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Health of Children and Young People in Wales

This document is supported by:

- Individual profiles for the 22 local authorities
- A technical guide
- Data files
- PowerPoint files

These are available at:
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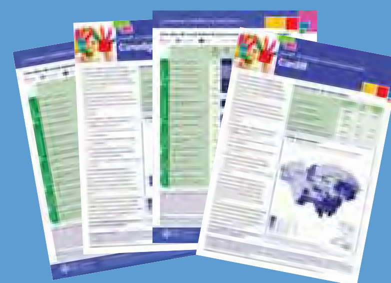

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Foreword

Childhood is a special time. It is a time to learn, discover, play, explore and experiment. A time when the foundations for adulthood are laid, gaining confidence to seize life's opportunities and resilience to weather life's storms. It is also a time of vulnerability, where special safeguards and care are needed. Fundamental to a healthy and happy childhood are strong and loving families within communities served by high quality public services, including education, health and social services.

This report draws together welcome information on our children and young people, showing that most are healthy and satisfied with life. However, it also shows that Wales has particular challenges. Over one in five children live in poverty, with relatively high proportions of children living in lone parent families. Almost half of children are not breastfed at birth in Wales. Many children and young people are providing unpaid care within the home, a higher proportion than in any English region, and some of these for a high proportion of the week. Many of the challenges facing communities and families in Wales lead to patterns of behaviours and their consequences including smoking, alcohol misuse and obesity.

We now know that investing in early years and childhood pays dividends; this is described in detail within *Fair society healthy lives, the Marmot review.* Investing in childhood is a focus in Wales, highlighted in *Building a brighter future: early years and childcare plan* and the *Tackling poverty action plan.* In implementing the plan, Welsh Government has committed to maintaining investment in early years to ensure that our children get the best start in life. The investment in our children needs to start at the earliest time, even before conception as highlighted in the *Maternity strategy,* for a healthy environment for our children, free from toxins such as those found in tobacco. Our approach needs to be universal, but with a focus and drive to support those most in need.

Fundamental to this is continuing to work to prevent poverty and mitigate the impact of poverty; improving skills, and narrowing the education gaps. By supporting families, communities and individual children, we can improve the lives of children.

I welcome this report, and invite agencies and individuals with an interest in the welfare of our children to consider the findings and the further action that can be taken at local and national level; action for children, families and communities to build a happier, healthier and fairer Wales.

Professor Sir Mansel Aylward CB   Chair, Public Health Wales

Summary of key messages

- Every child and young person in Wales has the right to be happy, healthy and safe. The role and influence of the family is absolutely paramount when trying to make improvements relating to children and young people.
- In 2011, there were just under a million children and young people (aged 0-24 years) living in Wales. In the Cardiff and Vale and Abertawe Bro Morgannwg areas, the 0-24 year old populations are projected to increase over the next 20 years. The areas of Betsi Cadwaladr, Cwm Taf and Aneurin Bevan are projected to see small decreases in their 0-24 populations over the same period.
- Low birth weight babies are at a greater risk of problems occurring during and after birth. There is also an association with poor health and increased risk of chronic diseases in adulthood for low birth weight babies. One in 18 babies are of low birth weight in Wales, this rises to one in 15 in Cwm Taf Health Board.
- Breast feeding has health benefits for both mother and baby is recognised as the most beneficial diet for babies. In 2011, 56% of babies were breastfed at birth in Wales. At the local authority level the percentages ranged from 28% to 80%, with the lowest percentages seen across the south Wales valleys.
- Over 1 in 5 (142,600) children and young people aged under 20 live in poverty, ranging from around 1 in 8 in Monmouthshire and Powys to 1 in 4 in the south Wales valleys. Higher percentages of children living in poverty are also seen within the cities.
- Data from the 2011 Census shows that more than 15% (1 in 6) of 16-24 year olds (excluding students) in Wales are unemployed.
- In 2011/12, around 1,250 (45%) of the 2,770 households that were accepted as homeless and temporarily accommodated by local authorities were households with dependent children.
- A strong stable family and good education are key components for a child's health, well-being and future prospects.
- In Wales there are approximately:
    - 97,500 lone-parent households with dependent children
    - 28,600 children and young people providing unpaid care, of which 3,500 are providing unpaid care for more than 50 hours per week; a higher proportion than England, or any English region
    - 5,700 children in the care of local authorities, with a 27% increase in foster care placements over a five year period

    - o 2,900 children on child protection registers
    - o 70,300 pupils eligible for free school meals
- Approximately 21,000 or 6% of Welsh domiciled students go onto UK Higher Education Institutions annually
- Health and behaviour developed during childhood and adolescence is often carried through into adulthood and can affect health later in life. In Wales:
    - o only 30% of those aged 11-16 eat fruit and/or vegetables each day
    - o only 36% of 5-14 year olds participate in activity for one hour or more each day
    - o only 37% of 16-24 year olds undertake 30 minutes of vigorous activity five or more times a week
    - o almost 3 in 10 children aged 4-5 are classified as overweight or obese
    - o 26% of those aged 16-24 reported smoking
    - o 46% of those aged 16-24 drink above the recommended guidelines
    - o around 1 in 10 children aged 11-16 have tried a drug at sometime in the previous year
- Teenage conception rates in Wales are higher in those aged under 18 compared to England but are similar amongst under 16 year olds. Within Wales, at the local authority level higher rates for under 16's can be seen in Torfaen, Cardiff, Bridgend, Wrexham, Conwy and Merthyr Tydfil. For under 18s, higher rates are again in Merthyr Tydfil, Bridgend and Rhondda Cynon Taf.
- Immunisation is the most effective and cost effective ways to protect children against serious infectious diseases. However, recent figures show that only 82% of children had completed all the recommended immunisations by their fourth birthday which is well below the target of 95% uptake. In addition, there remains a need to ensure that children who have missed out on immunisation previously are offered catch-up vaccinations at every opportunity.
- In Wales, more than 99% of eligible newborn babies have been screened for hearing impairments; this figure meets the national minimum standard of 95% or more.
- Influences on health at a young age will continue throughout childhood and into adulthood; resulting in improved well-being in adults. In Wales:
    - o 30% of males and 27% of females aged 11-16 years report being bullied in the last couple of months
    - o 81% of boys and 74% of girls aged 11-16 rate their health as good or excellent
    - o over 25,000 males (5.7%) and almost 20,000 females (4.3%) aged 0-24 report having a long term health problem or disability
    - o around 4.4% of all live born babies have a congenital anomaly. Over 90% of children born with gastroschisis, Turner syndrome, spina bifida and cystic fibrosis in Wales in the period 1988-2006 survived past their fifth birthday
    - o around 1 in 10 people aged 0-24 were admitted to hospital as an emergency in 2011. Major causes of admission for 0-4 year olds are respiratory disease and infections whereas for 5-24 year olds the most common cause of admission is injury/poisoning

  - each year there are around 15,000 admissions to hospital of 0-24 year olds due to injuries; children from more deprived areas are more likely to be admitted due to an injury

- The loss of a child is a tragedy resulting in life-changing effects on families, carers and friends. The infant mortality rate for Wales is slowly decreasing but there are still improvements to be made. Latest figures (2011) show that each year in Wales there are around:
  - 170 stillbirths
  - 240 perinatal deaths (stillbirths and deaths under 7 days)
  - 100 neonatal deaths (under 28 days, live births only)
  - 130 infant deaths (under 1 year, live births only)

- In 2011 there were 345 deaths of children and young people aged 0-24 years and resident in Wales with main causes of death (by ICD10 chapter):

	<1 year	1-17 year olds	18-24 year olds
1.	Perinatal conditions	Injury / poisoning	Injury / poisoning
2.	Congenital malformations	Nervous system	Nervous system
3.	Abnormal findings and ill-defined conditions	Congenital malformations & neoplasms	Neoplasms

- Transport crashes are the biggest cause of death in the injury/poisoning category for children and young people. The highest transport crash death rates are seen in Pembrokeshire and Carmarthenshire.

- Whilst improvements have been made in some areas, there is still much more to do. Coordinated interagency action at national and local level is needed to address the health of children and young people and its determinants; working with children and families to build on assets and address weaknesses. Chapter 8 *Actions to improve health and well-being* includes details of effective interventions for some of the topics covered in this report.

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Introduction

'Giving every child the best start in life is crucial to reducing health inequalities across the life course. The foundations for virtually every aspect of human development – physical, intellectual and emotional – are laid in early childhood.

What happens during these early years (starting in the womb) has lifelong effects on many aspects of health and well-being – from obesity, heart disease and mental health, to educational achievement and economic status. To have an impact on health inequalities we need to address the social gradient in children's access to positive early experiences. Later interventions, although important, are considerably less effective where good early foundations are lacking'.

Fair society, healthy lives: Marmot review[1] (p.22)

Background

The importance of promoting and protecting the health and well-being of children and young people cannot be underestimated.[2] Giving every child the best start in life is the highest priority recommendation from *The Marmot Review*[1] and giving every child a healthy start is one of the seven principles identified by the Welsh Government in the strategic action plan to reduce health inequities.[3] *Building a brighter future* describes the early years as 'the foundation on which society depends for its future prosperity and progress'[4 (p.6)] and sets out the commitment of Welsh Government to improve the life chances and outcomes of all children in Wales. From May 2014 the Welsh Ministers must, when exercising any of their functions, have due regard to the requirements of Part I of *The United Nations Convention on the Rights of the Child.*[5,6] These rights have been adopted as seven core aims within Wales, including that children and young people enjoy the best possible health, are listened to, treated with respect, have a safe home and a community which supports physical and emotional wellbeing, and are not disadvantaged by poverty.[7]

'In all actions concerning children… the best interests of the child shall be a primary consideration'.

The United Nations Convention on the Rights of the Child, Article 3.1

A wealth of information on children and young people is provided by the Welsh Government in their triennial publication *Children and young people's wellbeing monitor for Wales.*[8] The monitor contains analysis of a range of factors at the all-Wales level. This profile aims to complement the Welsh Government's publication primarily by providing more detailed analysis at the sub-Wales level. It has been produced to describe and highlight public health issues for children and young people to both encourage and inform action.

For the purpose of this publication children and young people are defined as those aged 0-24 years. Where possible, data is presented for this age group; however, for some indicators more appropriate age ranges may be used for example statutory school age. This profile covers important child health topics for which data is available. The most recent data as at June 2013 is included.

Comparative data has been included for other European countries and/or the United Kingdom where possible. In some instances England-only comparisons are used; this is due to differences in data collection, definitions or availability in other countries. Although some trend data is included within this document, more extensive trend information is provided in the accompanying 22 local authority profiles.

Summary information on evidence based interventions is included. Efforts have focused around identifying evidence based interventions to meet the priority outcomes set out in *Our healthy future*, the Welsh Government strategic framework for public health.[9] The evidence included relates primarily to multi-agency action to improve the health and well-being of children and young people. The sources used to determine interventions are limited to National Institute for Health and Clinical Excellence (NICE) guidance and systematic reviews from the Cochrane and Campbell Collaborations where these are more recent than, or differ in scope to, NICE guidance. Evidence available as of March 2013 is included. More detail on each intervention can be found in the link provided.

This report is one of a series of products that comprise the *Health of children and young people*. The other products are:

- 22 local authority profiles containing summary information on key indicators
- A series of PowerPoint files for those wishing to present the charts and maps from this report
- Data files containing the charts and tables
- A technical guide explaining the data sources and methods used

These can all be accessed on the Public Health Wales Observatory website at: www.publichealthwalesobservatory.wales.nhs.uk/childprofile

How to use this document

A guide entitled *Health of children and young people: technical guide* has been produced to describe the methods, indicators, data sources and terms used in this report. The guide also provides definitions, notes for interpretation and details of where to find further information.

Interpreting charts and maps

To aid interpretation, the charts and maps have been coloured consistently throughout the document for persons, males and females. The charts have been ordered geographically i.e. larger geographies first (for example countries, health boards, local authorities) and each geographical group is ordered from the north west to south east. When interpreting a chart or map it is important to consider why a rate may be high or low, for example it could be due to high/low prevalence or it could be (in part) due to differences in data completeness. Further information to aid interpretation of specific charts and maps is included in the supporting technical guide (see link above).

Confidence intervals

Many of the charts in this document contain confidence intervals. Confidence intervals (CIs) are indications of the natural variation that would be expected around a rate and they should be considered when assessing or interpreting a rate. The size of the confidence interval is largely dependent on the size of the population from which the events came. Generally speaking, rates based on small populations are likely to have wider CIs. Conversely, rates based on large populations are likely to have narrower CIs. In this document 95% CIs are used. This represents a range of values that we can be 95% confident contains the 'true' underlying rate.

Statistical significance

A result may be deemed statistically significant if it is considered unlikely to have occurred by chance alone. The basis for such judgements is a predetermined and arbitrary cut-off, usually taken as 5% or 0.05. In some circumstances this cut–off may be lowered to 1%, for example where there is a greater need for certainty over the safety of a drug or procedure. In this document, a rate is described as statistically significant if its 95% CI does not cross the Wales rate. Statistical significance is not the same as public health significance. A result may have public health significance whilst not being statistically significant and vice versa.

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Population and births

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1.2 Child population
1.3 Population change
1.4 Fertility
1.5 Preterm births
1.6 Low birth weight
1.7 Breastfeeding at birth

Key messages

- In 2011, there were just under a million children and young people (aged 0-24 years) living in Wales, representing 30% of the total population.
- Cardiff and Vale is the health board with the highest percentage of children and young adults (34%). This is mainly attributable to the large number of university students (18-24 year olds) living in and around the Cardiff area. The size of the 0-24 year old population in the Cardiff and Vale area has been increasing since 2002 and from 2002 it is projected to increase by 33% to around 200,000 in the year 2033.
- The total fertility rate in Wales is 1.9 children per woman. The highest fertility rates in 2011 were seen in Denbighshire, Isle of Anglesey, Conwy, Pembrokeshire, Vale of Glamorgan and Bridgend.
- 1 in 18 babies are of low birth weight, this rises to 1 in 15 in Cwm Taf Health Board. Rhondda Cynon Taf is the only local authority area where the percentage of low birth weight babies is statistically significantly higher than the Wales average.
- Overall 56% of babies were breastfed at birth. This is as high as 4 in 5 in Ceredigion and Powys, but less than a third in Blaenau Gwent, Neath Port Talbot and Caerphilly.

In order to undertake any investigation of population health it is important to start with an understanding of the size and distribution of the population. This chapter provides information and indicators on the number of children and young people living in Wales by age group and area of residence. It also shows how the child and young adult population has changed over the last 10 years along with predicted changes in numbers for this age group over the next 20 years. Fertility rates are also included as they affect the growth of the population.

This chapter also looks at some of the birth measures which can be related to health outcomes for a child such as babies born preterm, low birth weight babies and breastfeeding.

1.1 Population structure

Mid-year population estimates (as at 30 June each year) provide an estimate of the resident population of an area. Students are included in these figures using area of residence in term time.[1]

The latest population estimates (2011) report the number of children and young people aged 0-24 years and living in Wales is just under a million (928,400), ranging at the health board level from 35,600 in Powys to 199,400 in Betsi Cadwaladr. Based on the 2011 Census, around 7% of the 0-24 year old population of Wales has a non-white Ethnic background.

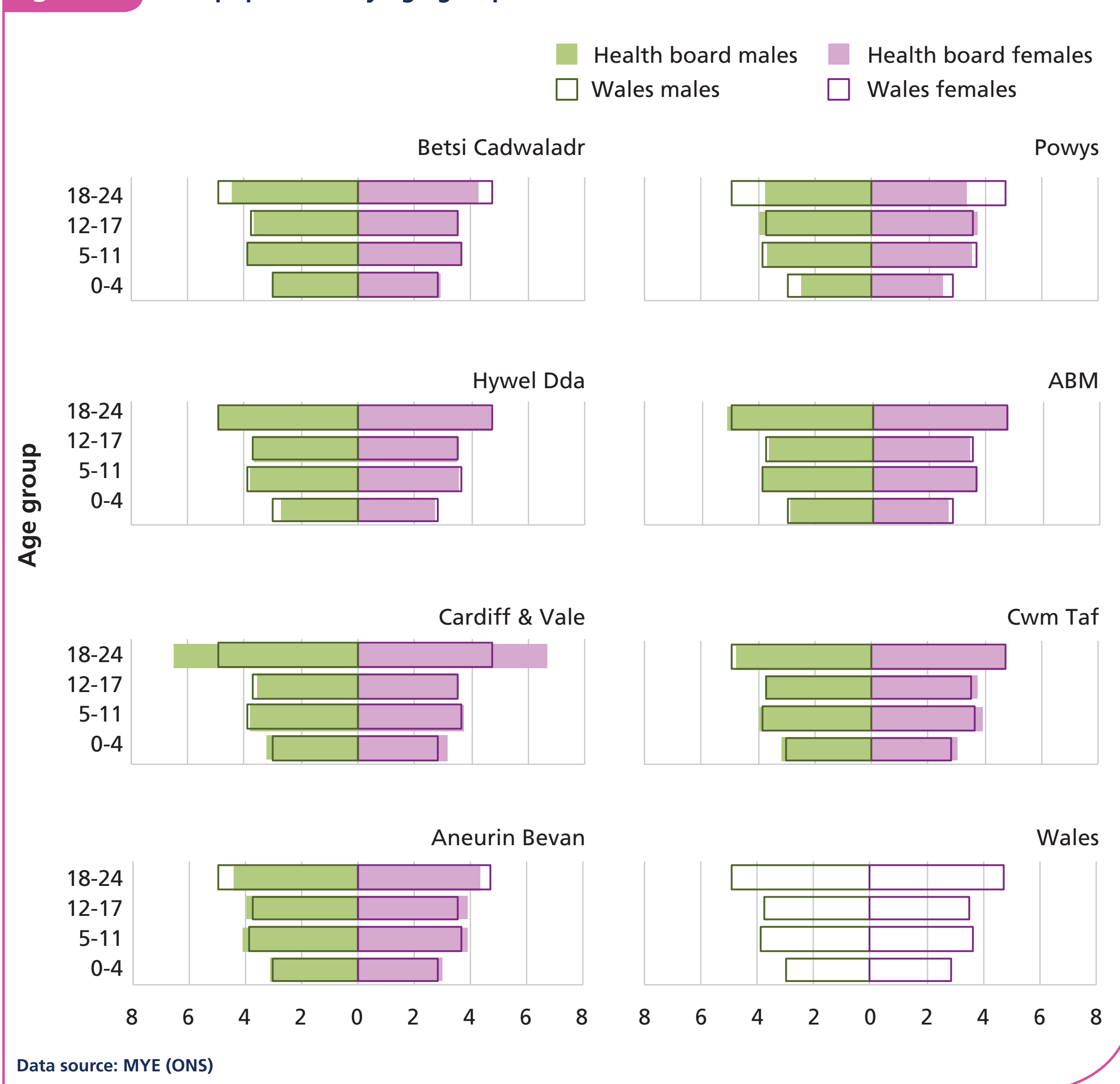
Figure 1.1 shows population pyramids for Wales and each of the seven health board areas. However, unlike the traditional population pyramids that use 5 or 10 year age bands, these population pyramids only present data for 0-24 year olds grouped into approximate educational age categories (0-4, 5-11, 12-17 and 18-24 years).

Hywel Dda, Abertawe Bro Morgannwg and Cwm Taf health boards are seen to have similar population structures to the all-Wales average for these age groups. Betsi Cadwaladr, Powys and Aneurin Bevan have smaller percentages of 18-24 year olds than Wales while Cardiff and Vale has much higher percentages in this age group. Variations such as these will have a bearing on the volume of different services needed in each of the health board areas.

Governments '... shall take appropriate measures to ensure appropriate pre-natal and post-natal health care for mothers'.

The United Nations Convention on the Rights of the Child, Article 24.2(d)

Figure 1.1 % of population by age group, 2011



Data source: MYE (ONS)

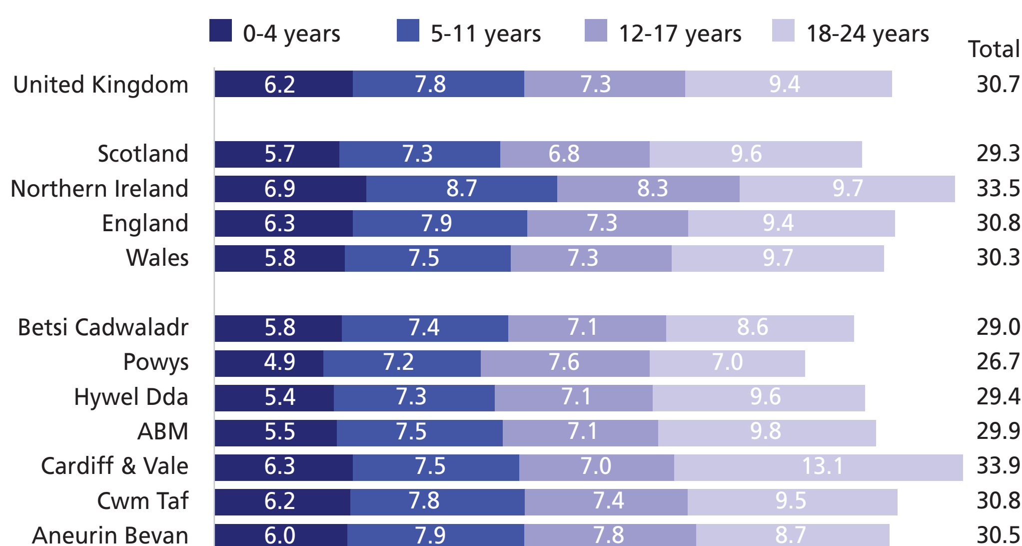
1.2 Child population

Figures 1.2a and 1.2b illustrate the distribution of school age children within each geographical area, allowing for comparisons across the UK nations and at the health board and local authority level.

Across the UK nations, Wales (30%) has similar percentages to England and Scotland. Northern Ireland has the greatest percentage of 0-24 year olds (34%) and also the highest percentage within each of the school age groups. At the heath board level, the percentage of persons aged 0-24 also varies, ranging from just over 1 in 4 in Powys to about 1 in 3 in Cardiff and Vale. Cardiff and Vale also has the largest percentage of 18-24 year olds among the health boards.

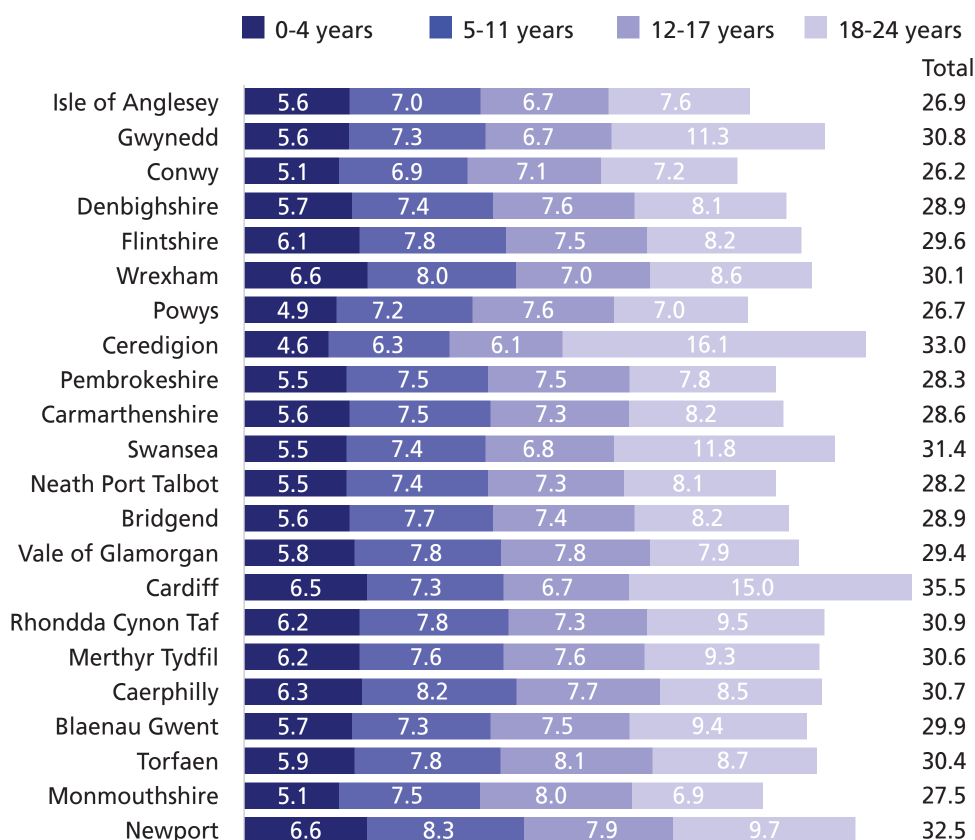
At the local authority level (Figure 1.2b) there is also considerable variation across areas. Ceredigion has the lowest percentage of 0-4 year olds (4.6%) and the highest percentage of 18-24 year olds (16.1%). Ceredigion, Cardiff and Swansea have over a third of their 0-24 year old population in the 18-24 age group which is largely due to their university student populations.

