.7	(62.7;64.7)	22.3	(14.4;30.1)	59.8	(58.7;60.8)	16.9	(13.6;20.3)
Cwm Taf HB	75.4	(75.1;75.7)	8.0	(6.9; 9.1)	60.0	(59.2;60.8)	16.1	(10.2;22.1)	56.1	(55.2;57.0)	13.2	(4.2;22.1)
Rhondda Cynon Taf	75.5	(75.1;75.8)	7.9	(5.2;10.6)	60.4	(59.4;61.5)	15.5	(8.1;22.8)	56.2	(55.1;57.3)	13.2	(1.8;24.7)
Merthyr Tydfil	75.0	(74.2;75.7)	9.4	(5.0;13.7)	57.9	(56.6;59.1)	16.2	(5.4;27.1)	55.7	(54.4;56.9)	11.1	(4.8;17.4)
Aneurin Bevan HB	76.9	(76.6;77.1)	8.8	(7.2;10.4)	62.0	(61.4;62.5)	20.3	(16.1;24.6)	57.9	(57.3;58.5)	15.4	(11.0;19.8)
Caerphilly	76.1	(75.7;76.5)	8.5	(6.0;11.0)	60.0	(58.7;61.2)	19.2	(12.0;26.5)	55.8	(54.6;57.1)	15.8	(8.8;22.8)
Blaenau Gwent	75.4	(74.7;76.1)	2.6	(-3.1; 8.4)	57.1	(55.7;58.5)	8.3	(5.7;10.9)	54.3	(53.0;55.7)	3.2	(-8.2;14.5)
Torfaen	77.2	(76.6;77.7)	7.3	(4.7; 9.9)	61.7	(60.4;63.0)	16.9	(11.4;22.5)	57.7	(56.2;59.1)	10.9	(3.3;18.5)
Monmouthshire	79.2	(78.6;79.8)	5.9	(4.4; 7.4)	68.2	(67.0;69.4)	13.4	(5.3;21.4)	63.2	(61.9;64.6)	13.1	(3.4;22.7)
Newport	76.8	(76.4;77.3)	11.0	(9.5;12.6)	62.9	(61.6;64.2)	21.0	(13.5;28.5)	59.0	(57.7;60.4)	13.4	(9.7;17.0)

Produced by Public Health Wales Observatory, using ADDE/MYE (ONS), WIMD 2008/WHS (WG)

1 95% confidence interval; **2** SII: Slope index of inequality

Table 2: Overview of female life expectancy, healthy life expectancy and disability-free life expectancy at birth, with Slope Index of Inequality, 2005-2009, Wales, health boards and local authorities

	LE	(95% CI) ¹	LE SII²	(95% CI) ¹	HLE	(95% CI) ¹	HLE SII²	(95% CI) ¹	DFLE	(95% CI) ¹	DFLE SII²	(95% CI) ¹
Wales	81.4	(81.3;81.5)	7.1	(5.2; 9.0)	65.3	(65.0;65.5)	17.8	(12.2;23.3)	61.2	(60.9;61.5)	12.5	(8.9;16.2)
Betsi Cadwaladr UHB	81.5	(81.3;81.7)	5.5	(2.0; 9.1)	67.9	(67.4;68.4)	13.0	(4.4;21.6)	63.0	(62.4;63.5)	8.8	(4.3;13.3)
Isle of Anglesey	82.0	(81.4;82.6)	4.6	(1.8; 7.4)	68.6	(67.4;69.7)	11.4	(8.6;14.2)	63.4	(62.2;64.7)	8.9	(3.7;14.1)
Gwynedd	82.0	(81.6;82.5)	2.4	(-3.2; 8.1)	68.4	(67.2;69.7)	5.1	(-2.6;12.8)	64.6	(63.2;65.9)	3.9	(-1.8; 9.6)
Conwy	81.3	(80.8;81.8)	6.8	(4.1; 9.4)	68.9	(67.7;70.0)	13.9	(-0.6;28.4)	63.1	(61.8;64.3)	9.2	(2.2;16.2)
Denbighshire	81.0	(80.5;81.6)	3.7	(-3.0;10.4)	67.5	(66.3;68.8)	16.4	(-3.4;36.3)	62.0	(60.7;63.4)	8.5	(-1.0;18.0)
Flintshire	81.6	(81.2;82.0)	6.8	(4.1; 9.5)	67.7	(66.5;68.9)	13.1	(10.4;15.8)	62.4	(61.0;63.7)	7.3	(3.7;10.8)
Wrexham	81.0	(80.6;81.4)	8.2	(1.0;15.3)	66.1	(64.9;67.3)	15.3	(3.1;27.5)	62.5	(61.2;63.7)	14.1	(6.8;21.3)
Powys THB	82.7	(82.2;83.2)	4.9	(-4.0;13.9)	67.5	(66.2;68.7)	13.6	(1.7;25.4)	63.3	(62.0;64.7)	9.3	(3.3;15.4)
Hywel Dda HB	82.0	(81.7;82.2)	4.1	(1.3; 6.8)	65.7	(64.9;66.4)	12.7	(3.4;22.1)	61.2	(60.5;62.0)	8.9	(-1.7;19.5)
Ceredigion	83.9	(83.3;84.5)	1.2	(-1.1; 3.5)	69.3	(68.1;70.5)	3.9	(1.1; 6.6)	63.5	(62.2;64.7)	0.3	(-6.6; 7.2)
Pembrokeshire	81.9	(81.5;82.4)	4.2	(2.1; 6.2)	67.2	(66.0;68.5)	6.3	(4.0; 8.5)	62.1	(60.7;63.5)	4.3	(-6.3;15.0)
Carmarthenshire	81.3	(80.9;81.7)	2.9	(0.3; 5.6)	63.2	(61.9;64.5)	13.8	(-1.1;28.7)	59.6	(58.3;60.9)	10.5	(2.4;18.5)
ABM UHB	81.0	(80.8;81.2)	7.3	(5.7; 8.9)	64.5	(63.8;65.2)	16.4	(10.8;22.1)	59.5	(58.8;60.2)	13.2	(8.8;17.6)
Swansea	81.3	(81.0;81.7)	7.4	(5.3; 9.4)	65.7	(64.6;66.8)	14.8	(10.0;19.5)	60.4	(59.3;61.6)	13.7	(9.1;18.4)
Neath Port Talbot	80.6	(80.2;81.1)	6.7	(4.1; 9.4)	62.7	(61.5;64.0)	14.3	(6.8;21.8)	57.8	(56.4;59.1)	10.0	(1.5;18.6)
Bridgend	80.8	(80.4;81.2)	8.0	(5.1;10.9)	64.3	(63.1;65.6)	20.8	(8.5;33.1)	59.9	(58.6;61.2)	14.1	(3.1;25.1)
Cardiff and Vale UHB	81.8	(81.6;82.1)	9.9	(8.0;11.8)	66.3	(65.4;67.1)	21.3	(13.7;28.8)	62.5	(61.7;63.3)	12.9	(8.7;17.1)
The Vale of Glamorgan	82.1	(81.7;82.6)	7.4	(6.7; 8.1)	67.0	(65.7;68.3)	18.7	(6.5;30.9)	62.5	(61.1;63.8)	12.5	(7.7;17.3)
Cardiff	81.7	(81.3;82.0)	10.0	(8.2;11.7)	65.9	(64.9;67.0)	21.9	(14.4;29.4)	62.5	(61.4;63.5)	13.1	(9.0;17.3)
Cwm Taf HB	80.0	(79.7;80.3)	6.0	(4.3; 7.8)	60.6	(59.8;61.5)	16.0	(14.8;17.3)	58.5	(57.6;59.4)	12.5	(7.0;18.0)
Rhondda Cynon Taf	80.1	(79.8;80.5)	5.4	(3.6; 7.2)	60.8	(59.7;62.0)	15.6	(11.3;19.9)	58.9	(57.7;60.0)	12.2	(5.7;18.8)
Merthyr Tydfil	79.6	(78.9;80.3)	7.8	(4.4;11.2)	59.6	(58.3;60.9)	15.8	(7.8;23.7)	57.0	(55.6;58.3)	10.3	(-0.7;21.2)
Aneurin Bevan HB	81.2	(81.0;81.5)	7.5	(5.1; 9.9)	63.4	(62.8;64.0)	18.9	(12.9;24.9)	60.1	(59.5;60.7)	13.1	(10.3;16.0)
Caerphilly	80.8	(80.4;81.2)	7.8	(5.8; 9.8)	61.1	(59.8;62.4)	17.4	(9.5;25.4)	58.6	(57.3;59.9)	12.1	(2.9;21.3)
Blaenau Gwent	79.0	(78.4;79.6)	1.9	(-1.9; 5.8)	59.8	(58.5;61.1)	11.3	(8.3;14.4)	57.2	(55.8;58.5)	7.3	(0.0;14.5)
Torfaen	81.3	(80.7;81.8)	6.1	(3.0; 9.1)	62.7	(61.2;64.1)	15.4	(-1.4;32.3)	60.1	(58.6;61.6)	13.6	(-9.4;36.6)
Monmouthshire	83.6	(83.1;84.2)	4.1	(0.1; 8.2)	69.7	(68.4;70.9)	10.0	(-6.4;26.4)	64.0	(62.6;65.3)	7.5	(2.4;12.6)
Newport	81.4	(81.0;81.9)	6.3	(-0.1;12.7)	64.3	(62.9;65.6)	19.7	(15.3;24.0)	61.0	(59.6;62.3)	14.7	(7.9;21.4)