Figure 1.2a % of population aged 0-24 by school age group, 2011



Data source: MYE (ONS)

Figure 1.2b % of population aged 0-24 by school age group, 2011



Data source: MYE (ONS)

Variation across areas is also evident at the lower super output area (LSOA) level with percentages ranging from 12% to 86% (Figure 1.3).

Figure 1.3 % of population aged 0-24, 2011

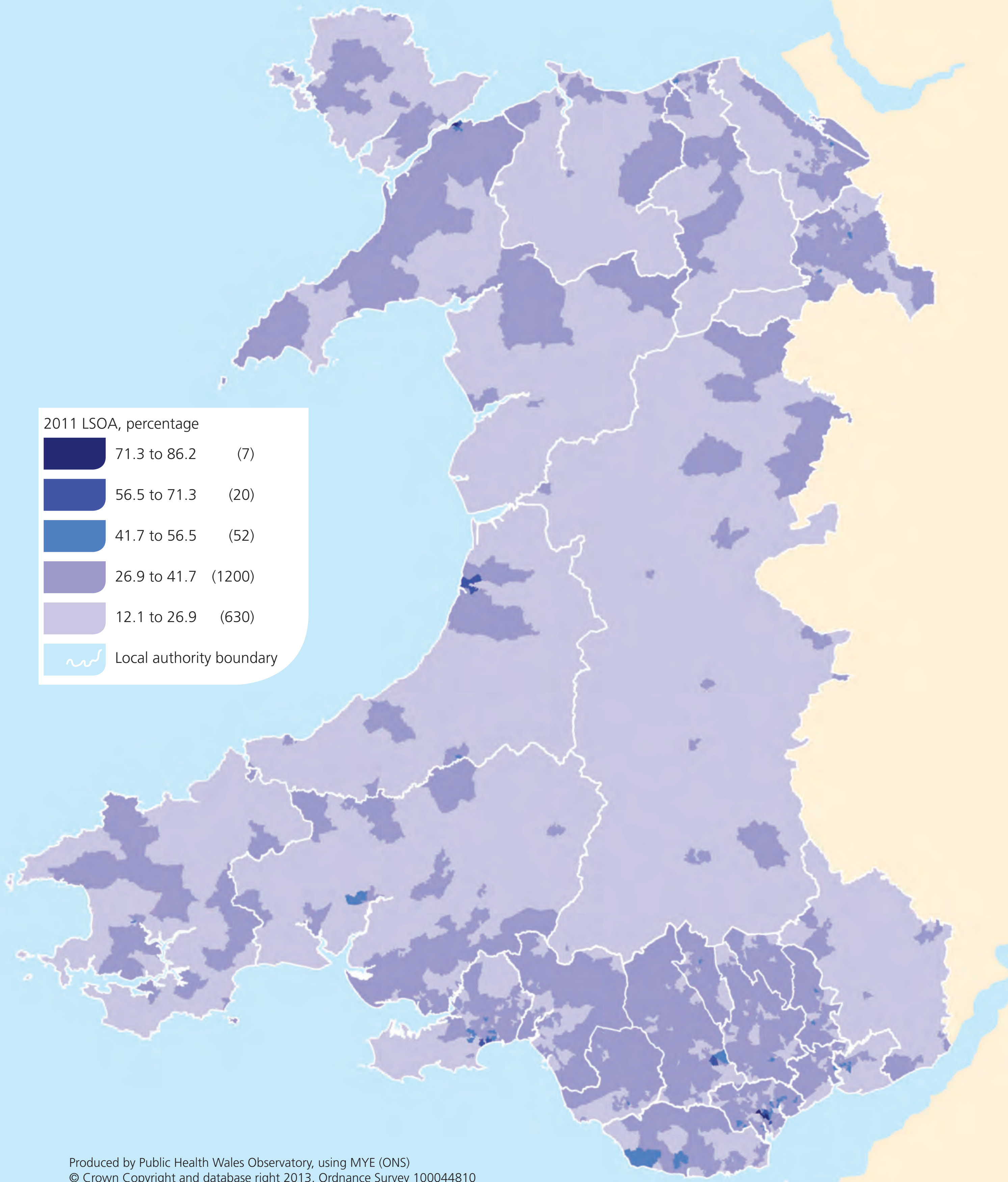


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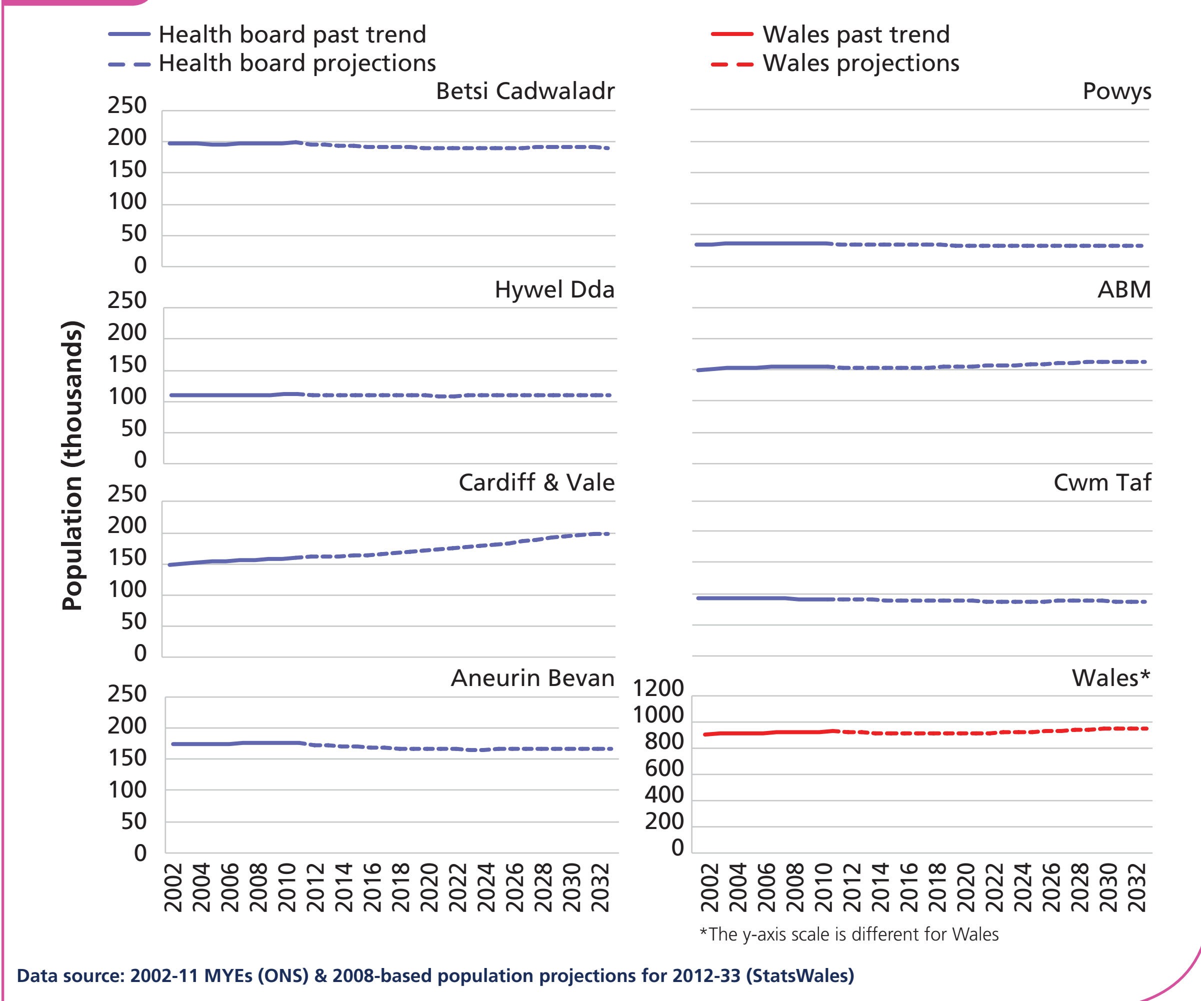
Figure 1.3 highlights that even within local authority areas which have a low percentage of 0-24 year olds, there are LSOAs which have a much higher percentage of their population in this age group. For example, 26% of the population in Conwy local authority are aged 0-24 but within this area there are LSOAs with over 40% of their population in this age group. Seven of the 1,909 LSOAs in Wales (6 being in Cardiff and the other in Bangor) have over 71% of their population aged 0-24. Variations such as these are important considerations for delivering services and targeting interventions.

1.3 Population change

Understanding how the population structure will change in the future is just as important as understanding the current population structure when delivering services and producing sustainable policies. Population projections represent future population estimates and are calculated using assumptions about future trends in fertility, deaths and migration. Trends in birth rates can be difficult to predict so these projections can only be best estimates.

Figure 1.4 Population change, past trends and projections, persons aged 0-24, 2002-2033



Data source: 2002-11 MYEs (ONS) & 2008-based population projections for 2012-33 (StatsWales)

Figure 1.4 shows population change in persons aged 0-24 between 2002 and 2033. In the Cardiff and Vale area the size of the 0-24 year old population has been increasing since 2002 and from 2002 it is projected to increase by 33% to around 200,000 in the year 2033. The size of the population in the Abertawe Bro Morgannwg area is also projected to increase by 2033 but to a lesser extent. The areas of Betsi Cadwaladr, Cwm Taf and Aneurin Bevan are projected to see small decreases in their 0-24 populations. In Powys and Hywel Dda, populations in this age group have remained fairly constant and are projected to remain the same until 2033.

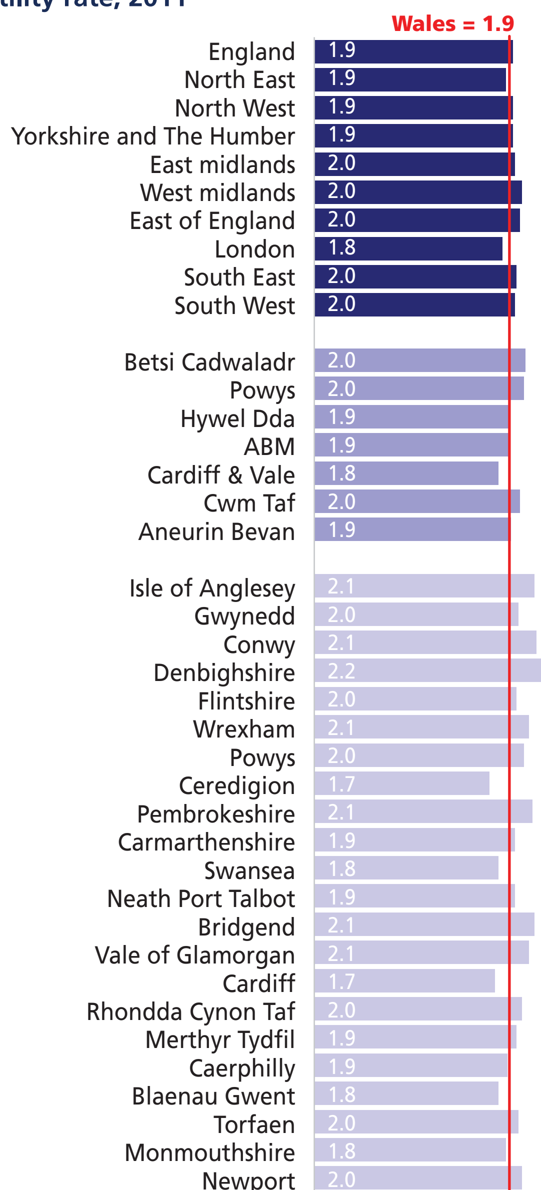
1.4 Fertility

The total fertility rate (TFR) is the average number of live children a group of women would have if they experienced the age-specific fertility rates for the calendar year in question throughout their childbearing lifespan. The replacement rate which describes the TFR required to replace the current population (excluding migration) is 2.075 for the UK.[2]

In 2011, the TFR for Wales was 1.9 children per woman which was equivalent to the TFR in England (Figure 1.5). TFR is higher in the Betsi Cadwaladr, Powys and Cwm Taf areas (2.0 children per woman) and with Cardiff and Vale having the lowest TFR (1.8 children per woman). Among local authorites in Wales the TFR ranged from 1.7 in Ceredigion and Cardiff to 2.2 in Denbighshire.

Fertility levels vary by local area for several reasons including differences in the timing of childbearing and differing ideals on family size. These can be influenced by the population characteristics of the area such as levels of educational attainment, ethnicity/country of birth, and deprivation levels.[3] In areas such as Cardiff and Ceredigion, the TFR is skewed downwards due to the large female student population who experience very low birth rates.

Figure 1.5 Total fertility rate, 2011

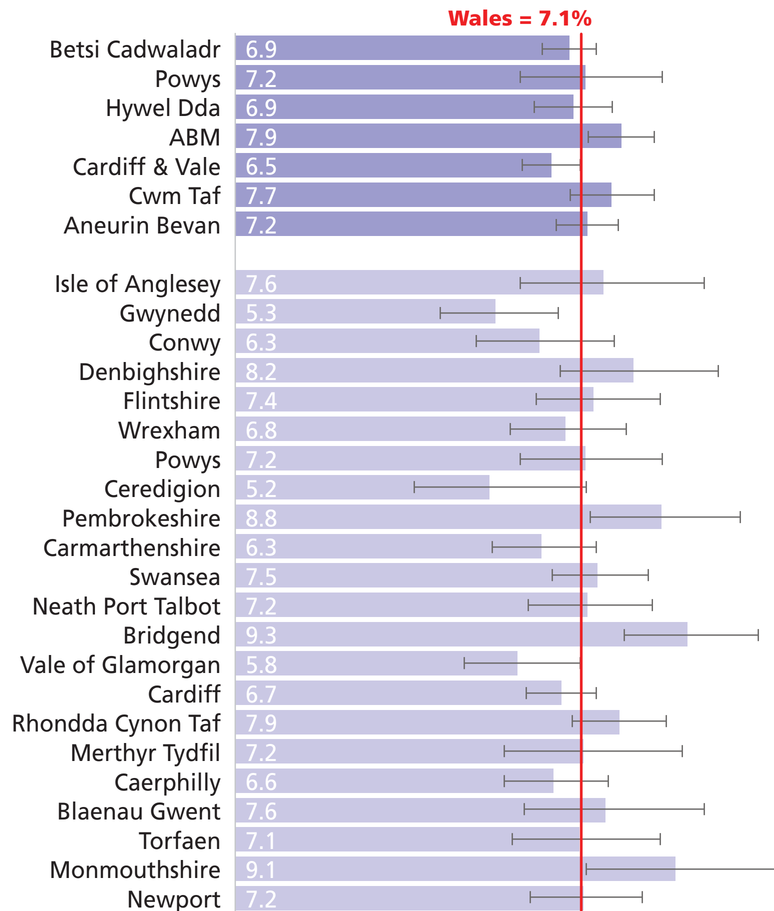


Data source: VS1 (ONS)

1.5 Preterm births

Gestational age has an impact on the health of a baby. Babies born preterm (before 37 weeks gestation) are more prone to poorer health outcomes and there are a number of risk factors associated with preterm births which include maternal age, nutrition and health.[4,5,6] Since preterm babies are at risk of having low birth weight they are also at risk of the problems associated with it.

Figure 1.6 % of babies born preterm (<37 weeks gestation at birth), 2011



Data source: NCCHD (NWIS)

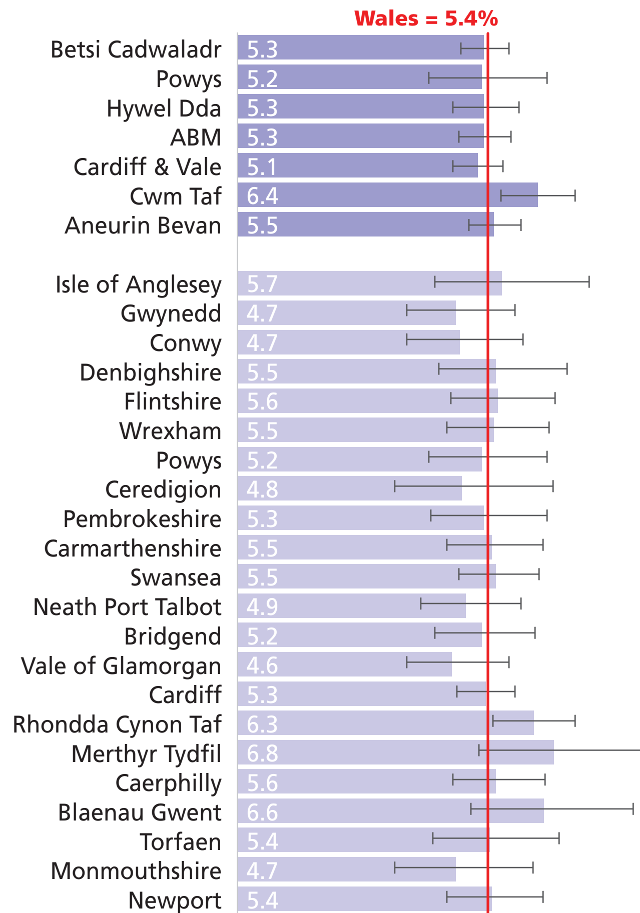
Figure 1.6 shows the percentage of live born babies who are born preterm by area of residence. In 2011, 7.1% of live births were born preterm (<37 weeks gestation) in Wales and at the health board level this ranged from 6.5% in Cardiff and Vale to 7.9% in Abertawe Bro Morgannwg.

There is considerable variation at the local authority level, the lowest percentage of babies born preterm occurring in Ceredigion (5.2%) and the highest occurring in Bridgend (9.3%). Three local authorities were statistically significantly higher than Wales (Pembrokeshire, Bridgend and Monmouthshire).

1.6 Low birth weight

Birth weight is an important consideration when determining the future health and well-being of children. Maternal smoking and nutrition are important risk factors associated with low birth weight.[7] Low birth weight babies are not only at a greater risk of problems occurring during and after birth but there is also an association with poor health and increased risk of chronic diseases in adulthood.[4,7,8]

Figure 1.7 % of low birth weight babies (under 2500g), singleton live births, 2011



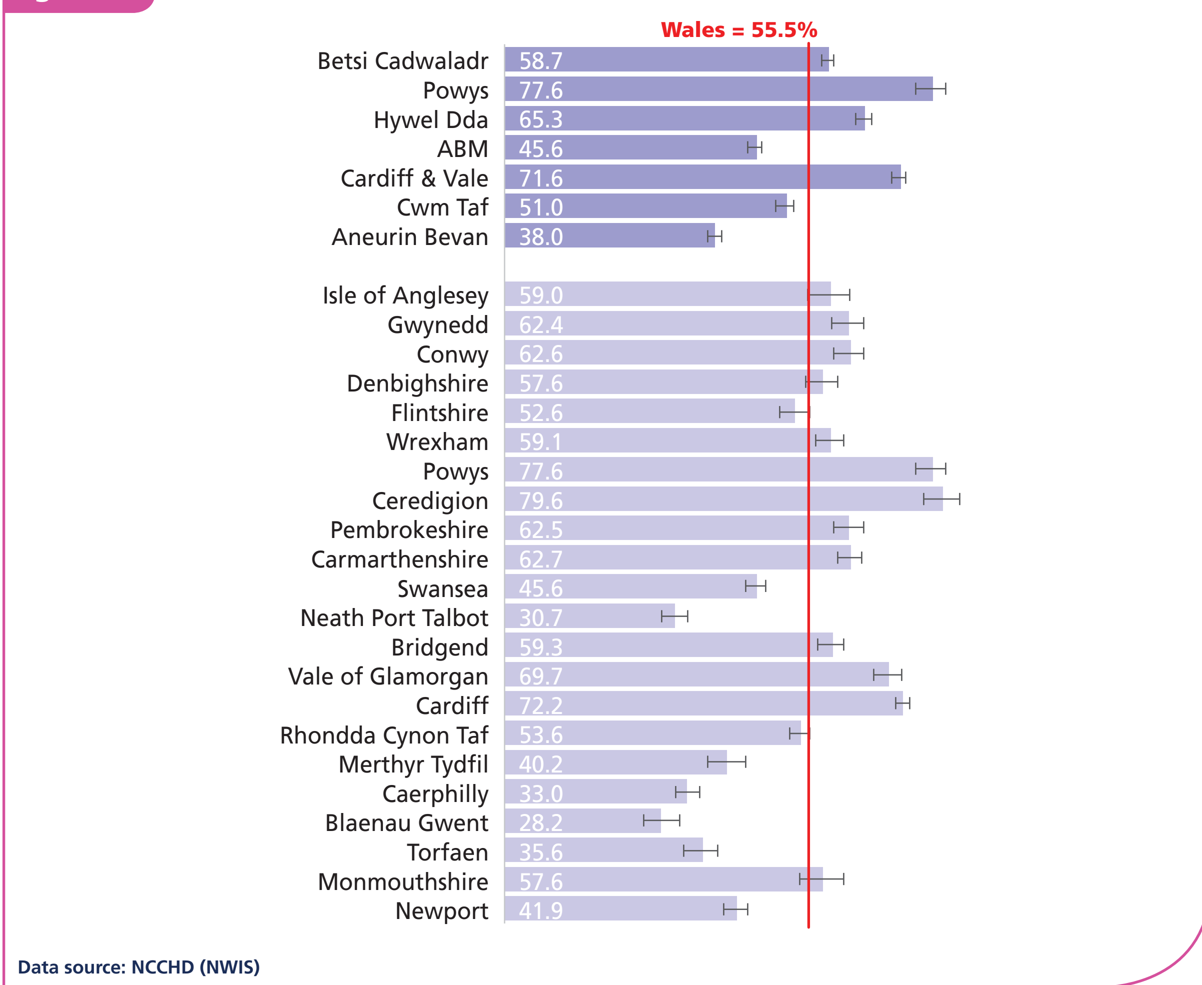
Data source: NCCHD (NWIS)

It can be seen that at the health board level the percentage of low birth weight babies are similar to Wales (5.4%) for all health boards apart from Cwm Taf where 6.4% of singleton births in 2011 were born with a low birth weight (Figure 1.7).

At the local authority level, the percentage ranges from 4.6% in the Vale of Glamorgan to 6.8% in Merthyr Tydfil. The percentage of low birth weight babies is statistically significantly higher in Rhondda Cynon Taf than Wales.

1.7 Breastfeeding at birth

Breast feeding has health benefits for both mother and baby and continues to be promoted as the most beneficial diet for babies.[9] The presence of antibodies in breast milk give babies the best start in life by protecting them from common childhood illnesses.[9] Breastfed babies are less likely to have to go to hospital with infections, and are more likely to grow up with a healthy weight and without allergies.[10] Breastfeeding is free so saves money for both families and the health service.[10]



In 2011, 56% of babies were breastfed at birth in Wales (Figure 1.8). This percentage varied across both health boards and local authority areas in Wales. At the health board level the percentage ranged from 38% in Aneurin Bevan to 78% in Powys.

There is even greater variability at the local authority level with a difference of over 50 percentage points between the local authorities with the highest (Ceredigion 80%) and lowest (Blaenau Gwent 28%) breastfeeding rates at birth.

Breastfeeding at 6 to 8 weeks is a good measure of sustained breastfeeding and therefore greater benefit to the infant. However, data is not currently available for this measure as breastfeeding status is not always recorded for babies at that age. In 2011 there was considerable variation in coding across Wales with less than 1% of 8 week old babies having breastfeeding status recorded in Powys compared to 91% in Cwm Taf. In Cwm Taf the 2011 figures show that although 51% of babies are breastfed at birth, only 22% of babies (approximately 1 in 5) continued to be breastfed at 8 weeks.

Considerable work and effort by the Welsh Government Maternity strategy implementation group and Early years programme is being carried out to support breastfeeding in Wales and overcome the problems with the availability and quality of breast feeding data.

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Socio-economic and environmental conditions

2.1 Income/poverty

2.2 Deprivation

2.3 Employment

2.4 Housing

2.5 Homelessness

2.6 Criminal justice

Key messages

- The highest percentages of children in poverty, and greatest concentration of most deprived areas, are in the south Wales valleys and cities. In Wales 142,595 (22%) children and young people aged under 20 live in poverty (defined as a household income less than 60% of the median UK income in 2010) with the highest levels being seen in Blaenau Gwent (30%). In Monmouthshire, which has the lowest percentage, 1 in 8 children and young people (13%) live in poverty.
- Rhyl in Denbighshire and the south Wales valleys have the highest rates of youth unemployment.
    - In Wales, the percentage of year 11 school leavers known not to be in education, employment or training (NEET) is 4.4%. Cardiff has the highest percentage (7.7%).
    - Data from the 2011 Census show that 15% of 16-24 year olds (excluding students) in Wales are unemployed. The highest percentage is seen in Blaenau Gwent (21%).
- Across Wales, 16% of all households with dependent children are overcrowded (more than 1.5 persons per room). The percentage is highest within the social rented housing sector at 26%. Overcrowding tends to be a feature of urban areas and is particularly an issue for Cardiff and north east Wales.
- In Wales in 2011/12, 1,250 (45%) of the 2,770 households that were accepted as homeless and temporarily accommodated by local authorities were households with dependent children.

Social inequalities in childhood can impact on health and well-being and lead to disengagement and disadvantage in adulthood.[1,2] The impact of economic and environmental conditions such as low income and poor housing in a child's early years can affect many aspects of life including health, educational achievement and future economic status.[1]

This chapter describes socio-economic factors and environmental conditions affecting children in Wales including income and economic activity, and deprivation and housing.

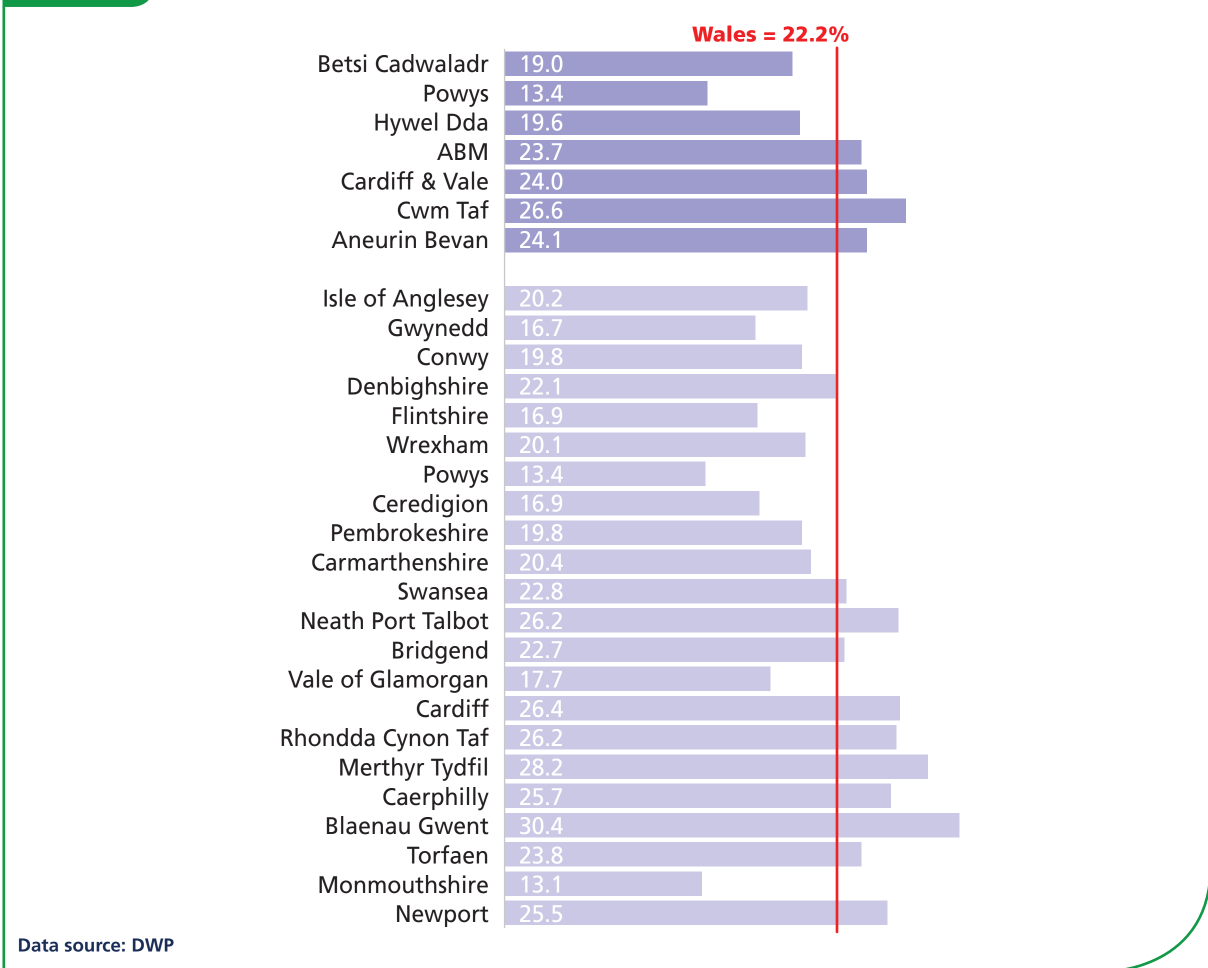
2.1 Income/poverty

Relative poverty is defined with reference to the society being studied and can differ over time. It is defined as when an individual's resources are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary living patterns, customs and activities.[3] The Welsh Government aims to eradicate child poverty by 2020.[4] In addition, 1 of the 3 strategic objectives set out in the *Child Poverty Strategy for Wales* is to reduce inequalities that exist in health, education and economic outcomes of children and families by improving the outcomes of the poorest.[4] Figures 2.1 and 2.2 use a measure of child poverty which is defined as children in families whose household income is less than 60% of the median UK income in 2010, or children in families who are in receipt of Income Support or Income-Based Jobseekers Allowance. Income is calculated before housing costs; in 2010 the threshold for the 60% median UK income was £211 per week. Analysis by the Joseph Rowntree Foundation estimated that in 2012 a couple with a single earner and 2 children needed £34,900 per annum to afford a minimum acceptable standard of living.[5]

Governments should '...recognize the right of every child to a standard of living adequate for the child's physical, mental, spiritual, moral and social development'.

The United Nations Convention on the Rights of the Child, Article 27.1

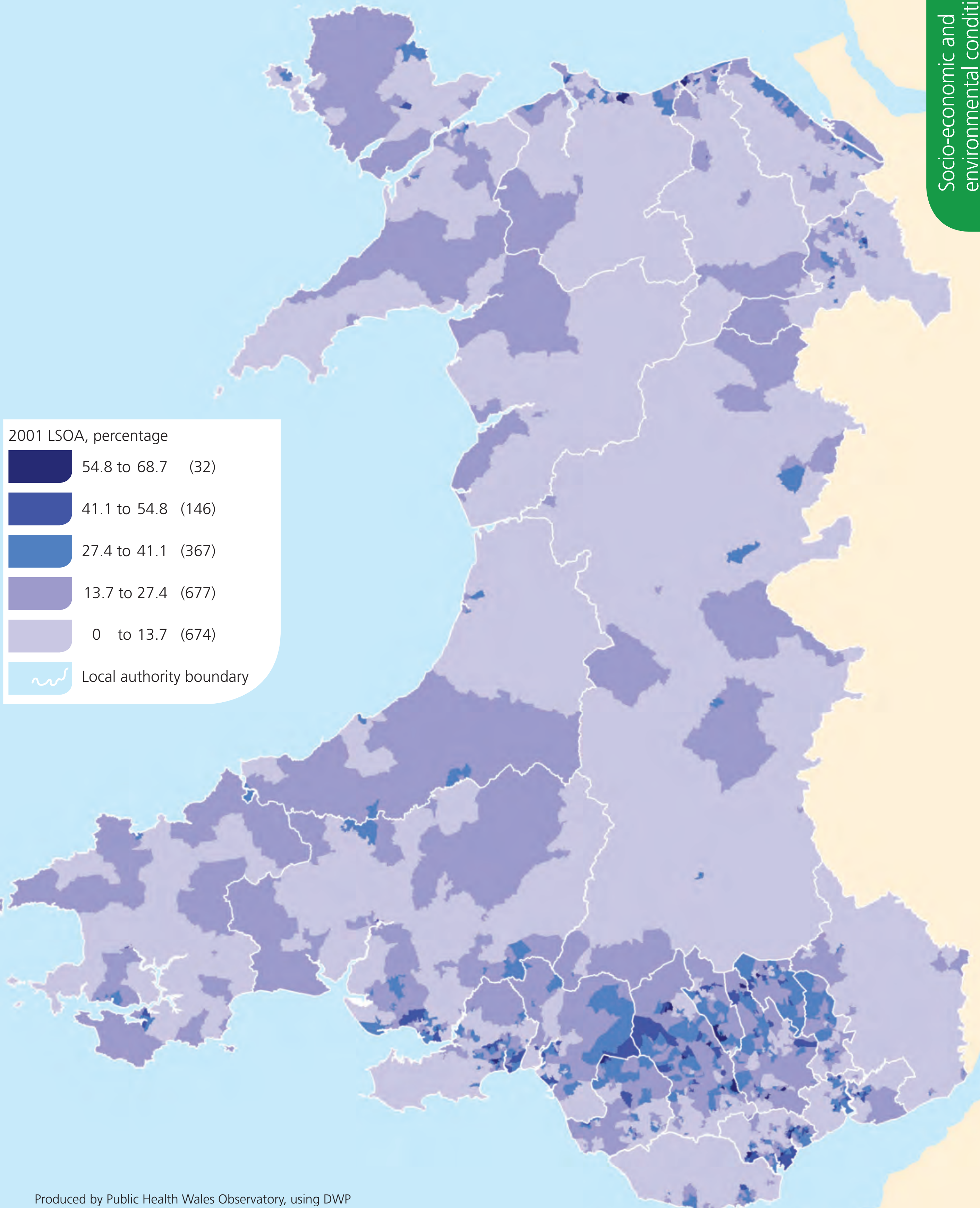
Figure 2.1 % of children living in poverty, persons aged under 20, 2010



Data source: DWP

In Wales over 1 in 5 (142,595) children and young people aged under 20 live in poverty (Figure 2.1). At the health board level Powys has the lowest percentage of children in poverty and Cwm Taf has the highest. Across local authorities in Wales this ranges from 13% in Monmouthshire to over 30% in Blaenau Gwent. However, even in Monmouthshire which has the lowest percentage, 1 in 8 children live in poverty. All local authorities in north and mid Wales are under the Wales average, whereas the majority of local authorities in south Wales are above the Wales average.

Figure 2.2 **% of children living in poverty, persons aged under 20, 2010**



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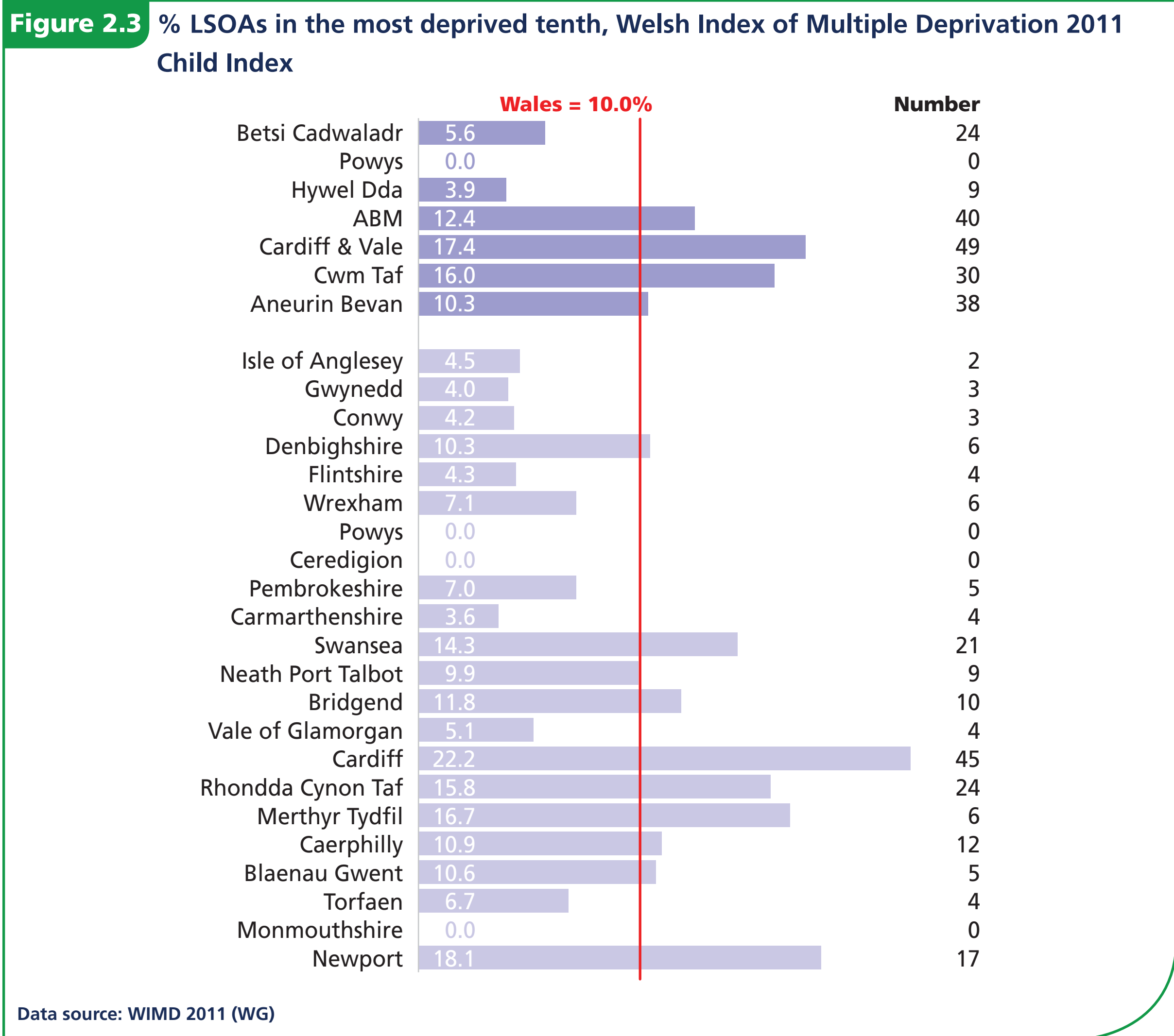
There is variation within local authority areas at LSOA level. Figure 2.2 shows that within local authorities which have a low percentage of children in poverty overall, there are LSOAs which have a much higher percentage of children in poverty. For example in the Vale of Glamorgan a third of LSOAs have a higher percentage of children in poverty than the Wales average. Across Wales there are 69 LSOAs where over half the children live in poverty, this increases to over 60% of children for the 5 worst LSOAs. Of the 5 LSOAs with the highest percentage of children in poverty, 3 are in Rhondda Cynon Taf (Penrhys, Treforest in Pontypridd and Penywaun); 1 is in Merthyr Tydfil (Pen-Y-Darren) and the other is in Denbighshire (Rhyl).

2.2 Deprivation

Deprivation is part of a wider notion of poverty than measures of income alone. The *Welsh Index of Multiple Deprivation 2011 Child Index* is a measure of relative deprivation for small areas in Wales for children.[6] It is constructed of 7 domains: income, health, education, geographical access to services, community safety, physical environment and housing. These domains included in the Child Index are focused on the child population and the types of deprivation which might be expected to affect them.[6]

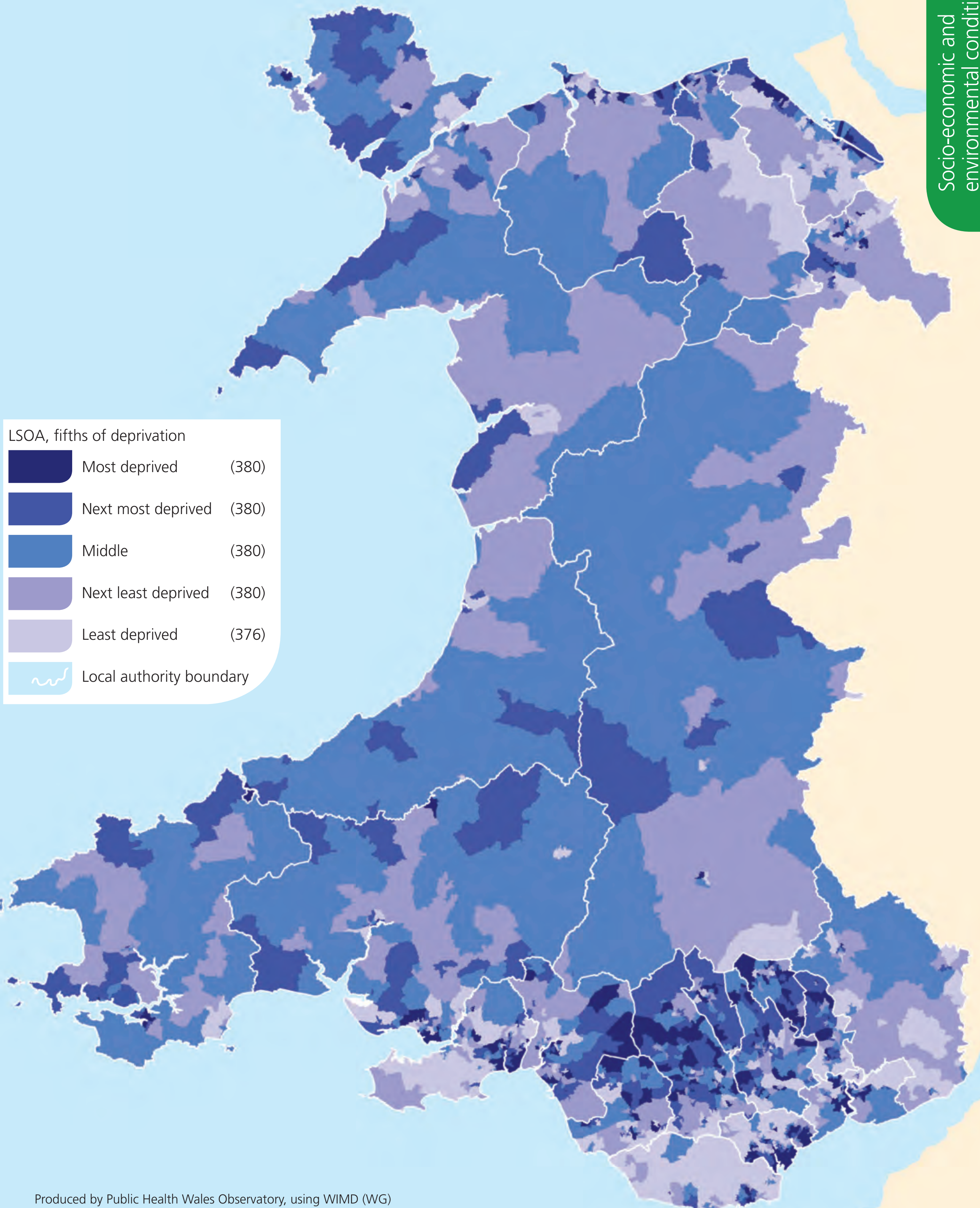
Figure 2.3 % LSOAs in the most deprived tenth, Welsh Index of Multiple Deprivation 2011 Child Index



Data source: WIMD 2011 (WG)

The percentage of LSOAs in the most deprived tenth in Wales ranges from 0 in Powys, Ceredigion and Monmouthshire to over a fifth of all LSOAs in Cardiff (Figure 2.3). At the health board level Cardiff & Vale and Cwm Taf have the highest percentages of LSOAs in the most deprived tenth at 17.4% and 16.0% respectively.

Figure 2.4 Welsh Index of Multiple Deprivation 2011 Child Index



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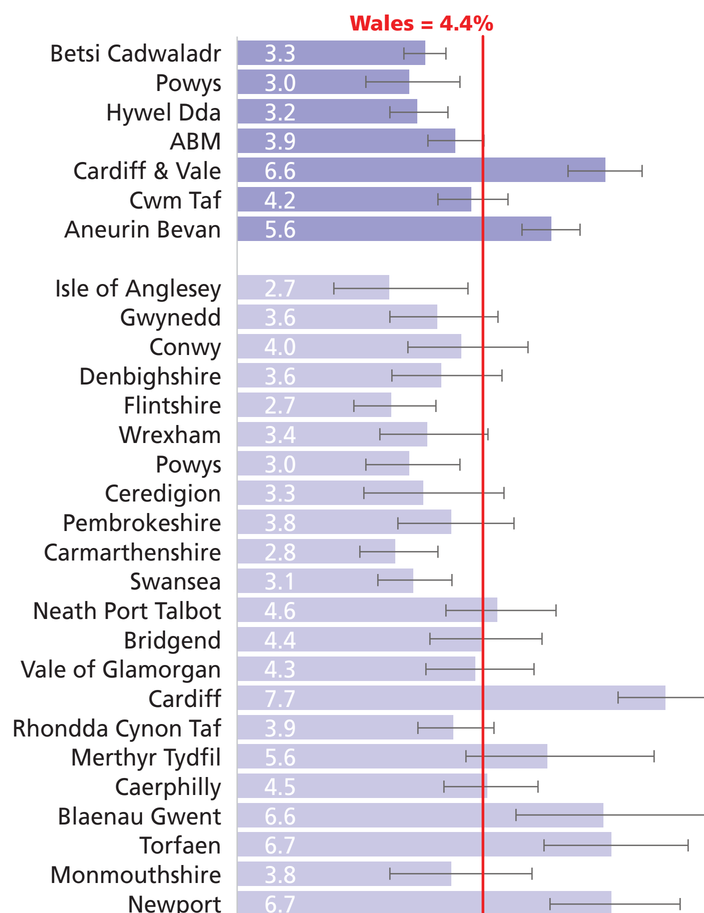
If deprivation was equally distributed we would expect all local authorities to have 10% of their LSOAs in the most deprived tenth for Wales. Deprivation is an area based measure incorporating more factors than income poverty, giving rise to different patterns between these measures.

Figure 2.4 shows the variation in deprivation relating to children within local authorities and across Wales at LSOA level. Every local authority in Wales has at least 1 LSOA in the most deprived fifth. The majority of the most deprived LSOAs are found in urban areas. Three of the top 5 most deprived LSOAs are in Rhyl in Denbighshire; 1 is in the Townhill area of Swansea and 1 is in Pen-Y-Darren in Merthyr Tydfil.