Produced by Public Health Wales Observatory, using ADDE/MYE (ONS), WIMD 2008/WHS (WG)
1 95% confidence interval; **2** SII: Slope index of inequality

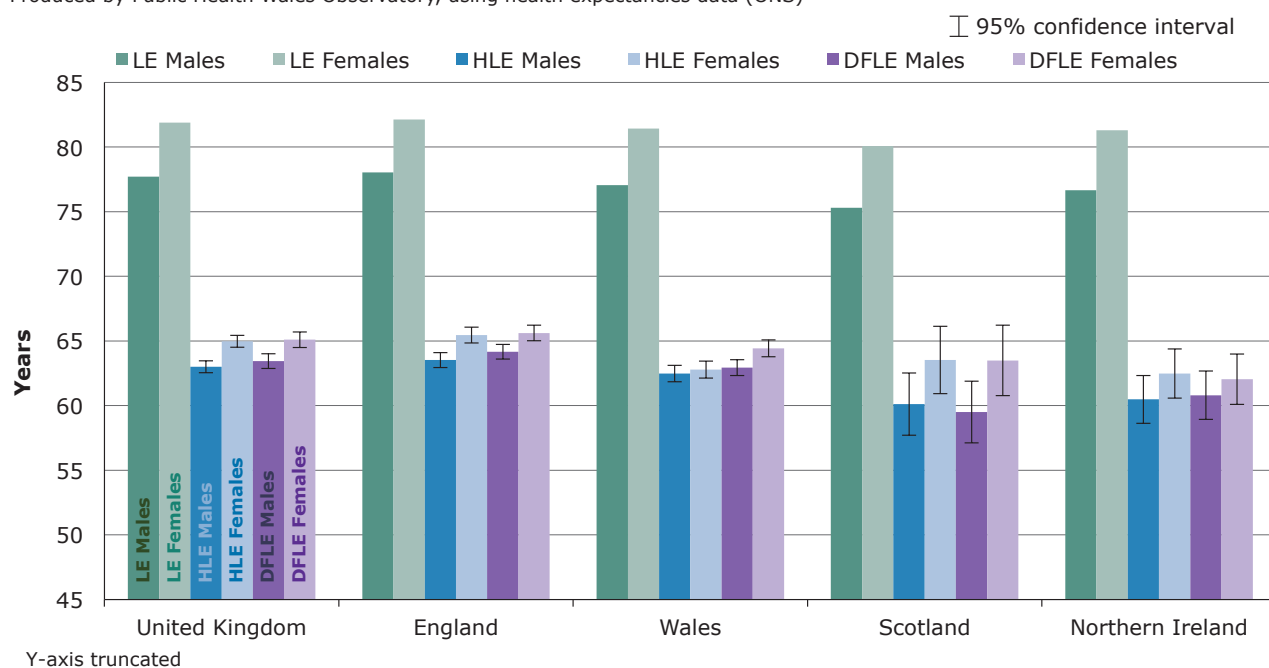
3.5 Comparison amongst UK nations

For these profiles, the calculation of HLE and DFLE incorporates survey data from the Welsh Health Survey, which allows analysis at the local authority level. The Office for National Statistics (ONS) has published figures for HLE and DFLE using a different survey ¹⁰ for the UK nations including Wales. This means that due to the different data sources and also years of data combined, these figures, although fairly similar, are not directly comparable to the figures in these profiles. For further details on the method please see the technical guide. To provide a general comparison with other nations the data published by the Office for National Statistics is shown in Figure 4.