2.3 Employment

Young people who are classified as not being in education, employment or training (NEET) are diverse and can include carers, young job seekers and those on gap years.[7] For young people, being NEET is associated with poor employment and health outcomes later in life, and a greater likelihood of contact with the criminal justice system.[8] The cost to society for each person who is NEET between the ages of 16-18 is estimated to be £120,000 in 2009 prices, which includes costs of health services, the criminal justice system and unemployment.[8] The Welsh Government points to evidence suggesting that early intervention to boost educational engagement can be effective to support young people who are at risk of becoming NEET.[7,8,9] In support of the Child Poverty Strategy, the *Tackling Poverty Action Plan 2012-2016* focuses on reducing the number of young people not earning or learning in Wales.[4,10]

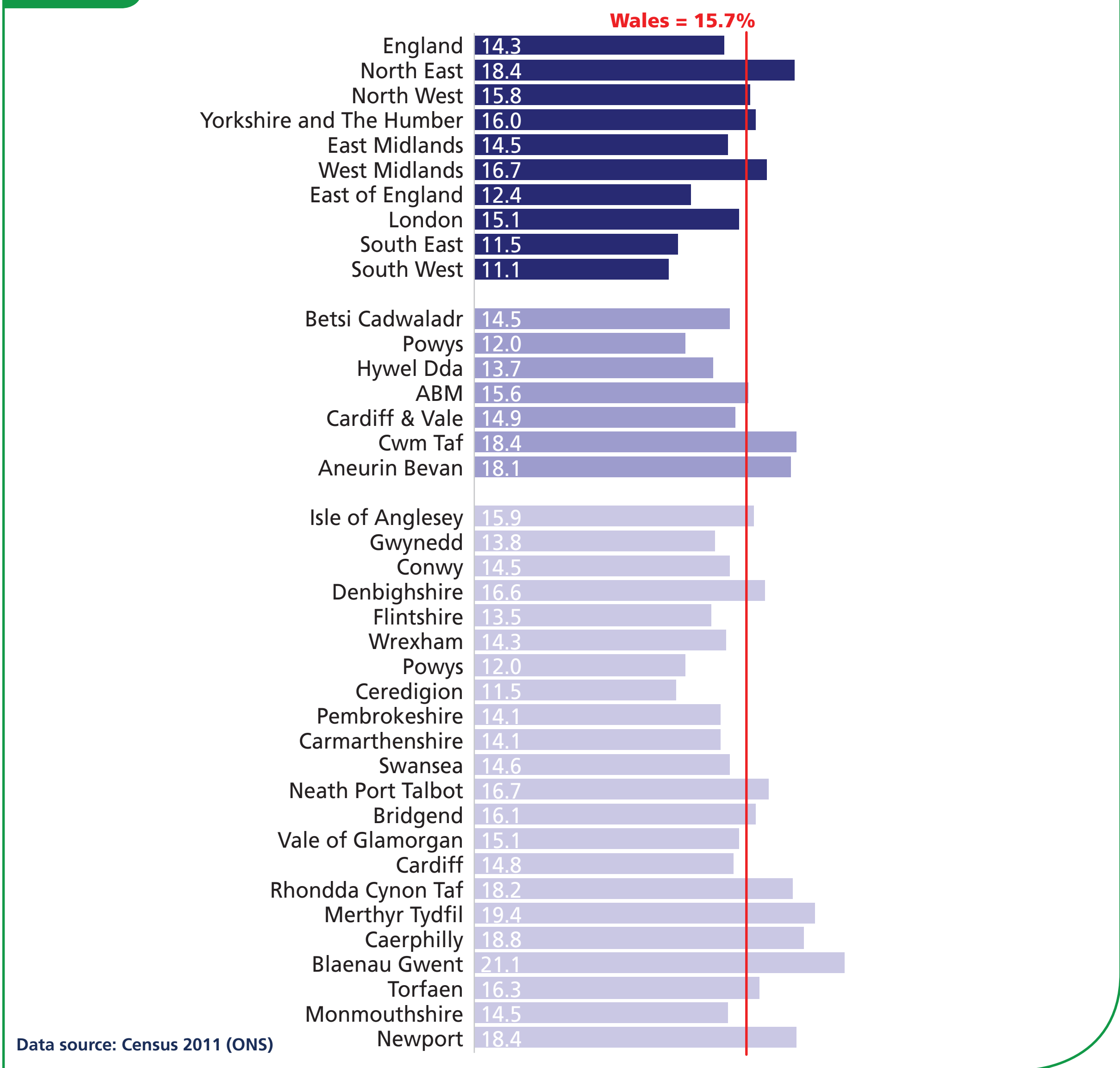
Figure 2.5 % of year 11 school leavers known not to be in education, employment or training (NEET), 2011



Data source: Careers Wales (StatsWales)

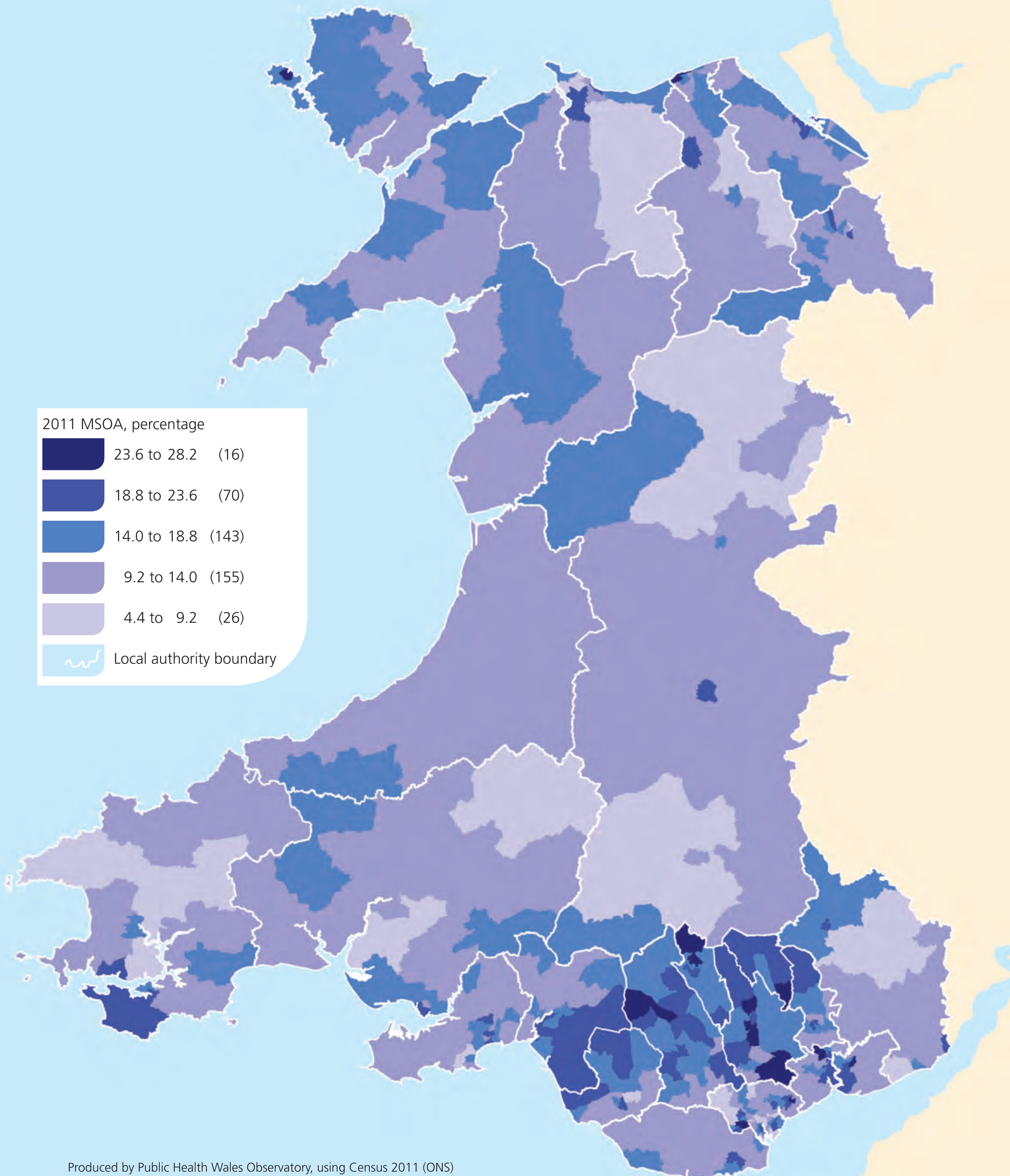
The percentage of year 11 school leavers NEET in Wales is 4.4% (Figure 2.5). Across local authorities this ranges from 2.7% in Isle of Anglesey and Flintshire to 7.7% in Cardiff. Five local authorities: Isle of Anglesey, Flintshire, Powys, Carmarthenshire, and Swansea, are statistically significantly lower than the Wales average. Cardiff, Blaenau Gwent, Torfaen and Newport are statistically significantly higher than the Wales average. This is reflected at health board level as both Cardiff & Vale and Aneurin Bevan health boards are statistically significantly higher than Wales.

Youth unemployment numbers in Wales rose in every quarter between 2008 and 2011.[11] Economic recessions have a particular impact on young people as decreased job availability makes it harder to enter the job market. Younger staff may be more likely to lose their jobs as employers retain more experienced staff.



In Wales almost 16% of 16-24 year olds (excluding students) are unemployed (Figure 2.6). This is similar to the North West, Yorkshire and The Humber and London regions of England, and slightly higher than the England average (14%). At the health board level Cwm Taf has the highest percentage of unemployed 16-24 year olds (18%) and Powys has the lowest percentage (12%). Across local authorities in Wales there is a difference of almost 10 percentage points between Ceredigion (12%), the local authority with the lowest percentage of unemployed 16-24 year olds, and Blaenau Gwent (21%), which has the highest percentage.

Figure 2.7 % of persons aged 16-24 who are unemployed (excluding students), 2011



Produced by Public Health Wales Observatory, using Census 2011 (ONS)
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Figure 2.7 shows that in the majority of middle super output areas (MSOAs) in Wales the percentage of young people aged 16-24 years old who are unemployed is between 9% and 19%. There are 6 MSOAs in which 1 in 4 young people are unemployed, 2 of these are in Rhyl in Denbighshire. The remaining 4 are in Treherbert in Rhondda Cynon Taf, Ringland in Newport, Treharris in Merthyr Tydfil and Bargoed in Caerphilly.

2.4 Housing

Families with dependent children are the household type most likely to be living in overcrowded conditions.[12,13] People living in cramped conditions report a detrimental effect on physical and mental health, education and general well-being.[12] Overcrowding impacts personal privacy for all family members and can have a negative effect on relationships between parents and children, and between siblings.[14] In Wales 16% of all households with dependent children have more than 1.5 persons per bedroom (Census 2011, ONS).

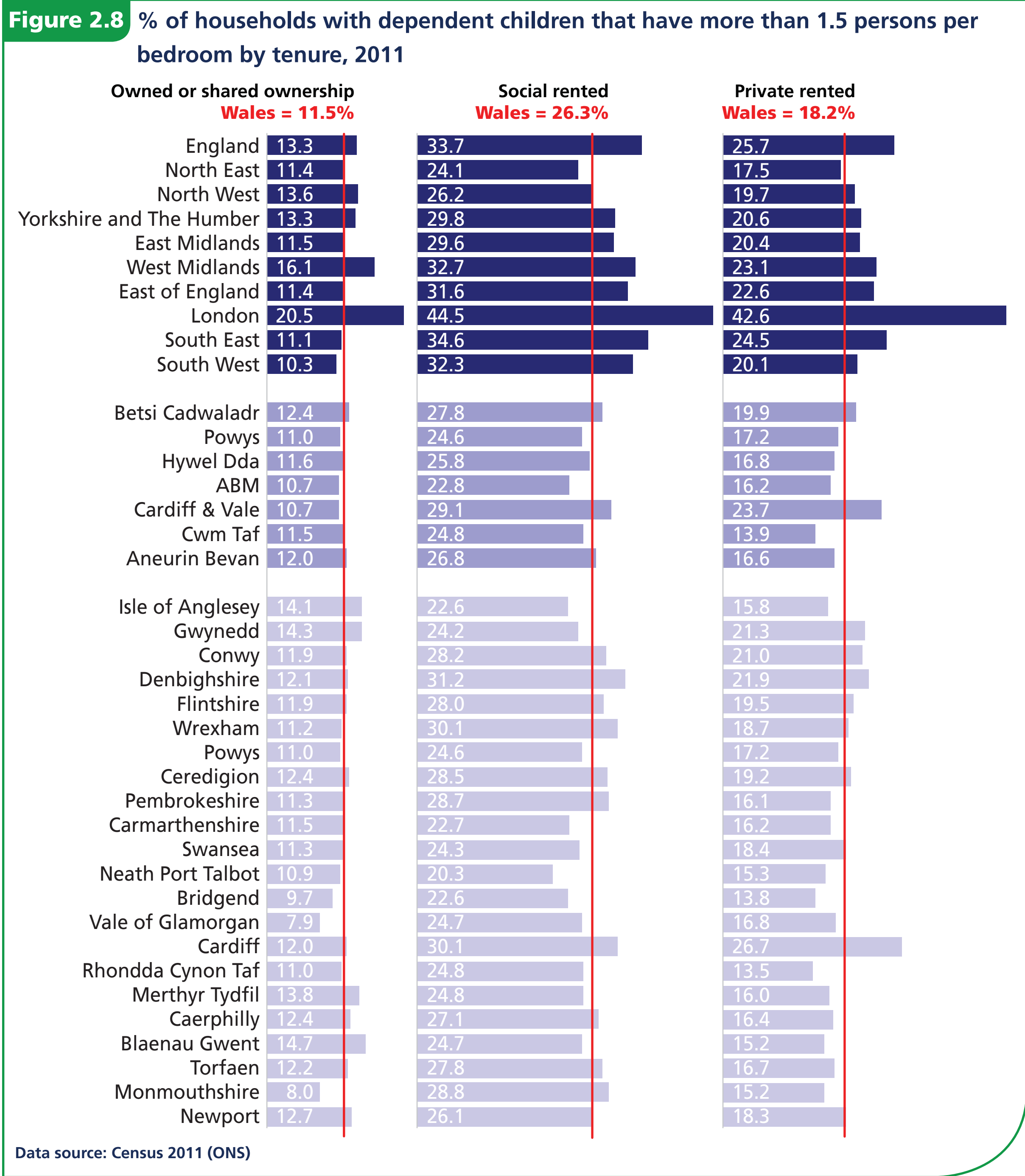


Figure 2.8 % of households with dependent children that have more than 1.5 persons per bedroom by tenure, 2011

Data source: Census 2011 (ONS)

In Wales the percentage of households with dependent children that have more than 1.5 persons per bedroom is highest within the social rented housing sector at 26.3% (Figure 2.8). It is lower in the private rented sector (18.2%) and lowest for homes that are owned (11.5%). The Wales average is lower than the England average for all 3 tenure types. Overcrowded housing tends to be a feature of urban areas such as London and Cardiff. At the health board level Cardiff & Vale has the highest percentage of households with dependent children and more than 1.5 persons per bedroom in the social and private rented sectors. Betsi Cadwaladr also has high percentages in all 3 tenure types. The local authorities of Cardiff, Ceredigion, Flintshire, Denbighshire, and Conwy have levels of overcrowding for all 3 tenure types which are above the Wales average.

At the MSOA level the variation within local authorities shows that overcrowding tends to occur in urban areas (Figure 2.9). Of the 6 MSOAs in which more than a third of households with dependent children are overcrowded, 5 are in Cardiff in the areas of Cathays, Adamsdown, Grangetown, Plasnewydd, and Butetown, and 1 is in Newport in the Pillgwenlly area.

2.5 Homelessness

In Wales just under half of households accepted as homeless have dependent children. In 2011/12, 1,250 of the 2,770 households that were accepted as homeless and temporarily accommodated by local authorities were households with dependent children:

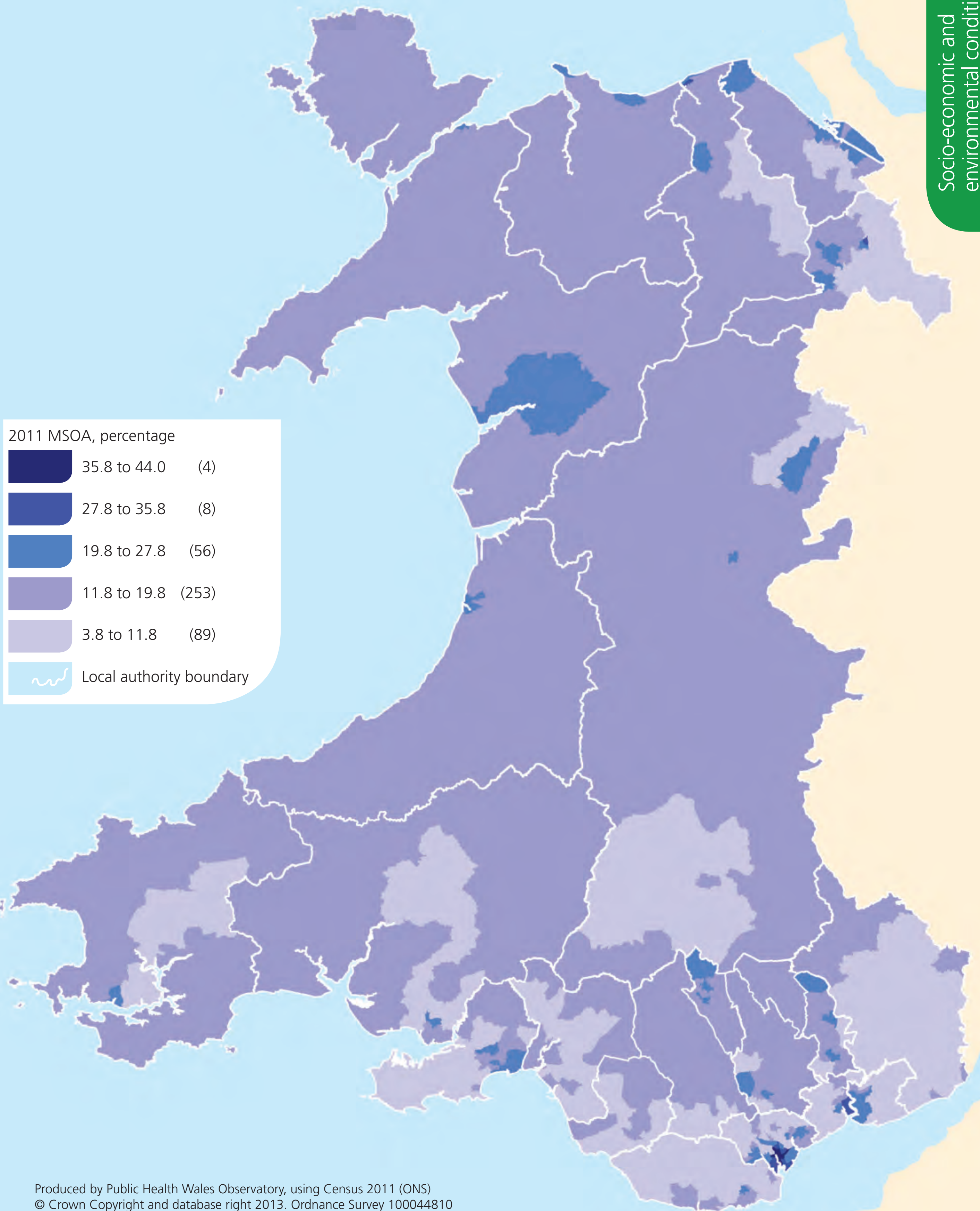
- 645 (52%) of which were temporarily accommodated in private sector accommodation;
- 185 (15%) were in public sector accommodation;
- 140 (11%) were accommodated in hostels and women's refuges;
- The remaining 280 households were accommodated in other types of accommodation.

Factors which contribute to a household becoming homeless include relationship breakdowns, substance misuse, unemployment, financial hardship and physical or mental health problems.[15,16,17] Domestic violence is a factor which particularly affects women and could also impact any children in the relationship.[15] Leaving an institution such as prison or the armed forces was a contributing factor particularly for men.[16] Services should be provided to counter the factors that are placing households at risk of homelessness before they reach crisis point.[17]

2.6 Criminal justice

In 2010/11 there were 210,660 arrests in England and Wales of young people aged 10-17 for an offence, accounting for 15.5% of total arrests. However 10-17 year olds account for only 10.7% of the offending age population of England and Wales (i.e. 10 years and over) suggesting that 10-17 year olds are over-represented in the criminal justice system.[18] Children in the youth justice system are predominantly drawn from the poorest and most disadvantaged families and communities.[19] Around a half of young people in custody have been in local authority care at some point in their lives and a fifth are still subject to care orders.[19] Despite improvements in recent years, 72% of children released from custody go on to re-offend within one year.[19]

Figure 2.9 % of households with dependent children that have more than 1.5 persons per bedroom, 2011



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Families and education

3.1 Family environment

3.2 Looked after children

3.3 Schools and education

Key messages

- A strong stable family and good education are key components for a child's health, well-being and future prospects.
- Data from the 2011 census shows that in Wales:
  - o There are 97,500 lone-parent households with dependent children; this represents 7.5% of all households.
  - o One in 20 households has at least one dependent child and at least one person with a long-term health problem or disability.
  - o There are 28,600 children and young people providing unpaid care (3.2% of children and young people); 3,500 of these children provide more than 50 hours of unpaid care per week.
  - o For all these indicators, compared to the English regions, rates are higher in Wales.
  - o At health board and local authority level, rates for all these indicators are highest in the south Wales valleys.
- There were 5,725 children in the care of local authorities in Wales in 2012. Of these, 4,430 were in foster placements and 245 placed for adoption. The south Wales valleys have higher rates of children either in the care of local authorities or receiving care from social services. Between 2008 and 2012, there was a 27% increase in the number of foster placements in Wales. The number of adoptions increased by 17% over the same period.
- In 2012, there were 2,885 children on child protection registers in Wales, a rate of 46 per 10,000 population. At local authority level there was over a four-fold variation in rates.
- There were 18,950 children included in the Children in Need census (March 2012). This includes children who receive social services from local authorities. Almost half of children had a need for services primarily due to the risk of or actual abuse or neglect. For a fifth of children their primary need was due to disability or illness.
- There were 70,265 pupils eligible for free school meals in Wales in 2011/12 (19%). Rates of free school meal entitlement are higher in the south Wales valleys (Blaenau Gwent) and lowest in the more eastern local authority areas of Wales (Powys and Monmouthshire).
- In Wales 1.1% of half day sessions are missed due to unauthorised absences from school. This equates to over 1.4 million half day sessions. Rates are highest in Cardiff (2.2%) and Newport (1.7%) and lowest in Powys (0.3%), Monmouthshire (0.4%) and Flintshire (0.5%).
- In Wales 3.1% of pupils have a statement of special educational needs. Percentages are lower in the south Wales valleys, with lowest rates in Cwm Taf health board area. Blaenau Gwent, with a rate of 4.2%, is the exception to this and is comparable to the percentage in Carmarthenshire (4.2%) and Swansea (4.1%).
- Key stage 4 educational attainment rates are highest (better) in the Vale of Glamorgan and Ceredigion and lower in Blaenau Gwent and Merthyr Tydfil.
- Approximately 21,000 or 6% of Welsh domiciled students go onto UK Higher Education Institutions annually.

The term family, within the 2011 Census, may refer to married, civil partnered or cohabiting couples with or without children, or to lone parents with at least one child. Grandchildren may also be included.[1] Strong and stable families are described as providing the foundation of a strong and stable society and are key to ensuring children develop into healthy, happy and successful adults.[2] A supportive father who helps in the home, parents who read to the child, family activities, and parents who take an active interest in their children's education and career planning have been shown to be important in achieving positive outcomes.[3]

Children consider family, friends and school as very important when asked what was important to their overall well-being.[4] Strong, supportive families are crucial in building cohesive communities, promoting resilience in children and ensuring good social, physical and emotional health and well-being.[5] *Building a brighter future* sets out the commitment of the Welsh Government to improve the life chances and outcomes of all children in Wales.[5]

Education is a key determinant of health[6] and is important because people with low levels of educational achievement are more likely to have poor health as adults.[4,7] However it is important that any measures to improve literacy need to embrace the family as a whole and include parents in their children's education from the very beginning of their children's lives.[8]

This chapter gives information relating to lone parent households with dependent children, the provision of unpaid care, and children who are looked after by, or receiving care from, local authorities. Information is also provided about education including free school meals, absenteeism and educational attainment.

Governments '.... agree that the education of the child shall be directed to the development of the child's personality, talents and mental and physical abilities to their fullest potential'.