Across UK nations, residents in England can expect to have the greatest number of years of life expectancy, HLE and DFLE at birth for 2007-2009. Although the number of years of life expectancy, HLE and DFLE for residents in Wales is slightly lower, the differences are not statistically significant due to the wide confidence intervals. For all nations, females can expect a greater life expectancy, HLE and DLFE than males. Compared to England, HLE and DFLE for males in Scotland and Northern Ireland is significantly lower. For females, Northern Ireland is the only UK nation where residents have a significantly lower HLE and DFLE than England.

Figure 4: Life expectancy, healthy life expectancy and disability-free life expectancy at birth, UK nations, by sex, 2007-09

Produced by Public Health Wales Observatory, using health expectancies data (ONS)



4. Mortality for the main causes of death

Poorer socio-economic circumstances have been widely associated with higher mortality^{11,12}. Higher rates of premature death from all causes, coronary heart disease and smoking related diseases have been associated with higher levels of deprivation¹³. Similarly, higher levels of deprivation have been associated with higher rates of all-age deaths for certain cancers, circulatory diseases and some respiratory diseases¹⁴. The causes of death examined here are all causes for all ages, all causes aged under 75, circulatory disease, respiratory disease and cancer (excluding other skin).

The charts in Figures 5 and 6 show the mortality trend between 2001-03 and 2007-09 for males and females in Wales by cause of death. The mortality rate in the most and the least deprived fifths is shown together with the rate for Wales as a comparison. All the charts in Figures 5 and 6 and their data tables with further details for Wales, each local authority and health board are published on our website (see inside cover).

The inequality gap has been described using a rate ratio. This is the rate in the most deprived fifth divided by the rate in the least deprived fifth. A rate ratio of two, for example, means that the rate in the most deprived fifth is twice as high as in the least deprived fifth. It is shown in the charts in Figures 5 and 6. The rate ratio is a measure of relative inequality which can be compared between causes of death and over time and is independent of the scale. An absolute measure of inequality with the difference in rate between the most and least deprived is included in the data published online.

Comparisons between local authority and health board areas are more complex, as they use local deprivation fifths within each area and are dependent on the local distribution of deprivation. In areas with a greater range of deprivation levels the inequality gap is inevitably larger than in areas concentrating on the more deprived or less deprived. Comparisons, therefore, often illustrate the difference in the range of deprivation levels between areas, rather than how outcomes relate to particular levels of deprivation for those areas. Changes in the rate ratio over time at the local level are often not statistically significant. For further details on local fifths see section 2 and the technical guide.

Figure 5: Mortality trends for all causes of death

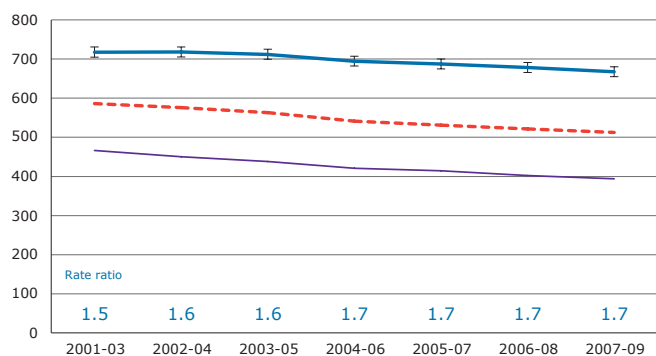
European age-standardised rate (EASR) per 100,000 population

Rate ratio = most deprived divided by least deprived

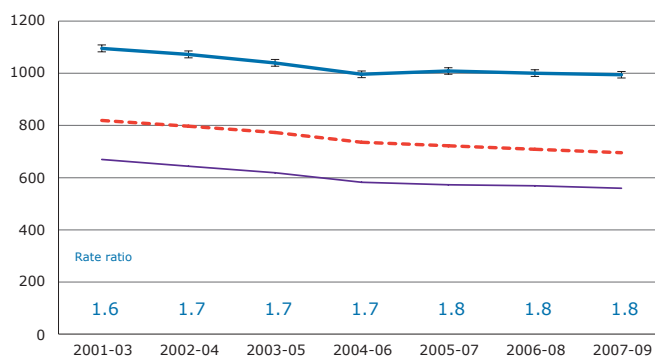
— EASR in most deprived (95% CI) — EASR in least deprived - - - Wales EASR

All-cause mortality, all ages

Females

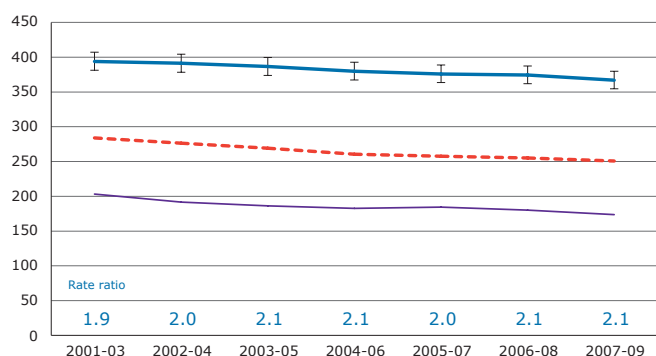


Males

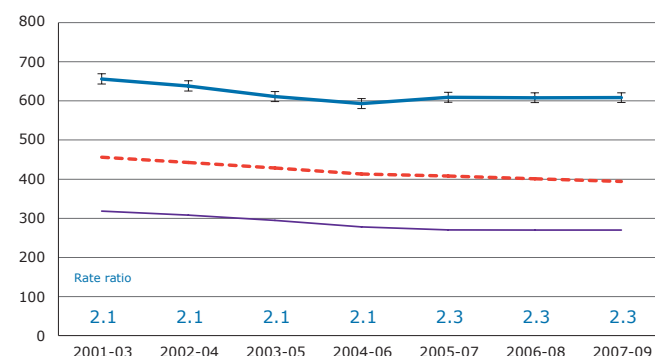


All-cause mortality under 75

Females



Males



Produced by Public Health Wales Observatory, using ADDE/MYE (ONS), WIMD 2008 (WG)

Figure 6: Mortality trends for specific causes of death

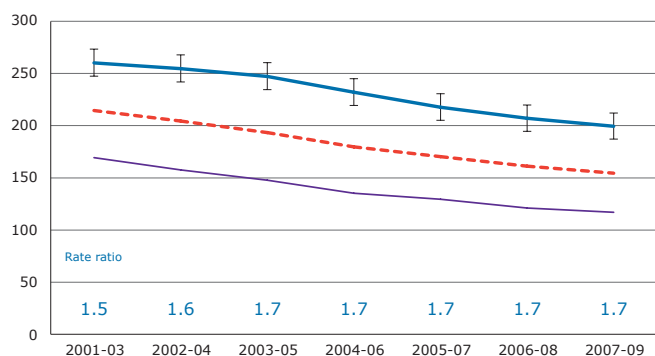
European age-standardised rate (EASR) per 100,000 population

Rate ratio = most deprived divided by least deprived

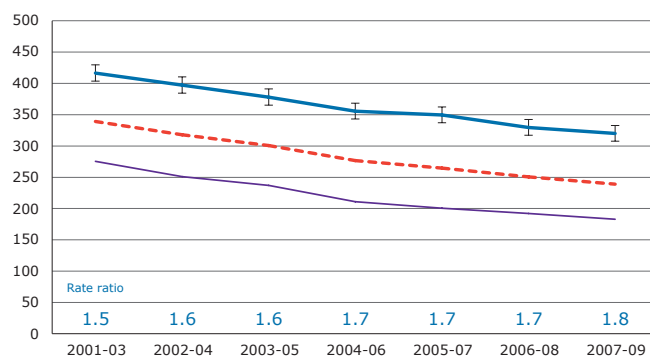
— EASR in most deprived (95% CI) — EASR in least deprived - - - Wales EASR

Mortality from circulatory disease

Females

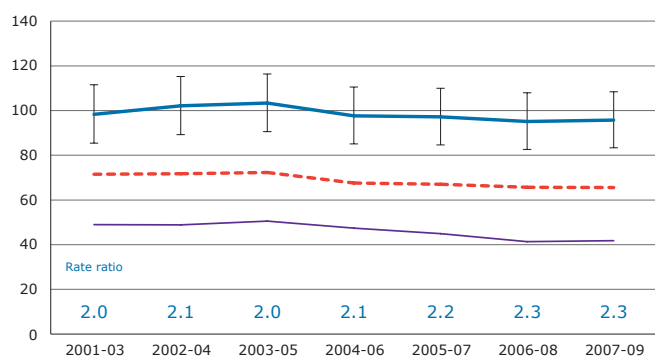


Males

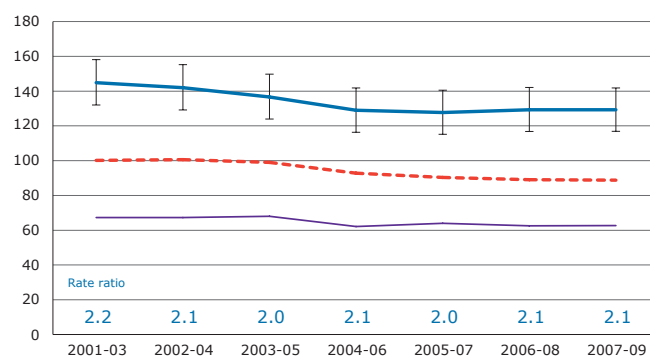


Mortality from respiratory disease

Females

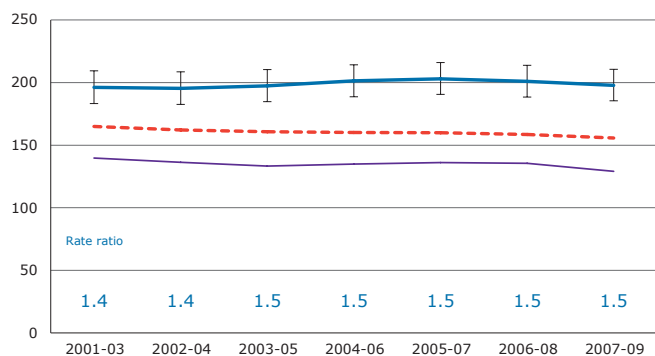


Males

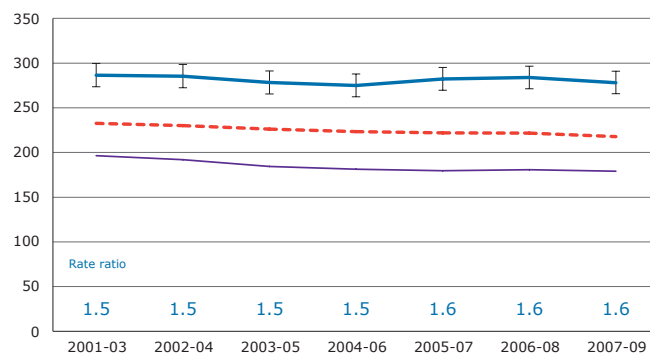


Mortality from cancer

Females



Males



Produced by Public Health Wales Observatory, using ADDE/MYE (ONS), WIMD 2008 (WG)

Rates in all-cause mortality for all ages in Wales have fallen, but the inequality gap has widened substantially. The rate ratio, measuring the gap between the most and least deprived, has steadily increased between 2001-03 to 2007-09 from 1.6 to 1.8 for males, and 1.5 to 1.7 for females. At health board and local authority level the pattern is not clear and often not statistically significant, but for many areas inequality gaps have widened. The inequality gap has increased, for example in Torfaen and Swansea, and also in females in Cardiff and Vale Health Board. In contrast, the gap in Hywel Dda and Blaenau Gwent has remained essentially unchanged.