The United Nations Convention on the Rights of the Child, Article 29.1

3.1 Family environment

Positive parenting has a profound effect on the personal, emotional, mental, social, intellectual and physical development of the child. Babies born to parents who understand and meet their physical and emotional needs have a good chance of reaching their full potential later in life.[9] Positive parenting practices have a profound impact on children's development, and especially on child mental health and well-being.[9] Parenting style strongly affects how children feel and behave. Strong and affectionate relationships between parents and children, fostered in the first three years of life, coupled with positive consistent parenting, makes a real difference to social, health and educational outcomes for children.[9]

The role of parents during a child's earliest years is the single biggest influence on their development. Good quality home learning contributes more to children's intellectual and social development than parental occupation, education or income. Parental involvement has also been described as a key factor in improving children's academic attainment and achievements, as well as their overall behaviour and attendance.[10] 'The quality of care given to a baby, and the attachment that develops between an infant and its parents are significantly linked to the child's learning, educational outcomes, social skills, self-efficacy, behaviour and health'.[5 (p.11)] The preventative and early intervention *Families First*[11] programme recognises the importance of multi-agency working and taking a whole-family approach to improve outcomes for children in Wales.[5]

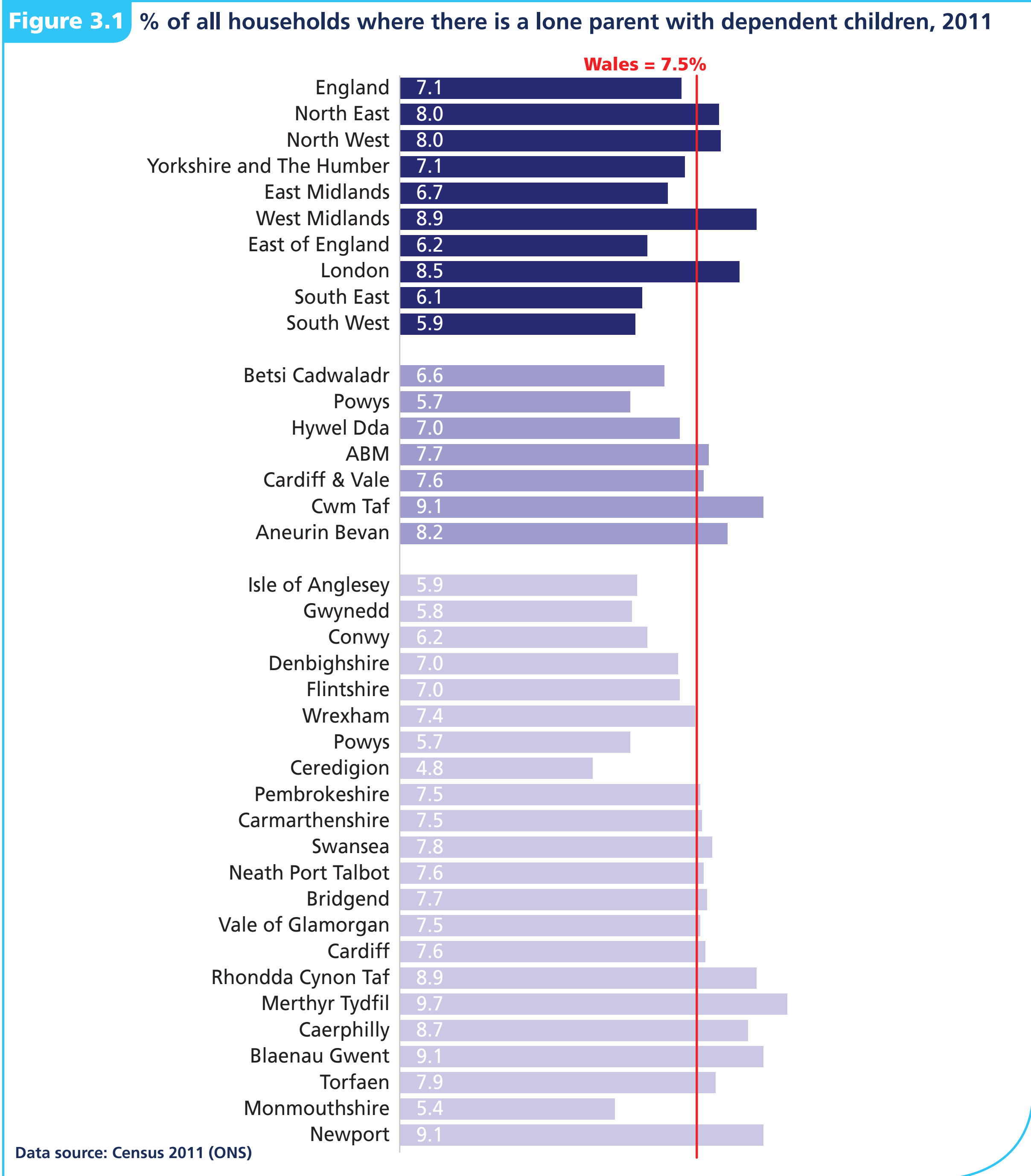
This section examines indicators relating to the family environment including children and young people providing unpaid care, children in care and lone parent households. Figures on households with dependent children and a family member with a limiting long-term illness or disability are also included.

Lone parent families

A lone parent family consists of a father or mother living with his or her child(ren) but without a spouse, same-sex civil partner or partner in the household.[1] It has been estimated that the average duration of single parenthood is 5 years.[12]

The 2011 census shows that 97,500 or 7.5% of all households in Wales are lone parent households with dependent children. Single parent status can be associated with financial hardship; children in single parent families are twice as likely as children in two parent families to be living in poverty.[12]

Figure 3.1 % of all households where there is a lone parent with dependent children, 2011



Data source: Census 2011 (ONS)

The percentage of lone parent households in Wales (7.5%) is higher than in England (7.1%) (Figure 3.1). Across the English regions, the highest percentages are found in the West Midlands (8.9%) and lowest in the South West (5.9%). At the Welsh health board level the percentage of lone parent households with dependent children varies across Wales ranging from 5.7% in Powys to 9.1% in Cwm Taf.

The variation shown at health board level is reflected at local authority level. Rates are highest in south east Wales including Merthyr Tydfil (9.7%), Newport (9.1%), Blaenau Gwent (9.1%), Rhondda Cynon Taf (8.9%), and Caerphilly (8.7%).

In contrast are lowest in the more rural areas of Ceredigion (4.8%), Monmouthshire (5.4%) and Powys (5.7%). These generally more rural areas also have a higher percentage of older people. This is likely to lower the relative percentage of households with dependent children.[13]

Figure 3.2 illustrates that although in most areas less than 15% of households are lone parents with dependent children, there are some areas where this is over a fifth of households. Even within areas which have a comparatively lower percentage of lone parent households with dependent children, there are LSOAs which show much higher percentages. For example, although Powys had one of the lowest rates of lone parent households with dependent children, 4 of the area's LSOAs have percentages that are more than double the local authority average. The higher percentages of lone parent families are seen in the more urban areas of Wales and across the south Wales valleys.

Persons in household with a limiting long-term illness with dependent children

A long-term health problem or disability is one that limits a person's day-to-day activities and has lasted, or is expected to last, at least 12 months.[1] A dependent child is a person aged 0 to 15 in a household (whether or not in a family) or aged 16-18 in full-time education and living in a family with his or her parent(s).[1]

The percentage of households where at least one person has a long-term health problem or disability and dependent children (figure 3.3) is important because children living in such households may be at greater risk of missing out on the opportunities that other children have to play and learn.[14] Young people living in these households may struggle emotionally and may be bullied for being, different.[14]

Figure 3.2 % of all households where there is a lone parent with dependent children, 2011

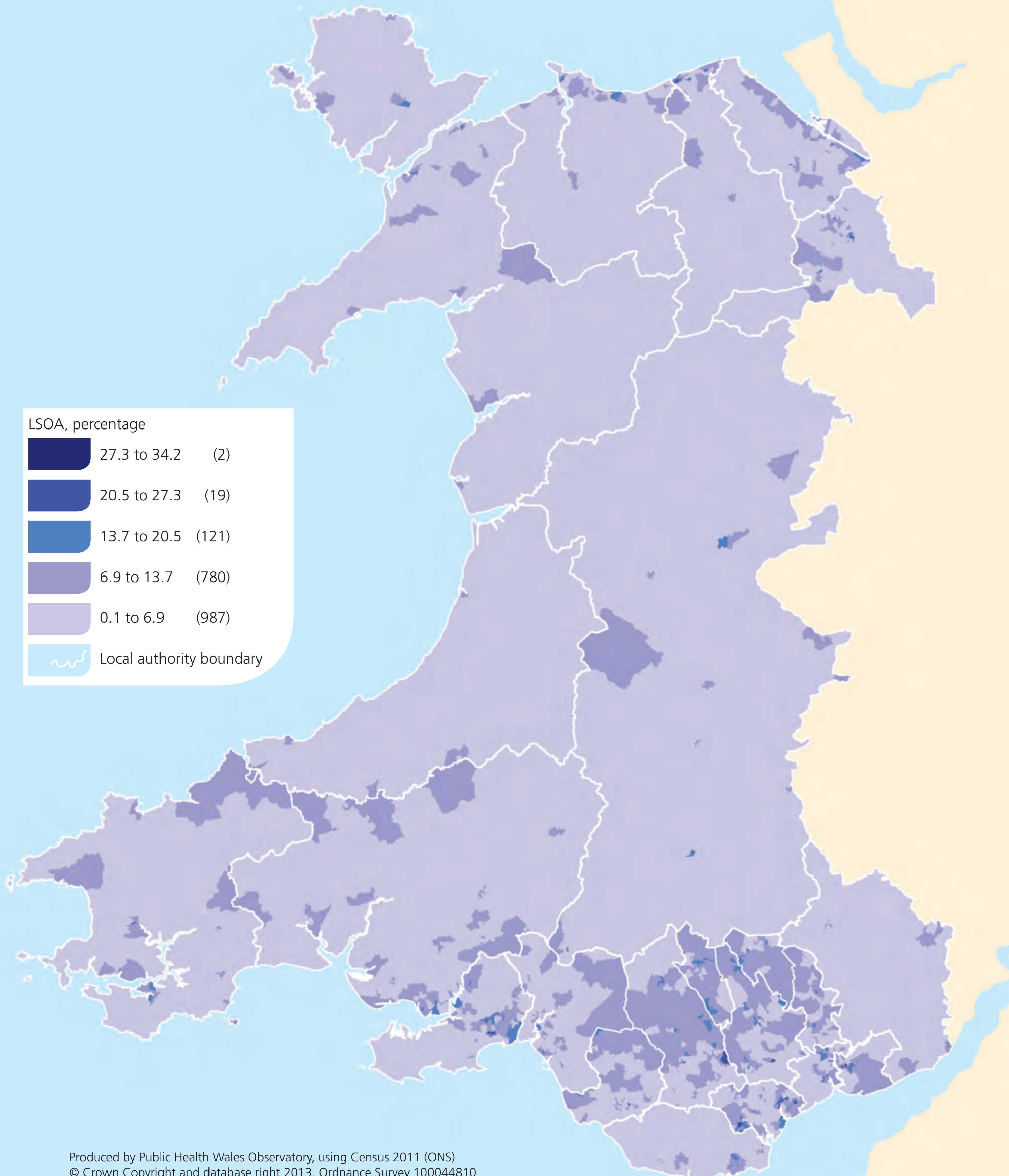


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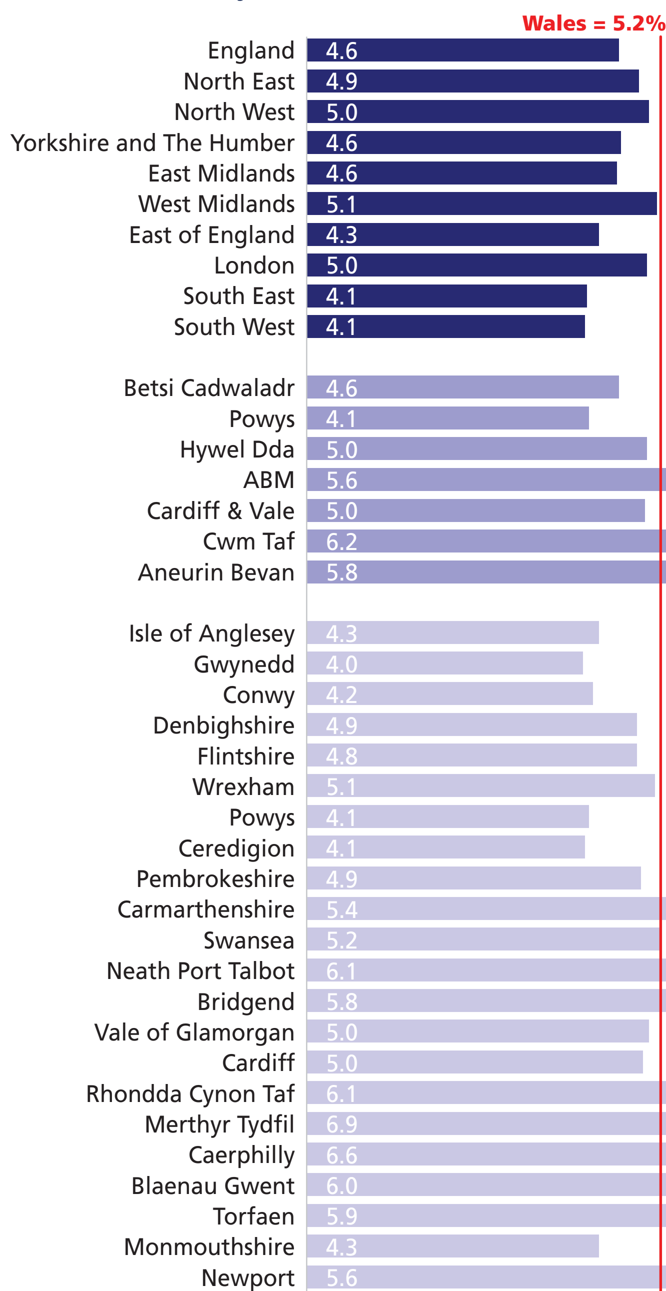
Figure 3.3 % of households with dependent children where one person has a long-term condition or disability, 2011



Data source: Census 2011 (ONS)

Compared to both English regions and England as a whole, Wales (5.2%) has the highest percentage of households with dependent children where one person has a long-term condition or disability (Figure 3.3). At the English regional level, the lowest percentage can be found in the South East and South West (both 4.1%). The highest percentage can be found in the West Midlands (5.1%), the North West (5.0%) and London (5.0%).

Within Wales, percentages range from 4.1% in Powys to 6.2% in Cwm Taf health board area. At local authority level, rates are lowest in Gwynedd (4.0%), Ceredigion (4.1%) and Powys (4.1%) and highest in the south Wales valley areas of Merthyr Tydfil (6.9%) and Caerphilly (6.6%).

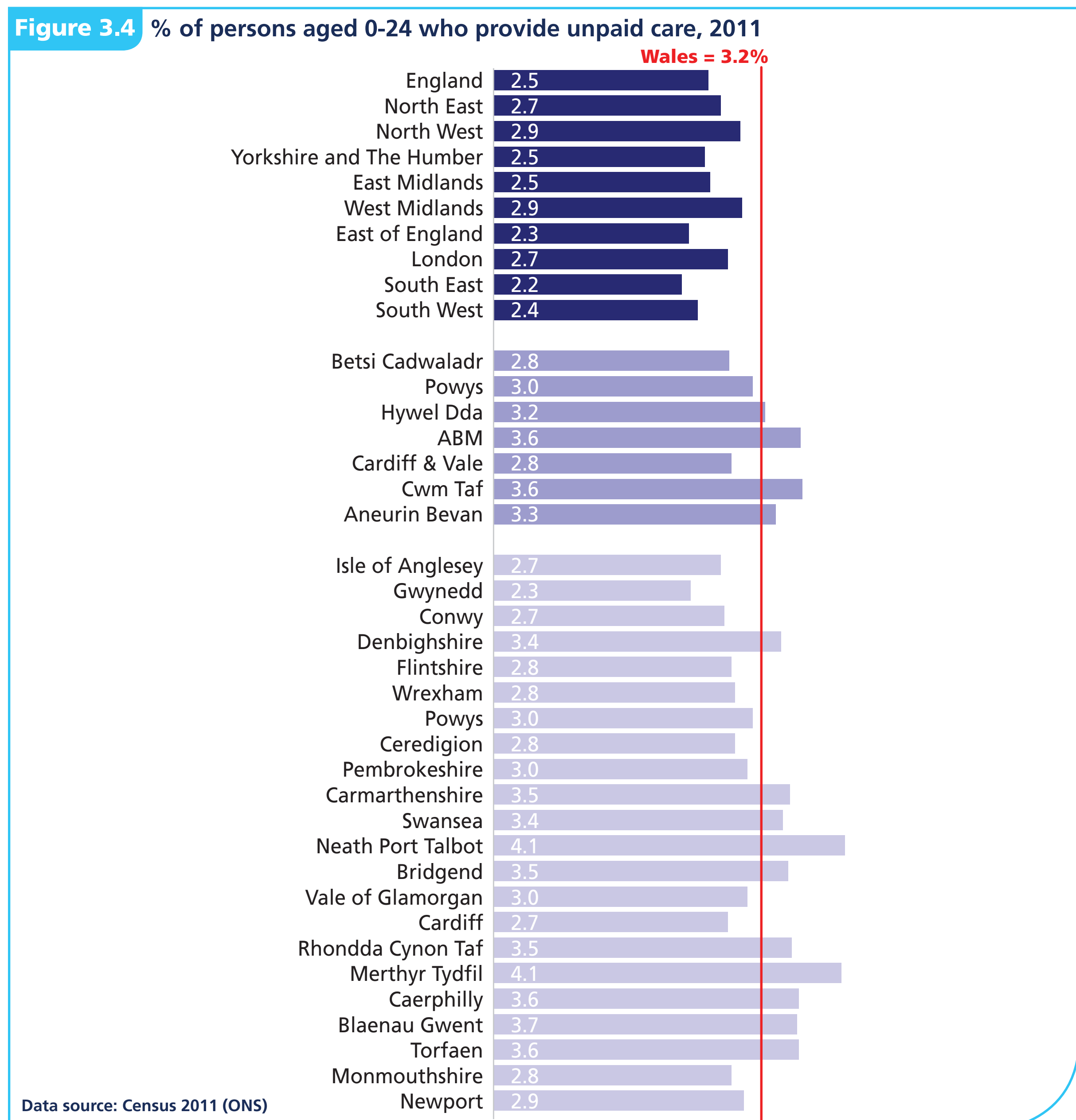
Child carers

The provision of unpaid care in England and Wales is becoming increasingly common as the population ages.[15] A person is a provider of unpaid care if they look after or give help or support to family members, friends, neighbours or others because of long-term physical or mental ill health or disability, or problems related to old age.[1] Day-to-day responsibilities of young people providing care often include cooking, cleaning, shopping, providing nursing and personal care or giving emotional support.[14]

The provision of unpaid care has been described as an important social policy issue as it makes a vital contribution to the supply of care.[15] Also as there is growing evidence of an adverse impact on the health, future employment opportunities and social and leisure activities of those providing unpaid care, particularly in young carers.[14,15]

Compared to the English regions, Wales had the highest percentage of young people providing unpaid care at 3.2% (Figure 3.4). At health board level the percentage providing unpaid care ranges from 2.8% in Betsi Cadwaladr and Cardiff and Vale to 3.6% in Cwm Taf and Abertawe Bro Morgannwg.

Figure 3.4 % of persons aged 0-24 who provide unpaid care, 2011



Data source: Census 2011 (ONS)

At local authority level Neath Port Talbot and Merthyr Tydfil had the highest percentages of young people providing unpaid care (4.1%). Whilst the lowest percentage can be seen in Gwynedd (2.3%).

In 2011 there were 28,647 young unpaid carers (aged 0-24) in Wales. Of these 54% were females and 46% were males. Figure 3.5 shows that the majority of carers contributed between 1 and 19 hours of care per week. This is consistent with previously published ONS data, with a lower percentage of children and young people providing longer hours of care.[16] There are approximately 21,000 people aged 0-24 years providing 1-19 hours of care (73% of all young people providing care). There are around 4,300 providing 20-49 hours of care (15% of all young people providing care) and some 3,500 provided 50 or more hours of unpaid care per week (12% of all young people providing care).

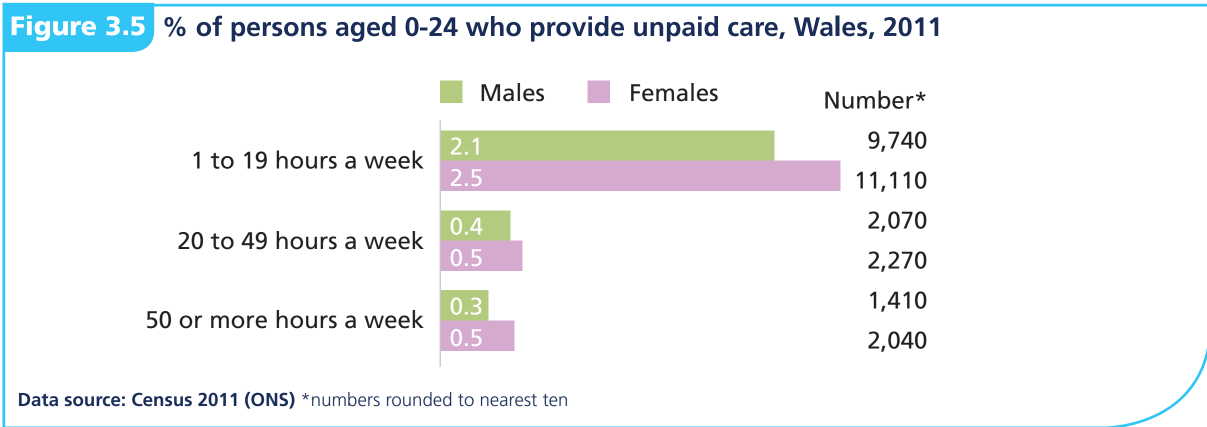


Figure 3.5 % of persons aged 0-24 who provide unpaid care, Wales, 2011

Data source: Census 2011 (ONS) *numbers rounded to nearest ten

3.2 Looked after children

Children in the care of local authorities have been described as one of the most vulnerable groups in society.[17]

Studies suggest that around half of children in foster care have some sort of psychiatric disorder.[18] Children in foster care tend to be low achievers in school, and are at high risk of entering adulthood with a low level of education.[18] Parental unemployment has been identified as a significant risk factor for children in care.[18]

The term, looked after, is generally used to mean those children and young people who are looked after by the state. This includes those who are subject to a care order or temporarily classed as looked after on a planned basis for short breaks or respite care. Such children are generally referred to as 'children in care'.[19] The majority of children who remain in care are there because they have suffered abuse or neglect (61% of looked after children in Wales in 2011/12).[19,20] For these children, care is a vital part of the child protection and family support system.[19]

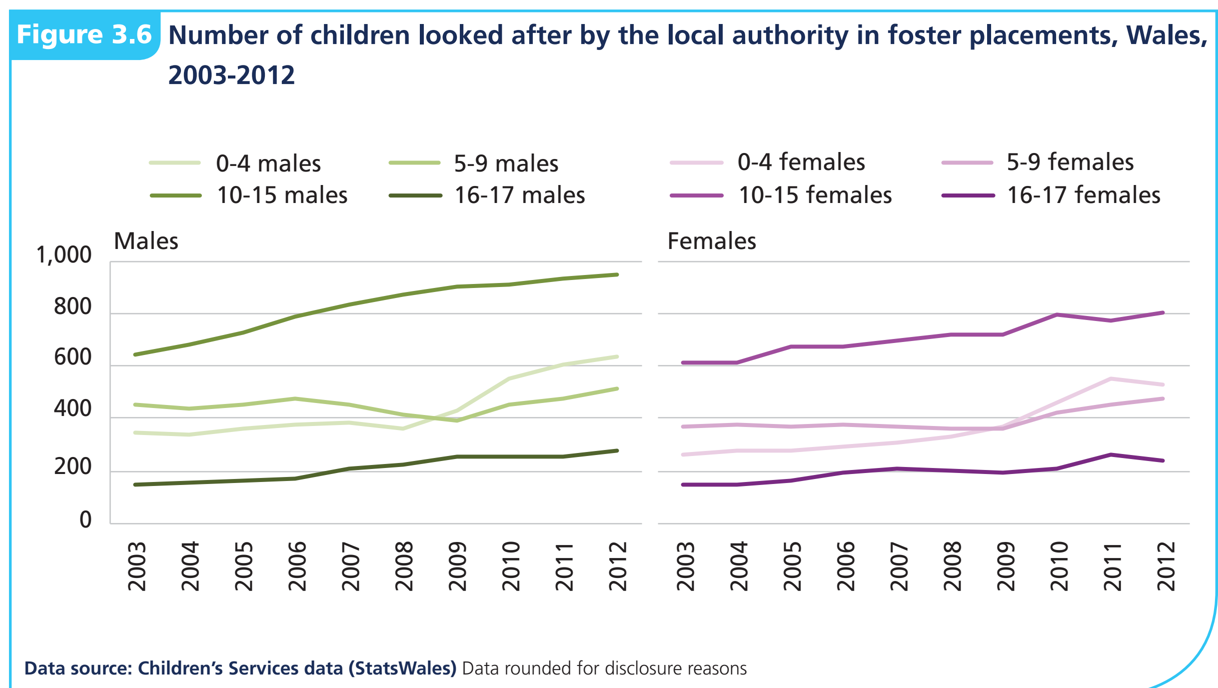
Fostering and adoption

Foster carers play an extremely important role, providing much needed support and security for often very vulnerable children and enabling their successful transition into independent adult life.[21]

Of the 5,725 children looked after by the local authority at 31 March 2012, 4,430 children were in foster placements and 245 were placed for adoption. The remainder lived in homes, independently or were placed with their parents or other person with parental responsibility. Over the 5-year period 2008 to 2012 there was a 27% increase in the number of foster placements in Wales. This is higher than England, which saw a 20% increase in foster placements over the same period. This increase is reported as being attributable to social workers initiating care proceedings more often following the death of 17 month old Peter Connelly, known as Baby P.[22]

Figure 3.6 shows the number of children aged 0-17 and looked after by the local authority in foster placements between 2003 and 2012. Overall more boys than girls are looked after in foster placements. All age groups showed an increase in the number of children in foster placements between 2003 and 2012. Numbers are highest in the 10-15 age group and lowest in the 16-17 age group. This is consistent with the increase in the total number of looked after children in Wales which increased by over a third between 2003 and 2012 and by 24% over the 5-year period between 2008 and 2012.