The inequality gap for all-cause mortality aged under 75 in Wales is wider than that for all ages with a rate ratio of 2.3 for males and 2.1 for females in 2007-09. This suggests that inequalities in premature mortality are of particular concern. It has been proposed that this may be due at least in part to the lower levels of smoking in older age widening the differences between the fifths when only those under 75 are included¹³. The gap has widened over time for Wales, but this change is not uniform at the local authority and health board level. For some areas the gap has widened substantially, for example in Newport, where the rate ratio in males has increased from 2.0 to 3.0, but has narrowed for females from 2.3 to 1.9. In many areas the gap has changed little, for example in Hwyl Dda Health Board and Rhondda Cynon Taf.

Mortality rates from circulatory disease in Wales have fallen substantially between 2001-03 and 2007-09. The inequality gap, however, has steadily widened in Wales with the rate ratio rising from 1.5 to 1.8 for males, and 1.5 to 1.7 for females. Deaths from circulatory disease make up around 35% of all deaths each year in Wales and widening inequalities therefore have a significant impact. There is variation amongst health boards and local authorities, but for many the inequality gaps have widened. There was, for example, an increase in the rate ratio for females in Hywel Dda (1.2 to 1.5) and ABM University Health Board (1.5 to 1.9) during the period.

The inequalities also vary between males and females within areas. For example, in Newport the rate ratio has increased for males from 1.5 to 2.1, whilst for females the gap has fallen from 2.0 to 1.1, thereby nearly eliminating the inequality in females.

Particularly wide inequality gaps are found in mortality from respiratory disease in Wales and at the local level. Mortality rates from respiratory disease have fallen slightly. The rate ratio for males in Wales has decreased slightly from 2.2 in 2001-03 to 2.1 in 2007-09, but has increased for females from 2.0 to 2.3 over the same period. Due to relatively small numbers of death by fifth the confidence intervals are wide and the differences are not statistically significant. It is, however, still a major cause of death. At the local level the inequality gaps often do not show a clear trend over time. For Swansea and Caerphilly, for example, the inequality gap appears to have narrowed, whilst for Bridgend and Newport it appears to have widened. Whilst the changes in inequalities are mostly fairly small or inconclusive over time, the relatively wide inequality gaps for mortality from respiratory disease in most areas are of concern.

Mortality from cancer in Wales has remained fairly constant with only small decreases in rates between 2001-03 and 2007-09. The inequality gap in Wales has only widened very slightly, and any differences are not statistically significant. The pattern at the local authority and health board level is unclear and there is a lot of fluctuation in interim periods. For example, in males in Monmouthshire, the rate ratio changed from 1.1 in 2001-03 to 1.9 in 2004-06, and back to 1.1 in 2007-09. Some cancers have been shown to have lower mortality rates in more deprived areas, including breast cancer¹³. The relationship between all cancers and deprivation may therefore be influenced by this mixed relationship.

5. Mortality due to alcohol

Inequalities in mortality due to alcohol in Wales were examined using alcohol-attributable and alcohol-related mortality rates. Alcohol-related mortality is defined by ONS to include only those causes of death most directly linked to alcohol use such as alcoholic liver disease. Alcohol-attributable mortality is a wider definition which includes deaths due to conditions in part attributable to alcohol. As described previously in the *Profile of alcohol and health in Wales*¹⁵, alcohol-attributable mortality should, wherever possible, be examined in conjunction with the narrow definition of alcohol-related mortality. This ensures that an apparent trend is due to alcohol and not

merely to trends in particular causes of death contained in the wider definition (see technical guide for further details).

The charts in Figure 7 show trends in alcohol-attributable and alcohol-related mortality between 2001-03 and 2007-09 for males and females. The mortality rates in the most and the least deprived fifths of deprivation are compared to the rate for Wales overall. The rate ratio has been used to measure the inequality gap as for mortality for main causes of death in section 4. This measure of relative inequality can be compared between causes of death independent of the scale.

Figure 7: Trends in mortality due to alcohol

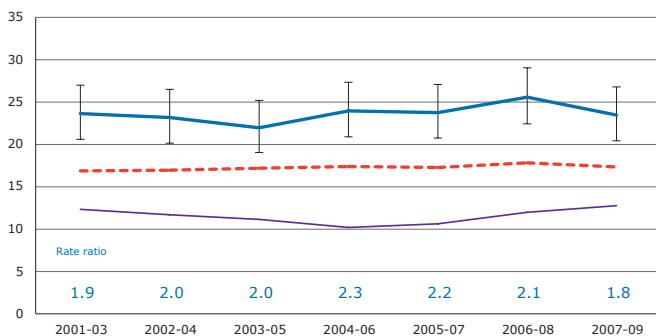
European age-standardised rate (EASR) per 100,000 population

Rate ratio = most deprived divided by least deprived

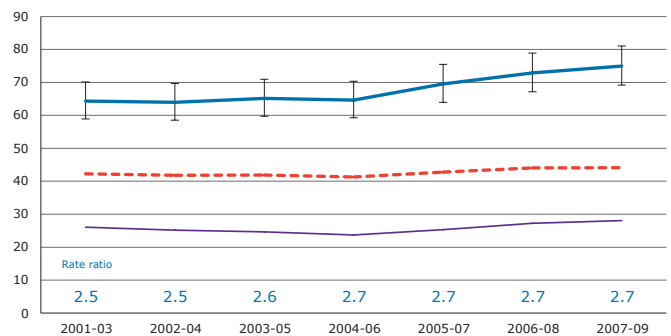
— EASR in most deprived (95% CI) — EASR in least deprived - - - Wales EASR

Alcohol-attributable mortality, all ages

Females

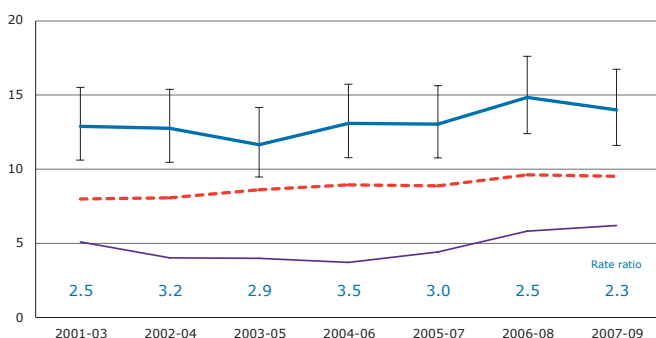


Males

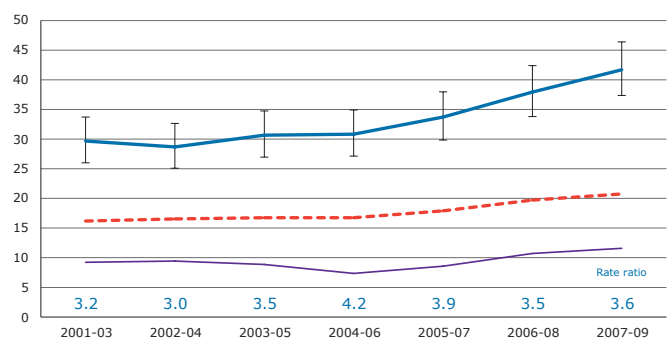


Alcohol-related mortality, all ages

Females



Males



Produced by Public Health Wales Observatory, using ADDE/MYE(ONS), fractions (NWPFO), WIMD 2008 (WG)

Overall, within Wales, the mortality rate due to alcohol has risen between 2001-03 and 2007-09, with alcohol-related mortality rates showing a steeper rise than alcohol-attributable mortality rates. In general, the inequality gap as measured by the rate ratio between the most and least deprived fifth is wider than for any of the main causes of death listed in the previous section, suggesting that inequalities in mortality due to alcohol are of particular concern. The gap shows no clear trend over time but is generally wider in males than females. Within Wales the overall male mortality rate due to alcohol (alcohol-attributable and alcohol-related) is around double that of females.

The alcohol-attributable mortality rates in the most deprived fifth of areas are almost three times higher than rates in the least deprived areas for males in the most recent years (rate ratio of 2.7). The inequality gap for females is lowest in 2007-09 with a rate ratio of 1.8, although it has fluctuated over time. Due to the relatively small numbers of deaths and resulting wide confidence intervals the differences in rate ratios over time, for males and females, are not statistically significant.

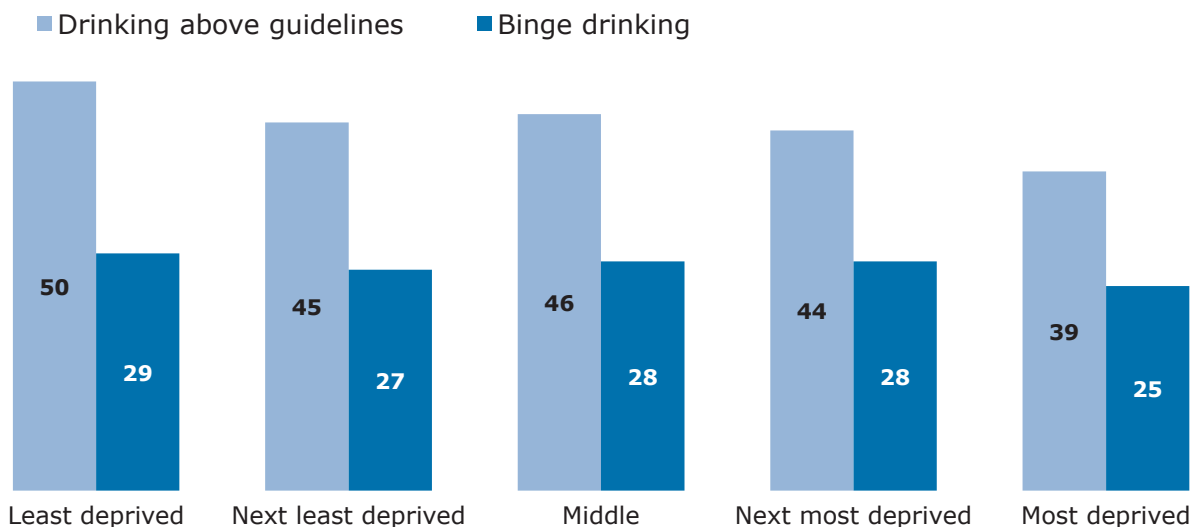
The inequality gap between the most and least deprived areas is wider in alcohol-related mortality than in alcohol-attributable mortality with a rate ratio of 3.6 for males and 2.3 for females. Due to relatively small numbers of deaths and resulting wide confidence intervals, differences in rate ratios over time are not statistically significant.

It is clear that deprived areas experience a greater burden of mortality due to alcohol and that alcohol consumption is a source of health inequalities. However, measures of levels of alcohol consumption from the most recent Welsh Health Survey (see technical guide for data sources) are lower in the most deprived areas. The chart in Figure 8 shows the variation of reported binge drinking and drinking above guidelines from the Welsh Health Survey, by deprivation fifth in Wales. Alcohol consumption is measured by calculating the units drunk on the heaviest drinking day in the previous week. The chart shows that the percentages of adults reporting drinking above guidelines and binge drinking are lower in the most deprived fifth compared to the other fifths. It is not clear why alcohol consumption appears to be lower in the most deprived areas, whilst mortality rates due to alcohol are substantially higher in more deprived areas compared to least deprived areas. There may be differences in individuals' drinking patterns in the least and most deprived areas, for example in the regularity of binge drinking or the actual units consumed above the limit. It may also be that underestimation of consumption in surveys is proportionally greater in deprived areas, for example the underestimation of heavy drinkers. In addition, the pattern in mortality rates due to alcohol may be influenced by other factors such as poorer general health and differences in individuals seeking treatment or help.

At health board and local authority level the numbers of deaths due to alcohol per fifth are small, particularly for alcohol-related deaths (those most directly related to alcohol). To allow meaningful analysis the data have been aggregated at health board level and presented for persons (i.e. combining males and females) using alcohol-attributable deaths (i.e. the wider definition of conditions).