Figure 3.6 Number of children looked after by the local authority in foster placements, Wales, 2003-2012



Data source: Children's Services data (StatsWales) Data rounded for disclosure reasons

Over the 5-year period 2008 to 2012, the number of children 'looked after by a local authority' who were adopted increased from 210 to 245 (17%). The number of boys aged 0-18 'looked after by a local authority' who were adopted increased by 4.5% from 110 to 115 between 2008 and 2012. The number of girls aged 0-18 'looked after by a local authority' who were adopted increased by 30% from 100 to 130. It should be noted that the relatively small numbers will result in year-on-year fluctuations.

Special Guardianship Orders (SGOs) were introduced in 2005 and provide a new permanence option for children, giving a legally secure foundation for building a permanent relationship between the child and their special guardian, while preserving the legal link between the child and their birth family. Legal permanence transfers the control of where the child lives from

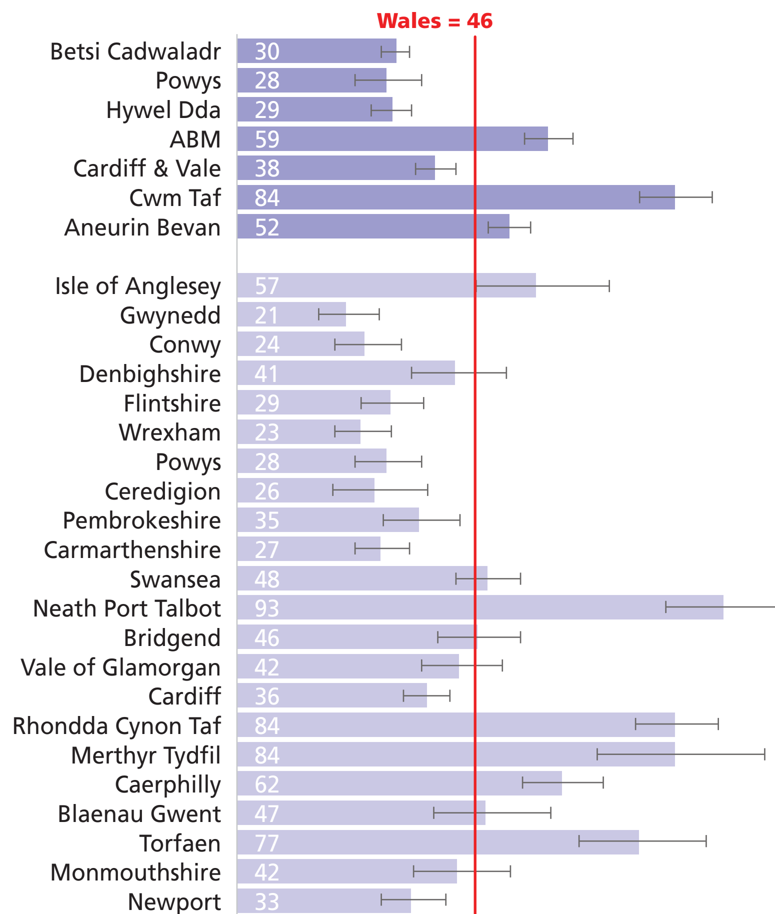
the parent/guardian to the local authority. The majority of SGOs are made to former foster carers.[23] There has been an increase in the number of looked after children who achieve legal permanence through SGOs. According to the Department for Education, England, there have been 2,130 SGOs in England and Wales in 2012. This represents an increase of 20% from 2011 and a 30-fold increase from the 70 SGOs in 2006.[23]

Child protection register

Local authorities maintain a child protection register to record all children in the area with unresolved child protection issues and who are currently the subject of an inter-agency protection plan. Each new case is reviewed after 3 months with subsequent reviews after 6 months. Figure 3.7 presents figures about children on child protection registers in Wales. The CIs give an indication of the natural variation that might be expected around the rates.

Child protection registers contain confidential details of children who are at continuing risk of physical, emotional or sexual abuse or neglect, and for whom there is a child protection plan. A child who may have been seriously abused but who now lives in foster care and is therefore protected does not need to go on the child protection register. Registers cover each local authority and are managed by individual social services departments. Although child protection plans or child protection registrations are not a measure of the extent of the risk to children, they do give an indication of the number of children who are judged by services to be at risk of significant harm.[24]

Figure 3.7 Rate of children per 10,000 population aged 0-17 on the Child Protection Register, March 2012



Data source: Children's Services data (WG) and MYE (ONS)

Families and education

There were 2,900 children (0-18 year olds) on the child protection register in Wales on 31st March 2012. This equates to a rate of 46 children per 10,000 population as shown in figure 3.7. At health board level rates vary from 84 in Cwm Taf to 28 in Powys. At the local authority level there is more than a four-fold variation in rates which range from 21 in Gwynedd to 93 in Neath Port Talbot. Only a small number of local authorities display rates which are not statistically significantly different to the Welsh average of 46 per 10,000 children.

Children in need

Children in need are defined as those who receive social services from their local authorities, including children looked after by local authorities, and who had a case open for at least 3 months at the Children in Need census date of 31 March 2012. There were 18,955 children in need aged between 0 and 17 included in the Children in Need census in Wales as at 31 March 2012. This represents a rate of 300 per 10,000 children aged below 18 years.

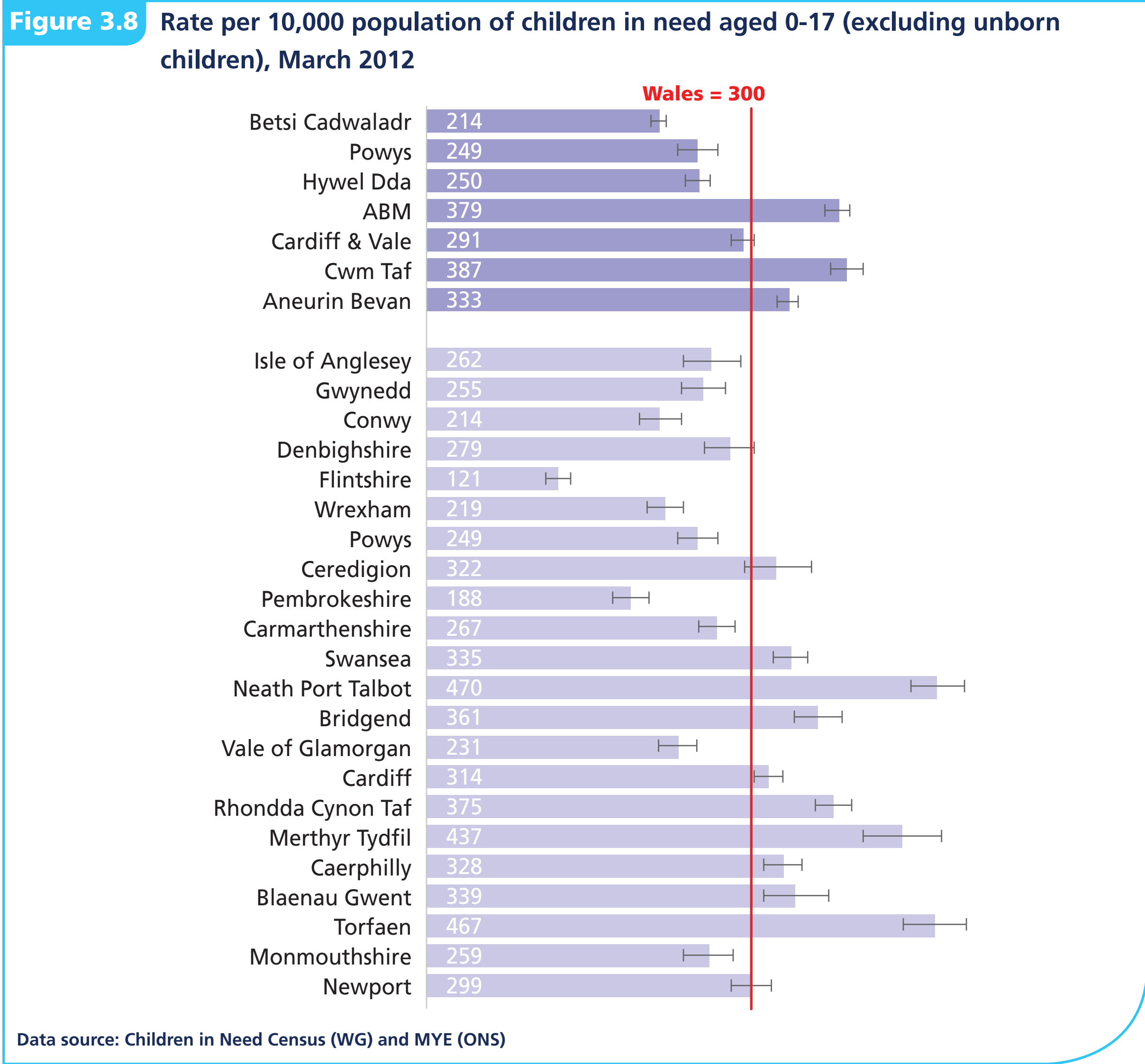


Figure 3.8 Rate per 10,000 population of children in need aged 0-17 (excluding unborn children), March 2012

Data source: Children in Need Census (WG) and MYE (ONS)

Figure 3.8 shows that at health board level, rates ranged between 214 in Betsi Cadwaladr to 387 per 10,000 population in Cwm Taf. This pattern is also reflected at local authority level where rates can be seen to be higher in the south Wales valley areas of Neath Port Talbot (470), Torfaen (476) and Merthyr Tydfil (437); and lower in Flintshire (121) and Pembrokeshire (188).

Of those children in need, 56% were male and 26% were aged under 5 years. Almost half of all children had a need for services primarily due to the risk of, or actual, abuse or neglect. Primary

need is the main reason why a child started to receive social services from the local authority. For 13%, their primary need was due to family dysfunction and for a further 7% the family was in acute stress.[22]

At referral, of the parenting capacity factors recorded, domestic abuse and parental substance or alcohol misuse appeared most frequently and were each present in one fifth of all referrals. Parental mental ill health was also recorded in 15% of all referrals.[25] For each child, one or more factors may have been recorded at referral so children may have been counted more than once.[25]

3.3 Schools and education

Learning is closely associated with well-being and school plays an important role in the social, emotional and behavioural aspects of children's well-being.[26]

School is an important environment because it is where children and young people spend much of their time. Beyond academic learning, school has also been where the majority of young people learn to socialise.[18]

The Welsh Network of Healthy School Schemes is a Welsh Government funded initiative which aims to involve all school staff and pupils in a commitment to improve health and well-being. It aims to educate children on a range of health-related issues, including nutrition, as well as sexual and emotional health. Initiatives include healthy vending machines, drinking water in schools, fruit tuck shops and sun safety as well as encouraging a wide range of fitness activities. Participating schools can work towards achieving Healthy Schools accreditation.[27,28]

Attending a high-quality childcare setting or early years education provider has a significant influence on a child's development.[5] Research suggests that high-quality early education and childcare produces greater long-term benefits for our children and strongly influences their future life chances.[5] The Welsh Government has introduced the Healthy and Sustainable Pre-School Scheme in each local authority area in Wales.[29] The scheme covers 7 aspects of health including nutrition and oral health, physical activity and active play, safety, hygiene, mental and emotional health, wellbeing and relationships, environment and workplace health.[30]

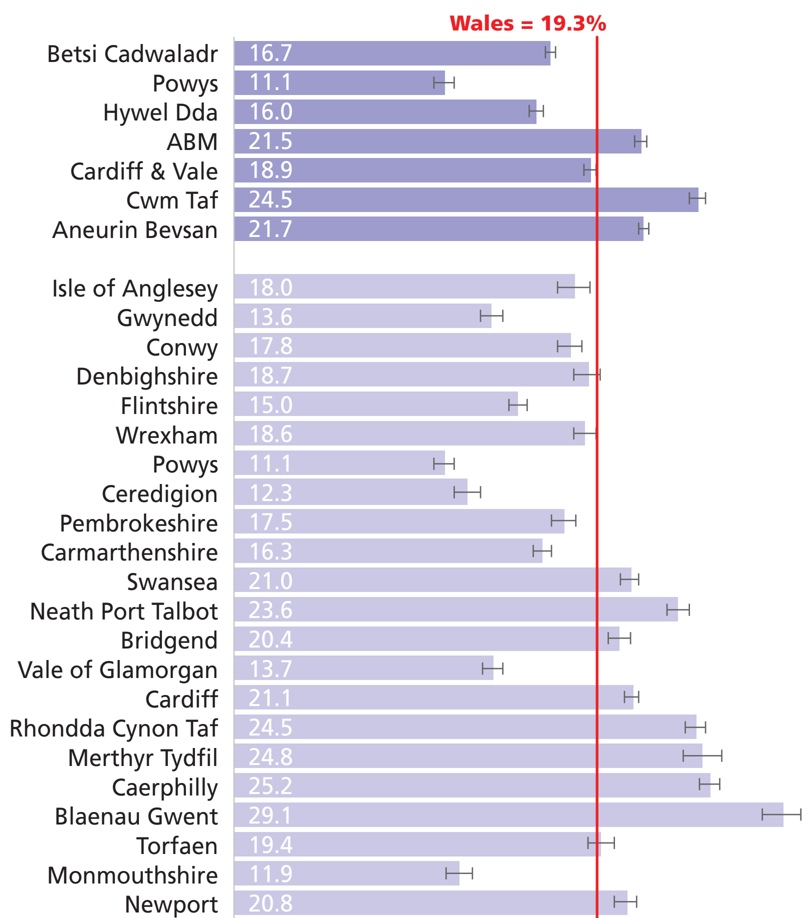
Play is described as essential for the growth in children's cognitive, physical, social and emotional development.[31] There is an increasing understanding of the contribution of play not only to children's lives but to the well-being of their families and the wider community.[31] In 2012, the Welsh Government produced guidance and regulations placing a duty on all local authorities to assess the sufficiency of and produce action plans for play opportunities for children in their areas.[31]

Free school meals

Pupils entitled to free school meals are within families who receive Income Support or Income-based Jobseeker's Allowance.[32] Those within families who receive support under Part VI of the Immigration and Asylum Act 1999 [33] may also be entitled. Children who receive Income Support or Income-based Jobseeker's Allowance in their own right are also entitled to free school meals. Also entitled are children whose parents or carers receive Child Tax Credit, do not receive Working Tax Credit and have an annual income (as assessed by the HM Revenue & Customs) of below £16,190.[32] Free school meal entitlement is used as a proxy for deprivation, however, its relationship to other aspects of poverty and social exclusion is uncertain.[34]

In 2011/12 there were 70,265 pupils (19%) eligible for free school meals in Wales.

Figure 3.9 % of pupils eligible for free school meals, persons aged 5-15, 2011/12



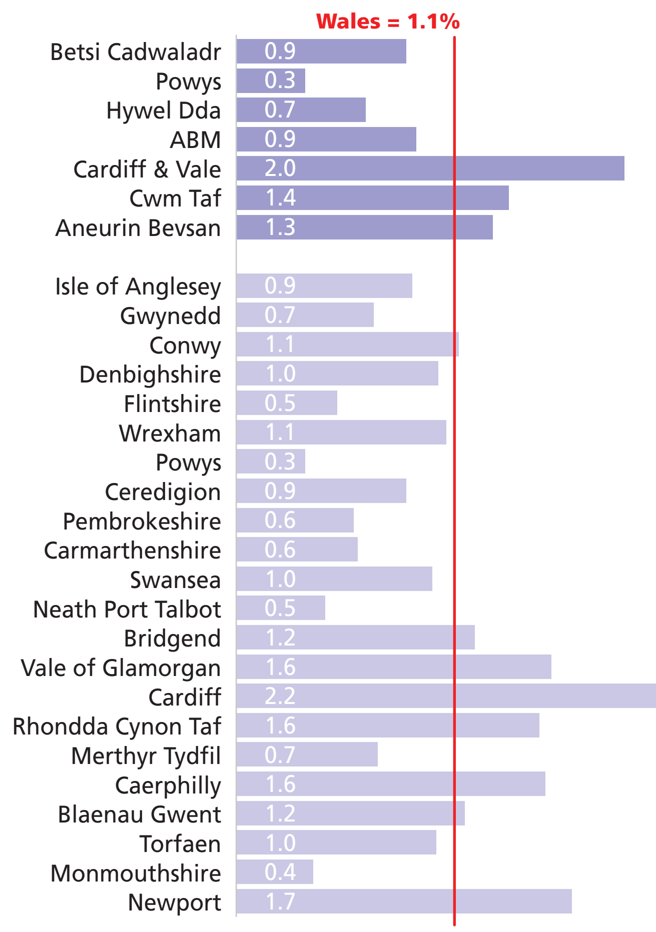
Data source: PLASC (WG)

Figure 3.9 shows, at health board level, the percentage of pupils of statutory school age eligible for free school meals are highest in Cwm Taf (25%) and lowest in Powys (11%). Local authorities with the highest percentage of free school meal entitlement tend to be located in the south Wales valleys with Blaenau Gwent (29%), Caerphilly (25%), Merthyr Tydfil (25%) and Rhondda Cynon Taf (25%) having the highest percentages. In contrast the eastern local authorities of Powys (11%) and Monmouthshire (12%) tend to have the lowest percentages of pupils entitled to free school meals. This is consistent with patterns of free school meal entitlement reported elsewhere.[35]

Truancy

An unauthorised absence is defined as an absence from school without permission from a teacher or other authorised representative of the school. It also includes late arrivals after the closure of registration and any absence where a satisfactory explanation has not been provided.[36]

Figure 3.10 % of half day sessions missed due to unauthorised absences, children aged 5-15, 2010/11



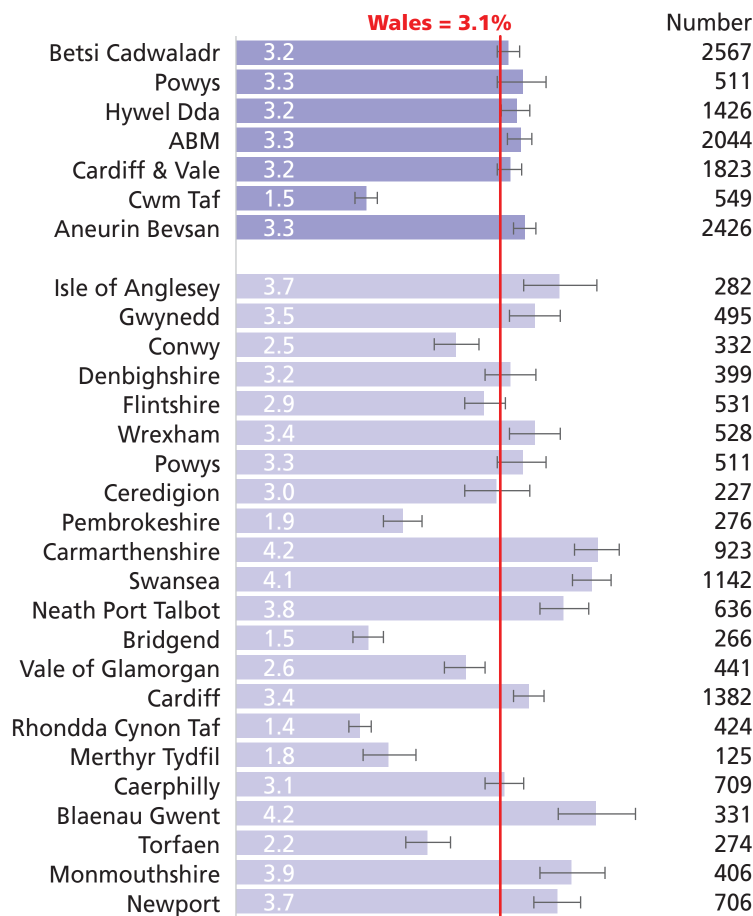
Data source: Local Education Authority data (StatsWales)

Figure 3.10 shows that in 2010/11 approximately 1.1% of half day sessions were missed in Wales due to unauthorised absence from school. At the lower level there is wide variation, ranging at health board level from 0.3% in Powys to 2.0% in Cardiff and Vale. The pattern is similar at local authority level where the percentage of half day sessions missed due to unauthorised absences is lowest in Powys (0.3%), Monmouthshire (0.4%), Flintshire (0.5%) and Neath Port Talbot (0.5%). In contrast higher rates are found in Cardiff (2.2%) and Newport (1.7%), Vale of Glamorgan (1.6%), Rhondda Cynon Taf (1.6%) and Caerphilly (1.6%).

Statement of special educational needs

Some children have needs or disabilities that affect their ability to learn. They may therefore require special educational provision to be made for them. Pupils with special educational needs (SEN) may have statements issued by the local authority which outline the child's needs.[37]

Figure 3.11 % of pupils with a statement of special educational need, children aged 5-15, 2010/11



Data source: School Census (StatsWales)

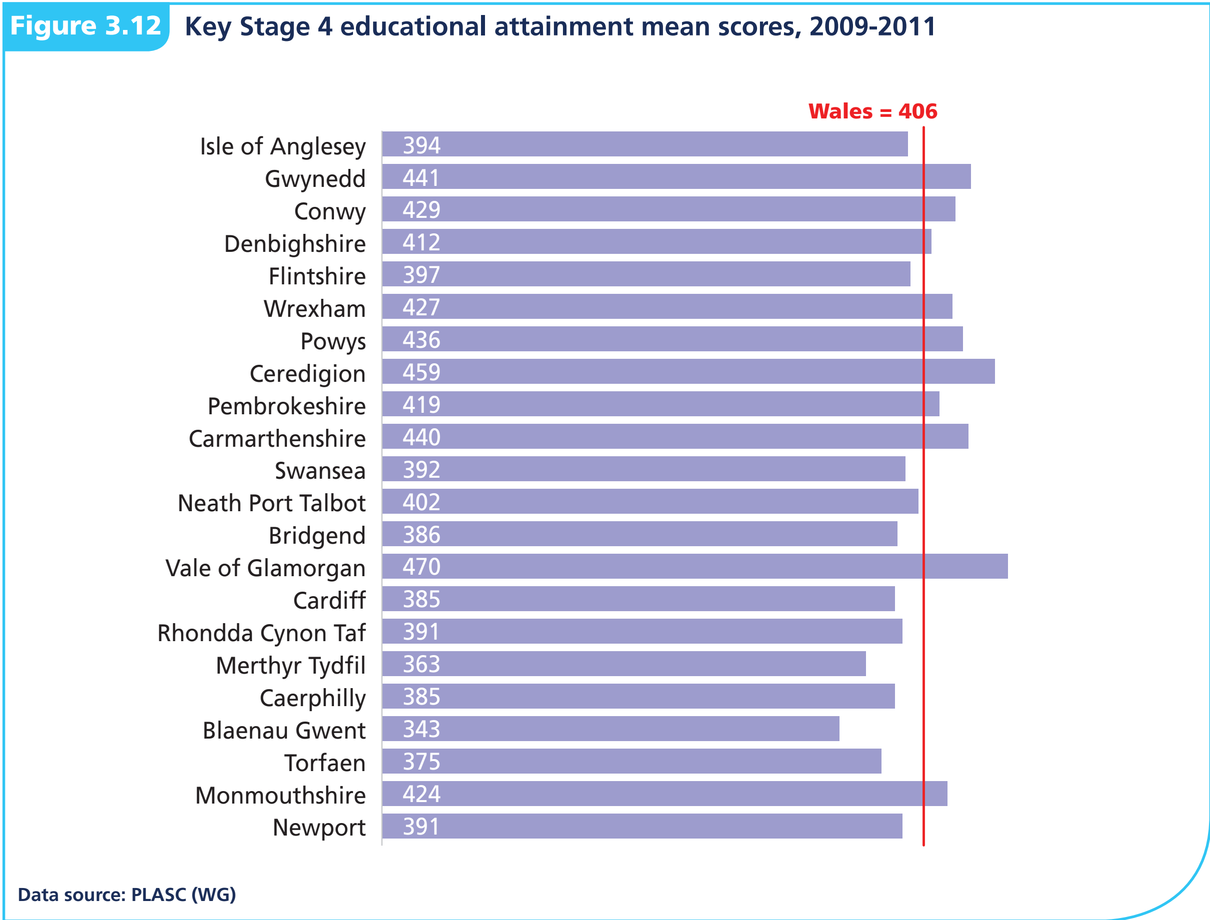
In 2010/11 there were 11,350 statutory school age pupils with a statement of SEN (Figure 3.11). The CIs show that for most health board areas, the percentage of pupils with a SEN statement is close to the Welsh average of 3.1%. The exceptions to this are Cwm Taf with the lowest rate of 1.5% and Aneurin Bevan and Abertawe Bro Morgannwg both with the highest rate of 3.3%. At local authority level, rates are highest in Blaenau Gwent (4.2%), Carmarthenshire (4.2%) and Swansea (4.1%) and lowest in the local authority areas of Rhondda Cynon Taf (1.4%), Bridgend (1.5%) and Merthyr Tydfil (1.8%). The low percentages in Cwm Taf health board area are of particular interest, as many of the other south Wales valleys display rates that are higher or comparable to the Welsh rate. However, local educational authority criteria for making statements of SEN may vary.