Figure 8: Self-reported alcohol consumption, age-standardised percentage by deprivation fifth, persons aged 16 and over, Wales, 2009

Produced by Public Health Wales Observatory, using WHS/WIMD 2008 (WG)

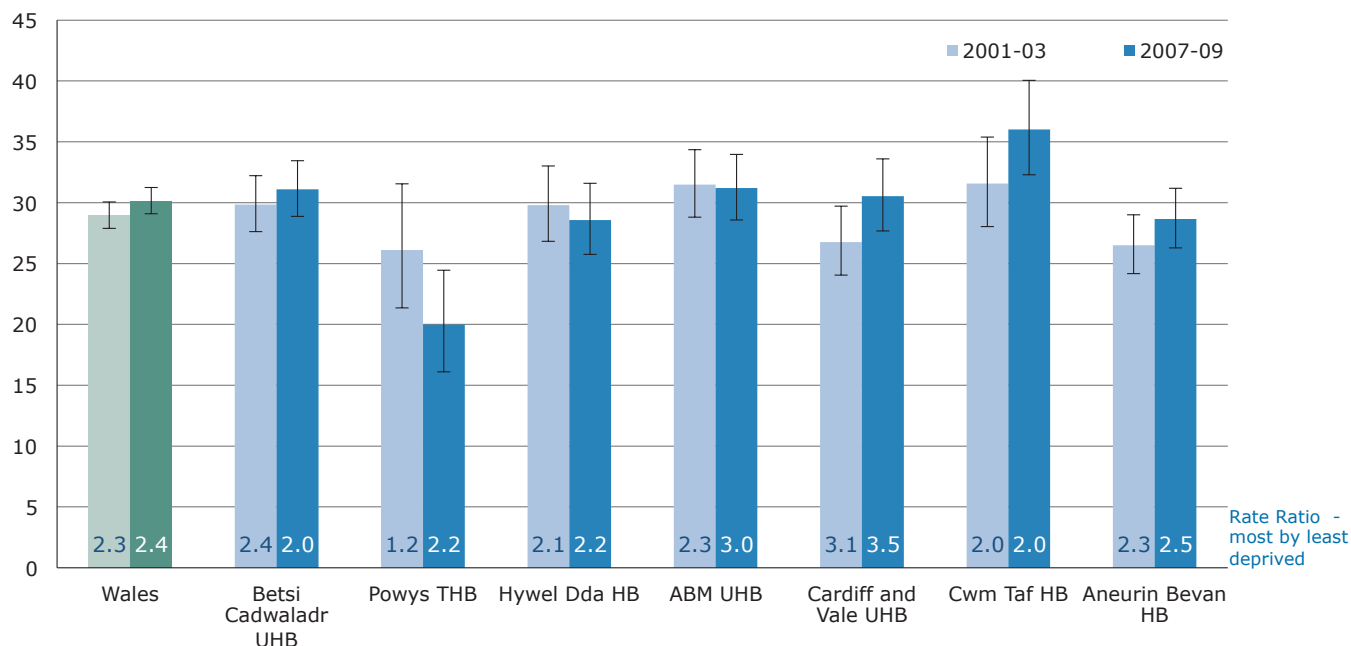


As for Wales, there is no clear trend over time in the inequality gap for alcohol-attributable mortality at health board level. The chart in Figure 9 compares the age-standardised rate and the inequality gap (rate ratio) at national and local health board level for the periods 2001-03 and 2007-09. The rates are based on fifths *within* health boards and those with a

greater range of deprivation level tend to have larger inequality gaps (see section 2 on local fifths). Cardiff and Vale University Health Board generally shows the highest inequality gap with a rate ratio fluctuating from 3.1 to 4.1 between 2001-03 and 2007-09. The data for all time periods for Wales and health boards is available on our website in interactive spreadsheets.

Figure 9: Alcohol-attributable mortality, persons, European age-standardised rate per 100,000, Wales and health boards, 2001-03 and 2007-09

Produced by Public Health Wales Observatory, using ADDE/MYE(ONS), fractions (NWPFO), WIMD 2008 (WG)



6. Mortality due to smoking

Mortality rates have been calculated based on an estimate of how many deaths from different diseases can be attributed to smoking (see technical guide for more details). As for alcohol-attributable mortality, it should be borne in mind that the trend over time may be due to the trend in one of the causes of death included in the definition rather than a change in the effect of smoking.

In Wales as a whole, and for the most and least deprived areas, smoking-attributable mortality rates have fallen between 2001-03 and 2007-09 (Figure 10). Rates in the most deprived areas are over twice those in the least deprived areas, and the inequality gap has widened slightly, although this change is not statistically significant. The widening of the inequality gap is a result of mortality rates falling more steeply in the least deprived areas compared to the most deprived areas.

Females have consistently had a larger inequality gap, reflected by a higher rate ratio (2.3 to 2.4) than males (1.9 to 2.1). The only other cause of death described in this report with a higher rate ratio in females than males is respiratory disease (Figure 6), which is incorporated within the smoking-attributable mortality estimates.

Among health boards and local authorities the inequality gap for smoking-attributable mortality varies, but has generally widened from 2001-03 to 2007-09. However, in some areas the gap has narrowed and there is considerable fluctuation in the interim periods. As for Wales, changes in rate ratios over time are not statistically significant.

Further information is available in interactive spreadsheets at health board and local authority level.

Figure 10: Trends in mortality due to smoking

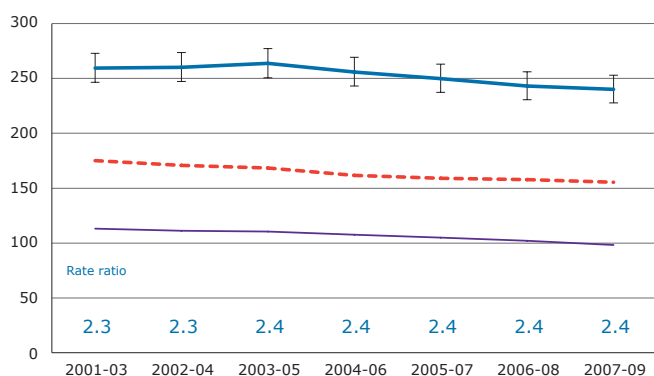
European age-standardised rate (EASR) per 100,000 population

Rate ratio = most deprived divided by least deprived

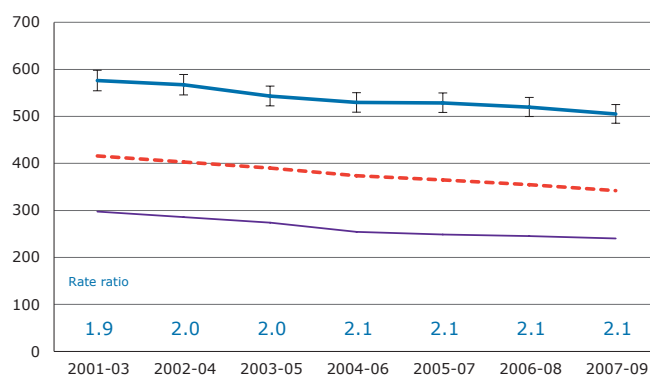
— EASR in most deprived (95% CI) — EASR in least deprived - - - Wales EASR

Smoking-attributable mortality, aged 35 and over

Females



Males



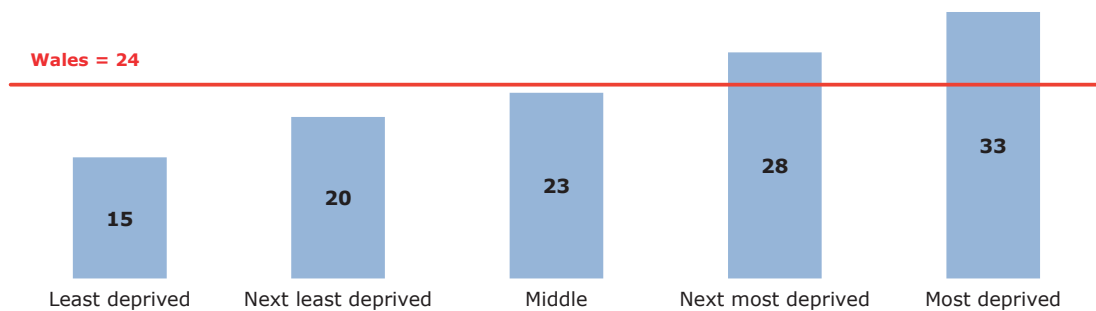
Produced by Public Health Wales Observatory, using ADDE/MYE (ONS), WIMD 2008/WHS (WG)

The charts in Figure 10 clearly show the greater burden of mortality from smoking experienced in the most deprived areas, compared to the least deprived areas, suggesting a higher prevalence of smoking.

Indeed, the link between smoking and deprivation is well established with one in three people in the most deprived areas of Wales smoking, compared to almost one in seven in the least deprived areas (Figure 11).

Figure 11: Self-reported smoking, age-standardised percentage by deprivation fifth, persons aged 16 and over, Wales, 2009

Produced by Public Health Wales Observatory, using WHS/WIMD 2008 (WG)



7. Conclusions

This publication examines the gap in mortality and life expectancy between the most deprived and least deprived areas in Wales. It also examines the inequality gap *within* each local authority or health board area and over time. It confirms that inequalities in Wales are not decreasing, but have mostly widened over the last decade. These changes are happening against the backdrop of improving health in all deprivation groups.

For the first time, healthy life expectancy and disability-free life expectancy, both relating to quality of life, have been produced at the local level and by deprivation fifths in Wales. Nationally, the inequality gap in life expectancy has slightly widened as life expectancy has increased more slowly in the most deprived areas compared to the least deprived in Wales. National inequalities are particularly wide in healthy life expectancy with a gap of nearly 19 years for males and nearly 18 years for females between the most and least deprived in Wales. People in the least deprived areas not only live longer than those in the most deprived areas, but they also spend a substantially higher proportion of their life expectancy in good health. The pattern is similar but not as stark in the proportion of their life expectancy free from limiting long-term illness and disability. These results confirm that, although life expectancy overall has increased, inequalities in both life expectancy and quality of life in Wales have persisted if not slightly increased. These new measures are not perfect, and rely on survey data. These have some limitations, and in some groupings in some areas there are small numbers of responses. A technical guide provides more detail. The large inequality gaps in healthy life expectancy, and in disability-free life expectancy, are certainly of particular concern.

As with life expectancy, improvements in mortality rates have been unequal with more improvement in the least deprived areas compared to the most deprived. This has resulted in widening inequality gaps for the main causes of death with the exception of mortality from respiratory disease in males. There are also differences in mortality by age. The inequality gap for all-cause mortality aged under 75 in Wales is wider than that for all ages, suggesting that inequalities in premature mortality are of particular concern. Particularly wide inequality gaps amongst the main causes of death are found for respiratory disease in Wales and at the local level.

Lifestyle is an important factor in health outcomes. Mortality due to alcohol and smoking show the greatest inequalities. The rates for smoking-attributable mortality in most deprived areas of Wales are more than twice those in the least deprived areas, and this inequality gap in mortality due to smoking has slightly risen over time. The largest national inequality gaps of all causes shown are in alcohol-related mortality with rates three and a half times as high for males in the most deprived areas as in the least deprived areas. Lifestyle behaviour such as levels of alcohol consumption and smoking can be constrained by social circumstances such as peer pressure, community norms and low income and are difficult to influence. Due to the large impact of these behaviours, reductions in these are key aims not only to improve health in general but also in the drive to reduce inequalities.

This work has also included local inequality gaps in types of life expectancy and mortality *within* local authorities and health boards. The trends in local inequality gaps over time vary substantially and are often not conclusive. Inequalities have widened in some local authorities and health boards, but narrowed or stayed the same in others.

Local inequality gaps in health largely reflect the local spread of deprivation. Areas with greater socio-economic inequalities have greater health inequalities. For the first time, local partnership boards have a picture of socio-economic inequalities in health and quality of life that exist within their areas.

Reducing health inequalities has been a priority for government in Wales since devolution and remains a key theme within the Public Health Framework, *Our healthy future*⁵. The Welsh Government's Strategic Action Plan for reducing inequities in health, *Fairer health outcomes for all*⁶, sets out a systematic approach to achieve greater health equity. It emphasises the importance of action not only relating to the most deprived in our communities, but across the social gradient, as well as the need for evidence to inform action.

These profiles provide vital new evidence to increase understanding of health inequalities at both local and national level. Most of the measures presented have been produced for the first time at local level and some are being considered for inclusion in national indicator sets or as government targets for ongoing monitoring.

It is clear that, despite all efforts, inequalities in Wales have persisted and for most indicators have increased. These inequalities are not inevitable and reflect an underlying unfairness in society. To have a major impact on health inequalities, the underlying differences in opportunities individuals have throughout the life course need to be addressed. Tackling these inequalities is not achievable by the health sector working in isolation, but must involve working across all sectors. Urgent and sustained action is needed if the Welsh Government aim of fairer health outcomes for all is to be realised.

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