Educational attainment

Academic and vocational qualifications are increasingly important.[38] Those without qualifications are at a higher risk of being unemployed and having low incomes. More generally, success in acquiring formal qualifications bolsters children’s self-esteem, and enhances development of self-identity.[38]

Figure 3.12 shows the educational attainment at key stage 4 of pupils aged 15-16. The mean scores represent the average wider points score (educational attainment) of pupils at the beginning of the academic year (31st August) measured by external qualifications. A points based system allocates scores for each grade for all approved qualifications (including GCSE, BTEC and NVQs) taken by children during the final year of compulsory secondary education. This is important because it reflects the importance of children acquiring formal qualifications.[39] The inclusion of different qualifications that are not GCSEs allows a fairer account of educational attainment.

Figure 3.12 **Key Stage 4 educational attainment mean scores, 2009-2011**

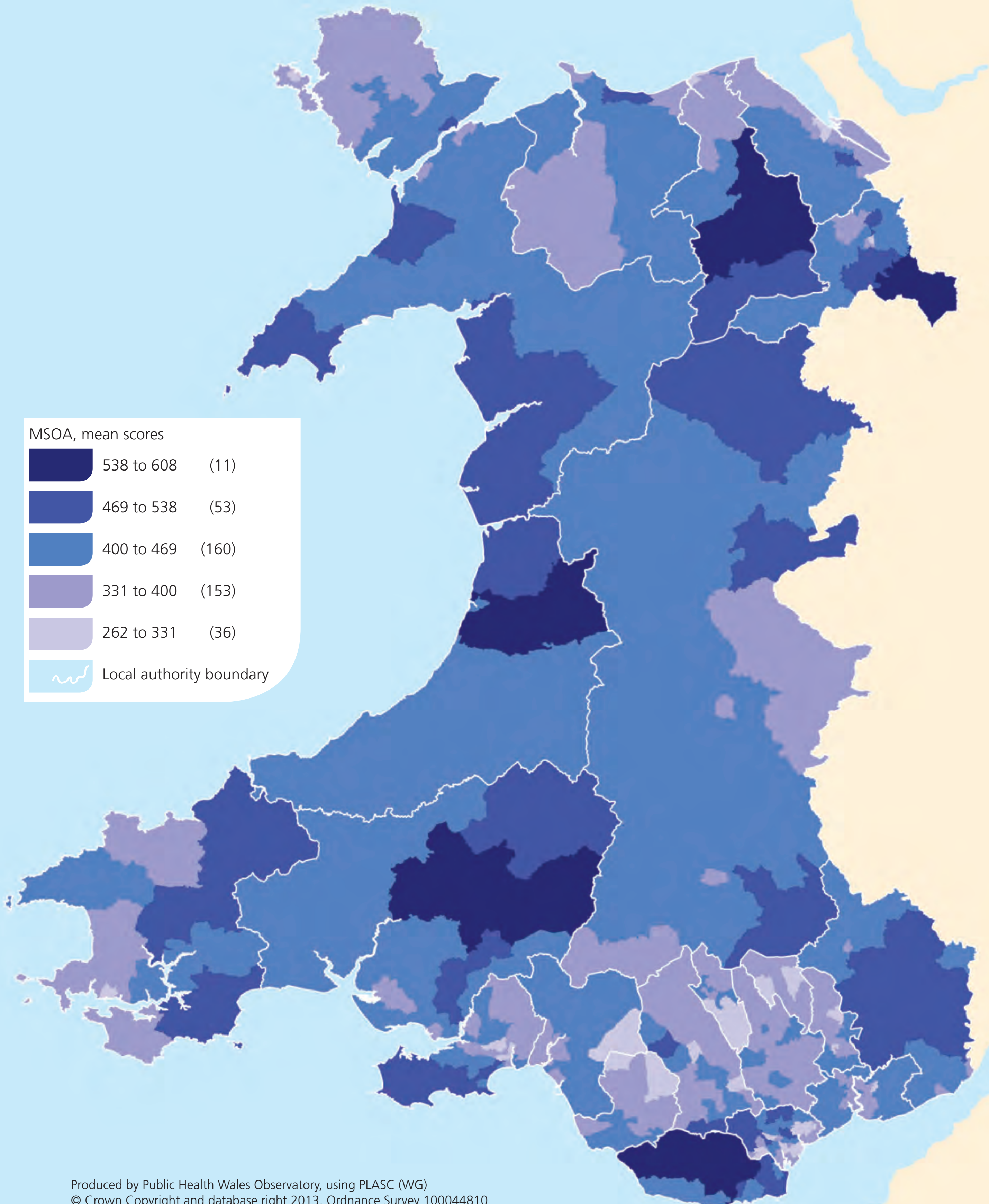


Data source: PLASC (WG)

Figure 3.12 shows that compared to the Welsh average of 406, mean scores are highest in the Vale of Glamorgan (470) and Ceredigion (459), representing a higher level of educational attainment, and lower in Blaenau Gwent (343) and Merthyr Tydfil (363), suggesting a comparatively lower level of educational attainment.

Key stage 4 educational attainment at MSOA level (figure 3.13) relates to the area of residence of pupils and not the location of the schools.

Figure 3.13 Key Stage 4 educational attainment mean scores, Wales MSOAs, 2009-2011



Produced by Public Health Wales Observatory, using PLASC (WG)
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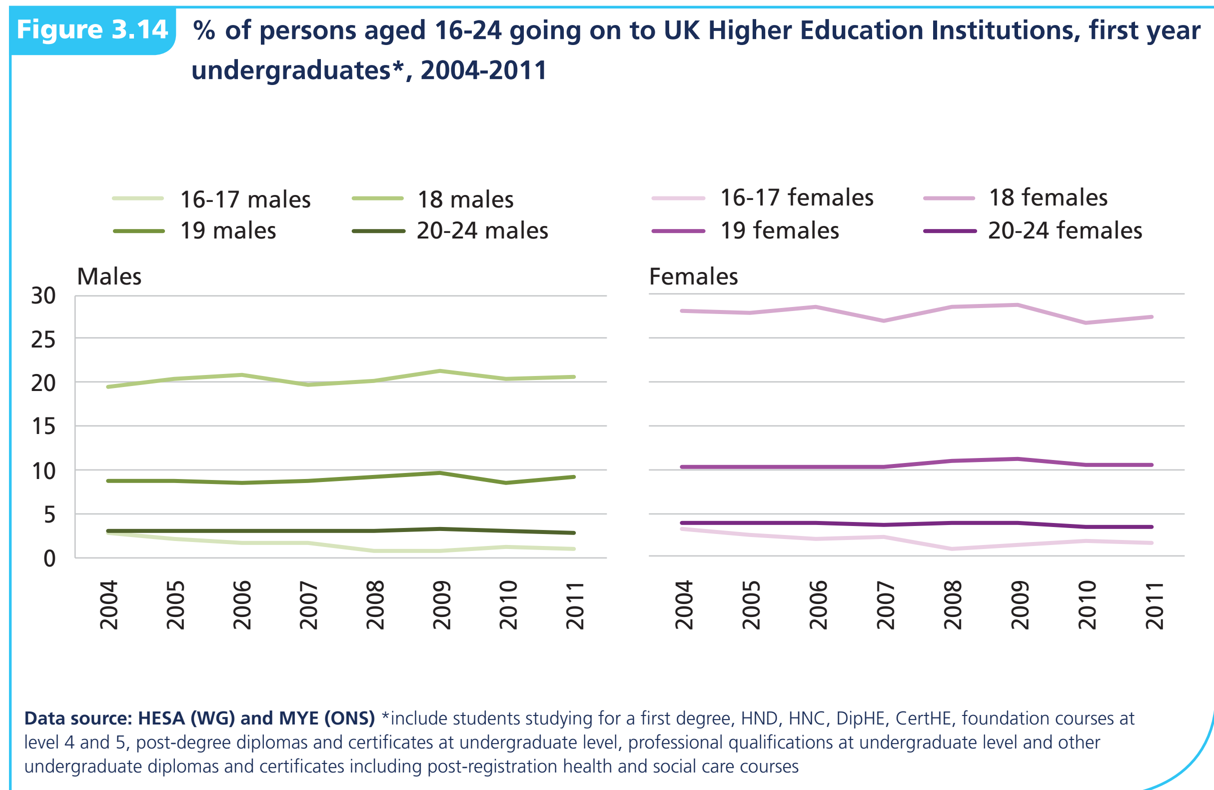
MSOAs exhibiting higher mean scores and therefore indicating higher levels of educational attainment can be found within Wrexham, Denbighshire, Ceredigion, Carmarthenshire and the Vale of Glamorgan. In contrast MSOAs displaying lower mean scores, suggesting lower levels of educational attainment can be found predominantly in the south Wales valleys of Torfaen, Blaenau Gwent Merthyr Tydfil, Rhondda Cynon Taf, Bridgend and Neath Port Talbot. Pockets of lower educational attainment can also be seen within the urban centres of Cardiff, Newport and Swansea.

Higher education

Gaining an education is one of the key determinants of health and low levels of education are directly associated with lower confidence, poor health and more stress.[4] In a competitive job market, academic and vocational qualifications are important.[38]

Figure 3.14 **% of persons aged 16-24 going on to UK Higher Education Institutions, first year undergraduates*, 2004-2011**



Data source: HESA (WG) and MYE (ONS) *include students studying for a first degree, HND, HNC, DipHE, CertHE, foundation courses at level 4 and 5, post-degree diplomas and certificates at undergraduate level, professional qualifications at undergraduate level and other undergraduate diplomas and certificates including post-registration health and social care courses

Figure 3.14 shows the percentage of Welsh young people going onto UK Higher Education Institutions, of which there are around 21,000 annually. Most young adults who go on to higher education start their studies aged 18. A greater percentage of females go on to higher education than males in all age groups. Rates are fairly static although more variation can be seen within the 18 year old age group. Full time enrolments have shown an increase over the period, tailing off slightly since the peak in 2009/10. This general increase in first year enrolments at undergraduate level may well be explained by more students deciding to enter higher education immediately rather than delay entry and necessitate paying increased tuition fees starting in the 2012/13 academic year.[40] In contrast, part-time enrolments have shown a general decrease over the period. This decrease in part-time undergraduate enrolments is the subject of a report commissioned by the Welsh Government in 2010. The report identifies potential barriers to part-time provision which are mainly related to funding.[41]

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Health related behaviours

4.1 Nutrition

4.2 Physical activity

4.3 Overweight and obesity

4.4 Tobacco

4.5 Alcohol

4.6 Substance misuse

4.7 Sexual health

Key Messages

- Health and behaviour developed during childhood and adolescence is often carried through into adulthood and can affect health later in life.
- The majority of children and young people in Wales do not eat guideline amounts of fruit and vegetables daily; with only just over 30% of those aged 11-16 consuming a portion of fruit and vegetables each day, the percentage in Wales being lower than England, Ireland and Scotland.

Governments ' ...shall take appropriate measures ....to ensure that all segments of society, in particular parents and children, are informed, have access to education and are supported in the use of basic knowledge of child health and nutrition...'

The United Nations Convention on the Rights of the Child, Article 24.2

- The guidelines for recommended levels of physical activity change with age. The percentage of those that meet the guidelines for physical activity is low in Wales, particularly compared to England, Ireland and Scotland. Around 36% participate in activity for 1 hour or more each day and 37% of 16-24 year olds undertake 30 minutes of vigorous activity 5 or more times a week. Higher percentages are found in rural areas.
- Within Wales, nearly 3 in 10 children aged 4-5 are classified as overweight or obese, with higher rates of obesity found in the more deprived fifths. The prevalence of overweight or obesity in Wales is higher amongst those in reception year than England and any English region. More than a quarter of girls and just under 30% of boys aged between 4 and 5 are overweight or obese.
- One in 5 deaths can be attributable to smoking in Wales. Around a quarter of those aged 16-24 in Wales smoke. Amongst those aged between 11 and 16, higher percentages are found in less affluent groups. Females are more likely to smoke than males.
- Just under half of 16-24 year olds in Wales drink above the recommended guidelines for alcohol; this is higher than England, Ireland and Scotland. Higher percentages are found in the older age groups, particularly in males. In addition, higher percentages can be found in more affluent groups.
- Around 1 in 10 of those aged 11-16 in Wales has used any drug at sometime during the previous year.
- Teenage conception rates amongst under 16 year olds are similar in Wales compared to England. Amongst those aged under 18 years rates are higher in Wales. Within Wales, higher rates for under 16's can be seen in Torfaen, Cardiff, Bridgend, Wrexham, Conwy and Merthyr Tydfil. For under 18s, higher rates are again in Merthyr Tydfil, Bridgend and Rhondda Cynon Taf.
- Those aged 15-24 years are disproportionally affected by sexually transmitted infections (STIs) in the UK. Around two thirds of diagnosed STIs in women are in those under 25 years, whilst over half of diagnoses in men are in those under 25. The rates of those tested for both chlamydia and gonorrhoea vary widely across Wales. The chlamydia testing rate has been increasing since 2001, but has begun to decrease in more recent years.

The behaviours children and young people lead can be pivotal to their short term health as well as their health outcomes in later life. Behaviours such as smoking, alcohol consumption, poor diet and a lack of physical activity can result in adverse outcomes such as obesity and chronic conditions in later life. The patterns found in children's behaviour can be correlated against social background with behaviours adverse to health more prominent amongst those from less affluent backgrounds.[1]

This chapter outlines the behavioural patterns and health related lifestyle outcomes amongst children and young people in Wales, making comparisons both nationally and internationally as well as within Wales, by school age and using the Health Behaviour in School-Aged Children (HBSC) Family Affluence Scale (FAS).

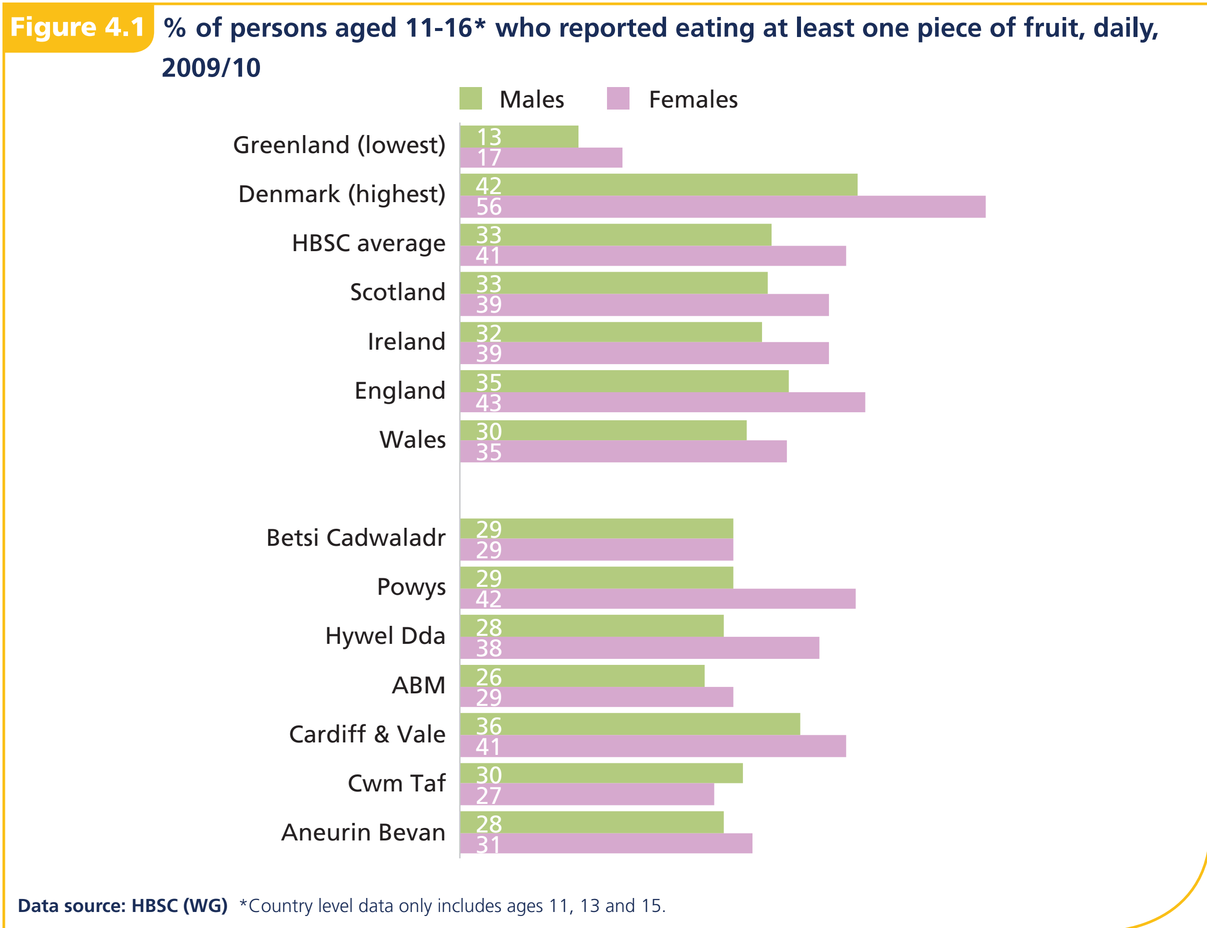
This chapter focuses on children aged from school reception year (using the Child Measurement Programme data) through to young adult. Unfortunately there is little evidence relating to children in younger age groups and studies are limited here.[2]

4.1 Nutrition

It is recommended that an individual eats 5 portions of fruit or vegetables daily[3] and this is used as a proxy measure for a healthy balanced diet. Eating a sufficient amount of fruit and vegetables is important, particularly in early years and can help prevent major diseases, such as cardiovascular disease and some cancers in later life.[4]

The HBSC survey is a cross-national research study conducted in collaboration with the World Health Organization (WHO) Regional Office for Europe.[5] It focuses on a wide range of measures that provide an insight into and increased understanding of young people's health and well-being. The HBSC average includes data from 39 countries across Europe and North America.[5]

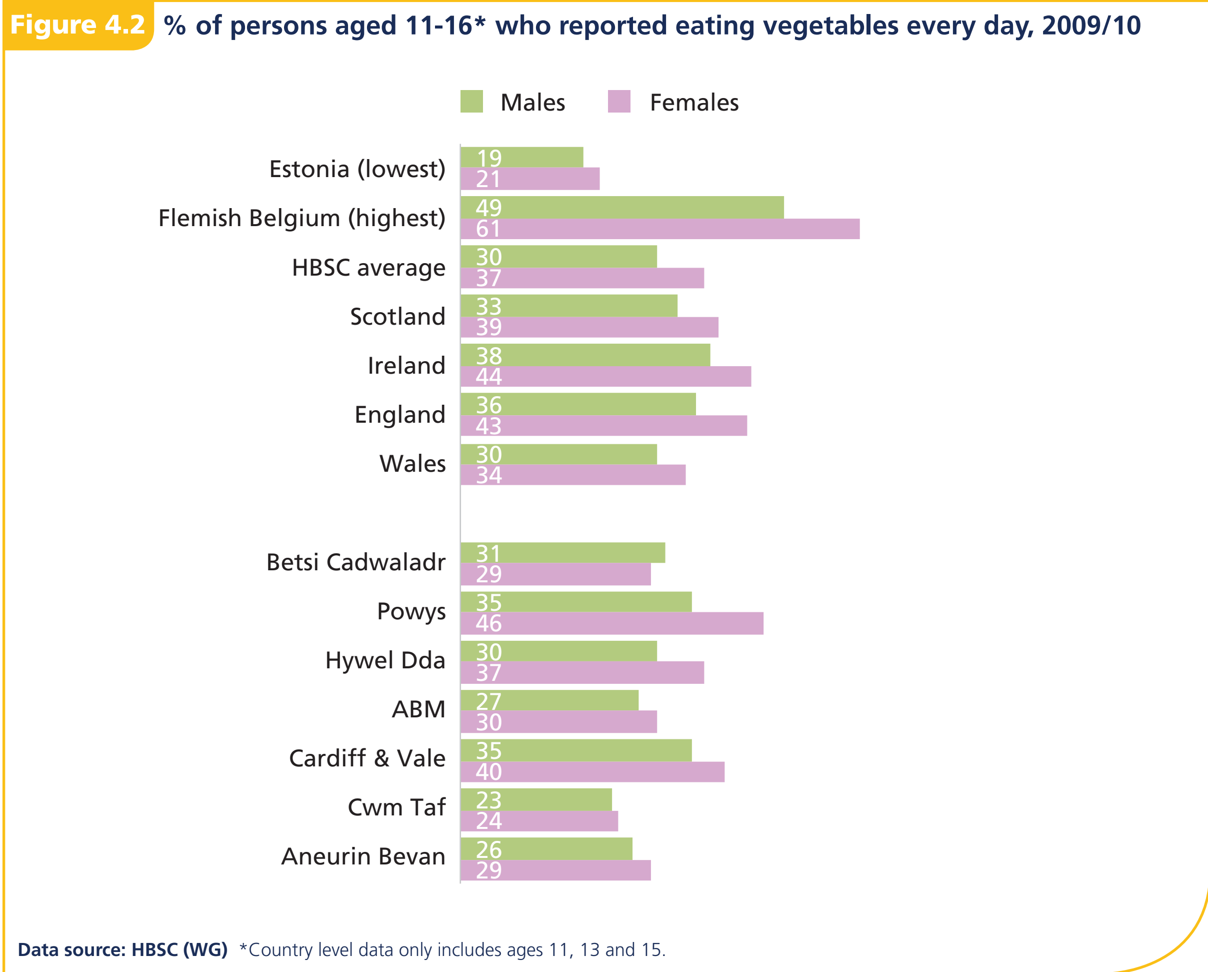
Figure 4.1 % of persons aged 11-16* who reported eating at least one piece of fruit, daily, 2009/10



Data source: HBSC (WG) *Country level data only includes ages 11, 13 and 15.

Figure 4.1 shows the percentage of 11-16 year olds in Wales eating at least 1 portion of fruit each day is below the survey average as well as being lower than in England, Ireland and Scotland for both males and females. At the health board level, the highest consumption is found for males in Cardiff and Vale at just over a third (36%), whereas for females it is Powys (42%). The lowest percentage for males can be found in Abertawe Bro Morgannwg, with just over a quarter of males (26%) consuming at least 1 piece of fruit daily. Amongst females, Cwm Taf has the lowest consumption with less than a third of those aged 11-16 (27%) eating at least 1 portion of fruit daily. The countries shown represent a selection of those submitting data to the international study. These were selected to illustrate the range of values and how Wales compares to countries in Great Britain and Ireland and elsewhere.

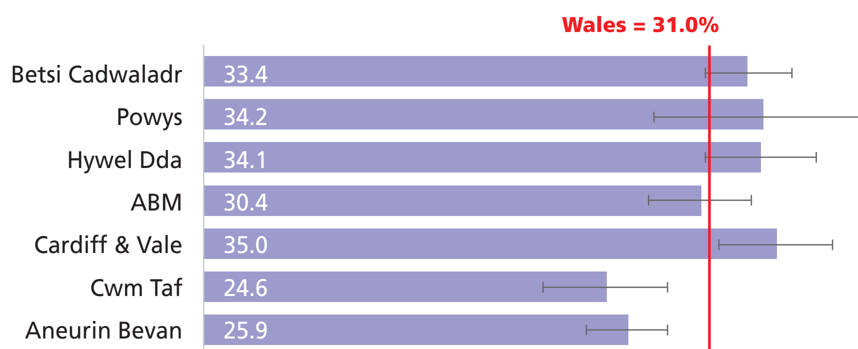
Figure 4.2 % of persons aged 11-16* who reported eating vegetables every day, 2009/10



Data source: HBSC (WG) *Country level data only includes ages 11, 13 and 15.

Figure 4.2 illustrates that Wales has the lowest percentages of 11-16 year old males and females eating vegetables daily compared to England, Ireland and Scotland, all of whom are above the survey average. At the health board level, Powys and Cardiff and Vale have the highest daily consumption of vegetables amongst males (35%), whilst almost half of females in Powys (46%) consume vegetables daily. The lowest percentages can be found in Cwm Taf, here less than a quarter of males (23%) and females (24%) consume vegetables each day.

Figure 4.3 **% of persons aged 16-24 who reported eating five or more portions of fruit and vegetables the previous day, 2008-2011**



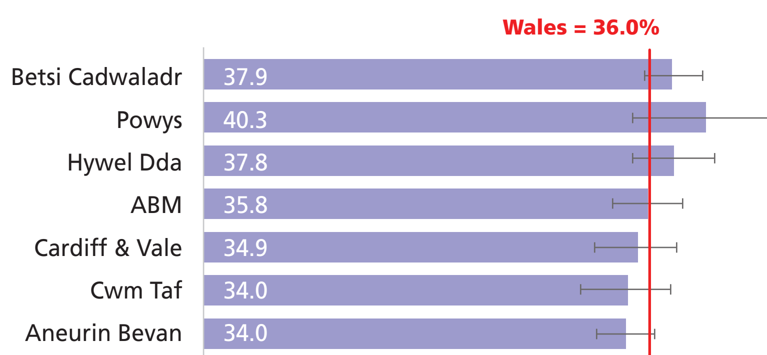
Data source: WHS (WG) & MYE (ONS)

Figure 4.3 shows that in Wales less than a third of young adults (31%) eat at least five portions of fruit and vegetables daily. The lower rates can be found in Cwm Taf, where less than a quarter of people (25%) in this age group eat guideline amounts of fruit and vegetables, whilst the highest can be found in Cardiff and Vale but that figure is still low at only 35%. Information on reducing unhealthy eating, a priority of *Our healthy future*[6], is included in section 8.1 of this report.

4.2 Physical activity

Being active is important as it can help maintain a healthy weight as well as better cardiovascular health. In addition, it can improve self-confidence and help develop new social skills.[7]
Young people (aged 5-18) should exercise for at least an hour every day at a moderate or intense level.[7]

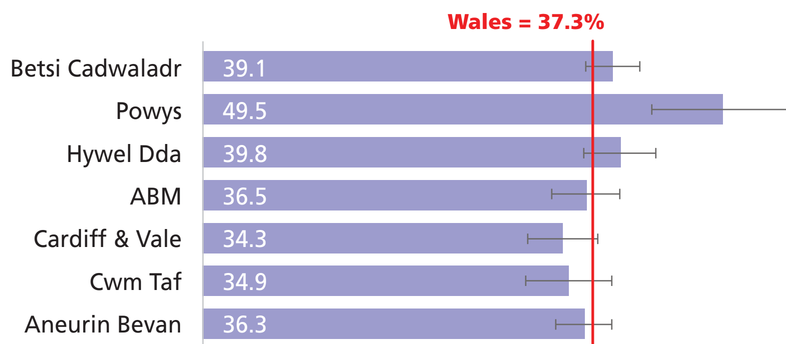
Figure 4.4 **% of children aged 4-15 who reported undertaking physical activity for an hour or more every day, 2007-2011**



Data source: WHS (WG) & MYE (ONS)

Figure 4.4 suggests that higher rates are in Powys (40%), Betsi Cadwaladr (38%) and Hywel Dda (38%) for physical activity. The lowest rates, with just over a third of children engaged in regular physical activity, are in Cwm Taf and Aneurin Bevan (both 34%). However, none of these differences are statistically significant compared to the Wales average.

Figure 4.5 **% of persons aged 16-24 who reported undertaking 30 minutes of moderate or vigorous physical activity on 5 or more days, 2008-2011**



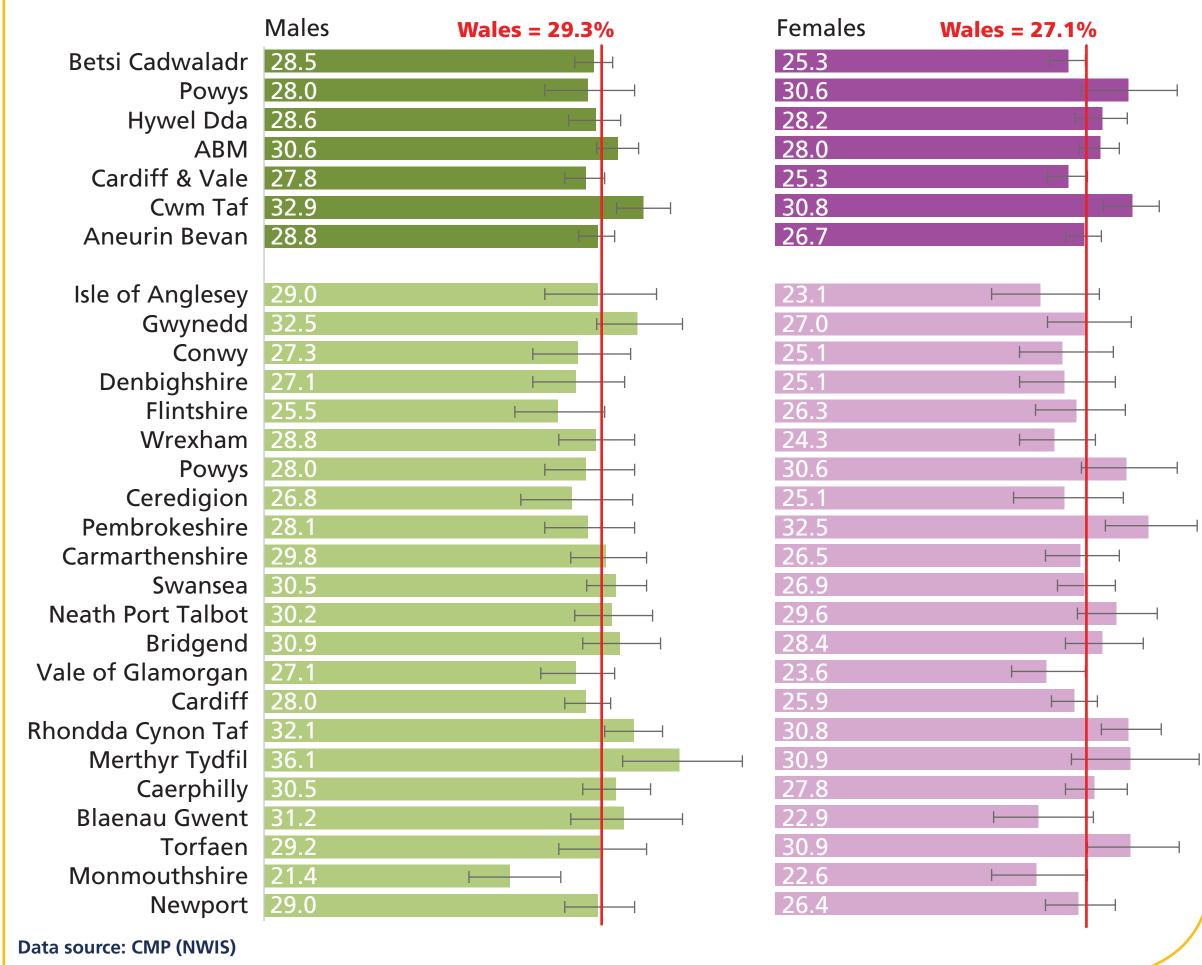
Data source: WHS (WG) & MYE (ONS)

Figure 4.5 illustrates that overall, and in each health board, fewer than half (37%) of those aged between 16 and 24 undertake thirty minutes of moderate or vigorous physical activity on five or more days. The higher rates can be seen in Powys (50%), Hywel Dda (40%) and Betsi Cadwaladr (39%), again the more rural areas. Of these, however, only Powys is statistically significantly different to Wales. Lower percentages can be seen in Cardiff and Vale and Cwm Taf, although they are not statistically significantly different to Wales. Information on increasing physical activity is included in section 8.2 of this report.

4.3 Overweight and obesity

The WHO has highlighted that obesity amongst children and younger people is one of the most serious challenges of the 21st Century and prevalence is increasing at an alarming rate.[8] There are many negative health outcomes associated with obesity amongst children, these include psychological and emotional effects. Additionally, longer term effects can be carried into adulthood since adult obesity is associated with higher risk of premature mortality, disability and morbidity such as type II diabetes. As obesity becomes more prevalent in children and younger people, so have conditions such as type II diabetes, reflecting the scale of the challenge.[8] Within Wales, nearly 3 in 10 children, aged 4-5, are classified as overweight or obese, with higher rates of obesity found in the more deprived fifths.[9] The prevalence of overweight or obesity in Wales is higher, amongst those in reception year, than England and any English region.[9]

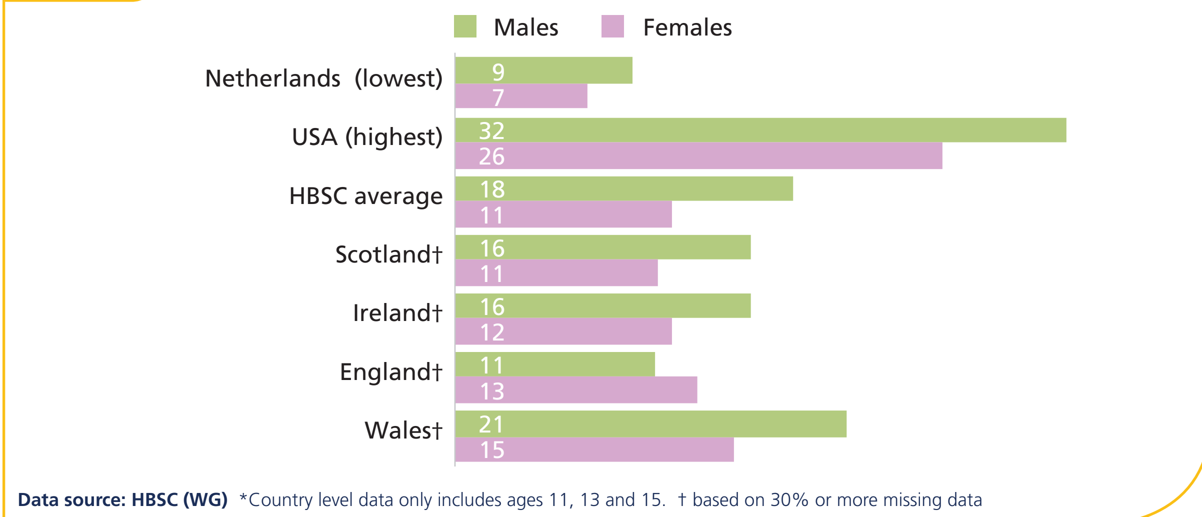
Figure 4.6 % of children aged 4-5 who are overweight or obese, 2011/12



Data source: CMP (NWIS)

Figure 4.6 shows that amongst those aged between 4 and 5, a higher percentage of males than females are overweight or obese[a] in Wales. The wide confidence intervals reflect the fact that population is small and percentages in most areas are not statistically significantly different to Wales as a whole. The lowest percentages can be found for both sexes in Monmouthshire. The highest percentages are seen in Merthyr Tydfil for males and in Pembrokeshire for females.

Figure 4.7 % of persons aged 11-16* who are overweight or obese, 2009/10



Data source: HBSC (WG) *Country level data only includes ages 11, 13 and 15. † based on 30% or more missing data

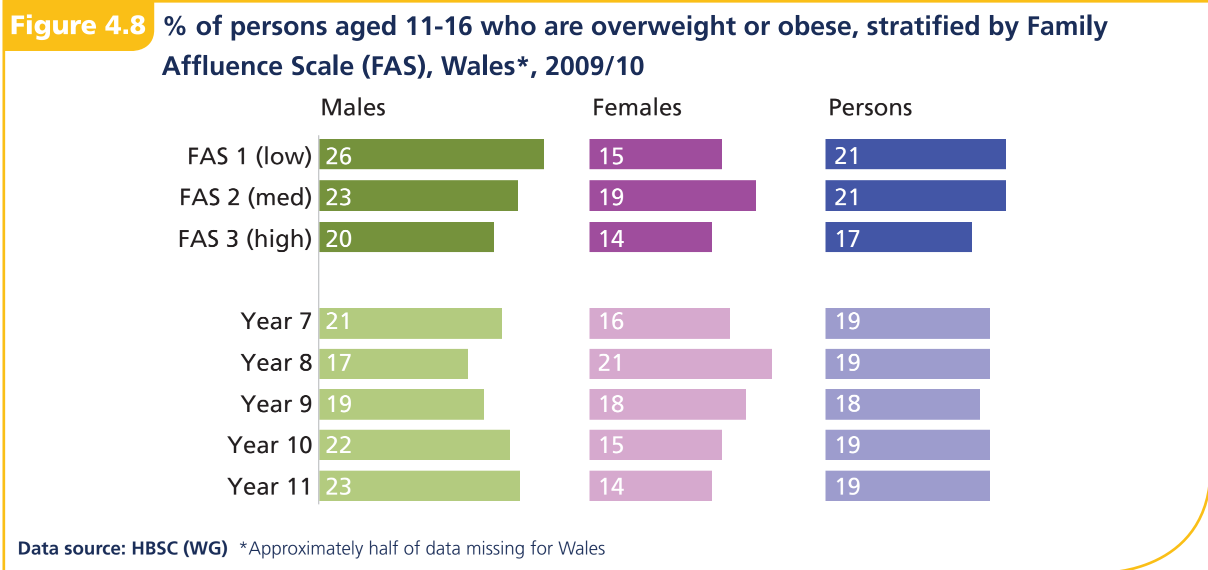
a The epidemiologic threshold from UK BMI centiles are used[8]

Health related behaviours

Figure 4.7 shows the percentage of 11-16 year olds who were overweight or obese[b] according to their body mass index (BMI). This is based on self reported height and weight measurements for Wales and internationally.

The chart shows that Wales has the highest percentage of males who are overweight or obese compared to Scotland, Ireland and England, with just over a fifth of those recorded being overweight or obese (21%). For females, the percentage is lower but Wales remains comparatively high (15%) compared to other nations (survey average 11%). The highest percentages are found in the USA where almost a third of males (32%) and over a quarter of females (26%) report being overweight or obese. Care should be used when interpreting this data however as individuals are more likely to overestimate their height and underestimate their weight, meaning that the true percentage of those who are overweight or obese could be higher. Additionally, almost a third of the data was missing for Scotland, Ireland, England and Wales which could mean the true value may be different from that described here.

Figure 4.8 % of persons aged 11-16 who are overweight or obese, stratified by Family Affluence Scale (FAS), Wales*, 2009/10



Data source: HBSC (WG) *Approximately half of data missing for Wales

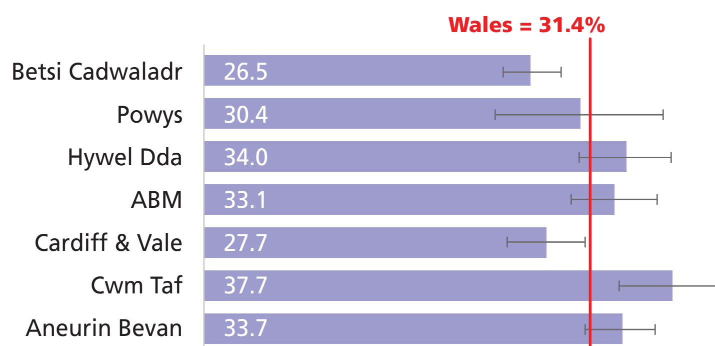
Figure 4.8 highlights the difference in percentage of overweight or obese children by the HBSC FAS, school year and sex. As with figure 4.7, these figures are based on BMIs calculated from self reported height and weight measurements. The FAS is calculated by asking respondents questions on the material conditions of the households that they live, including car ownership, occupancy, holidays and home computers. The chart illustrates that there is a correlation between FAS and the percentage of obese males, with obesity more prevalent in less affluent households, compared to more affluent households. Amongst females however, there is no such linear relationship.

The percentage overweight or obese fluctuates by age. This could be due to a number of reasons relating to puberty, self reporting of weight or random fluctuation.

b Based on International Obesity Task Force threshold for overweight & obesity[5]

c a BMI of 25 or over, based on self reported height and weight

Figure 4.9 **% of persons aged 16-24 who are overweight or obese, 2008-2011**



Data source WHS (WG) & MYE (ONS)

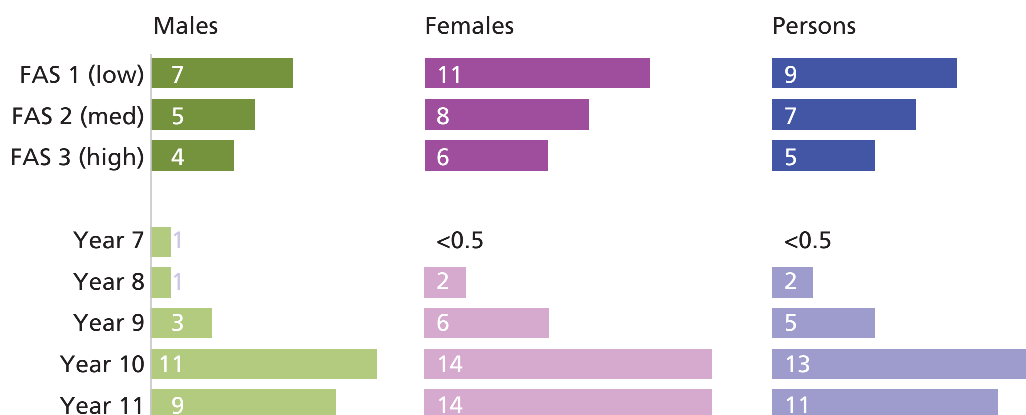
Figure 4.9 shows that almost a third (31%) of young adults (between the age of 16-24) in Wales are overweight or obese. The chart shows that the higher percentages can be found in Cwm Taf, Hywel Dda and Aneurin Bevan. Betsi Cadwaladr has the lowest percentage but still has 27% of 16-24 year olds measured as overweight or obese[c].

4.4 Tobacco

One in 5 deaths can be attributable to smoking in Wales; it causes serious harm to the health of smokers and non-smokers exposed to second hand smoke.[10] This harm has a major impact on NHS resources and consumes a large percentage of the NHS budget, estimated to be approximately 6%[11], through sickness to staff and patients requiring treatment.[10]

Tobacco use often starts during adolescent years and is highly addictive, if continued, can negatively affect health in later life.[11] Eight out of ten smokers start smoking before the age of 19.[11] As a result the Welsh Government has made it a priority to address smoking amongst children and young people[10] and in February 2012 a ban was introduced on publicly-accessible cigarette vending machines. As well as being a problem associated with using tobacco products, exposure of children and young people to second hand smoke can be detrimental to their health. Regular exposure can lead to a number of consequences including respiratory problems, sudden infant deaths and meningitis.[11]

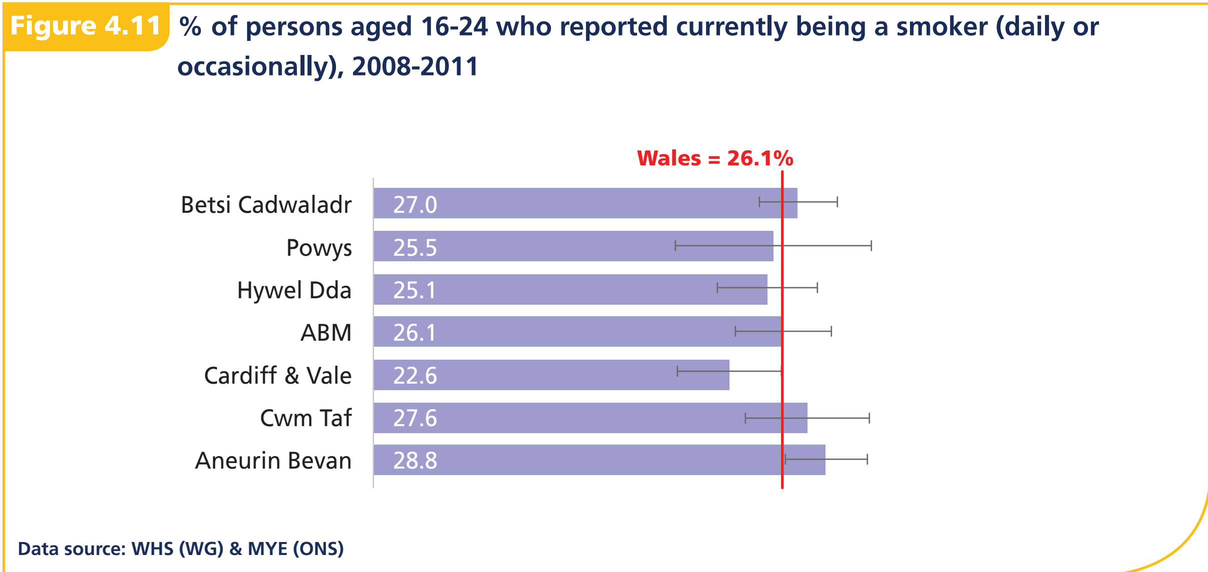
Figure 4.10 **% of persons aged 11-16 who reported smoking at least once a week, stratified by Family Affluence Scale (FAS), Wales, 2009/10**



Data source: HBSC (WG)

Figure 4.10 shows that there are higher percentages of females that smoke than males. The chart also shows that those in the least affluent households have a higher percentage of smokers than those in medium or higher affluence households, reinforcing the evidence that smoking prevalence is higher in more deprived areas.[11] This pattern is seen consistently for males and females. The chart further illustrates that the percentage of smokers is higher in older age groups, up to year 10 (14-15 year olds). Smoking prevalence amongst year 7 and 8 pupils is low. However, the percentage smoking at least once a week increases up to and including year 10 pupils, with 11% of males smoking at least once a week during this period, among females this is higher (14%).

Figure 4.11 % of persons aged 16-24 who reported currently being a smoker (daily or occasionally), 2008-2011



Data source: WHS (WG) & MYE (ONS)

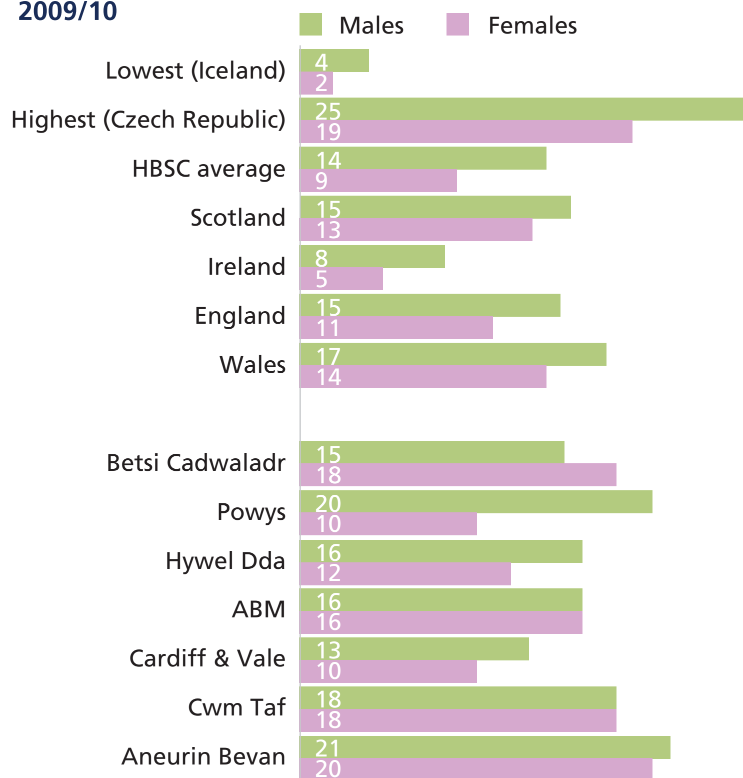
Figure 4.11 shows that just over a quarter (26%) of people aged between 16 and 24 currently smoke in Wales. The chart illustrates that the higher rates can be found in Aneurin Bevan (29%) and Cwm Taf (28%), the former industrial heartlands of the Wales valleys. The lowest rate is in Cardiff and Vale, but even there, over a fifth of 16-24 year olds reported being a smoker. Information on reducing smoking prevalence is included in section 8.3 of this report.

4.5 Alcohol

Alcohol misuse in Wales is one of largest preventable causes of death and illness. It is estimated that around 1,000 deaths per year in Wales are attributable to alcohol.[12] Alcohol-specific and alcohol-attributable hospital admissions[12] had been rising in Wales since 1999 but have stabilised more recently, with the rates around twice as high amongst males compared to females. In addition, there are indirect consequences to alcohol consumption, such as violent crime and anti-social behaviour.

Amongst young people, alcohol consumption can be the beginning of a drinking culture in later life. It can lead to a number of problems in the long run, such as increased chronic disease. In the short term, alcohol consumption can lower inhibitions and young people under the influence of alcohol can find themselves involved in risk taking behaviour such as using drugs or solvents, unsafe sexual activity and problems at school; anecdotally these risk behaviours are associated with violence and truancy from school. Also, young people under the influence of alcohol are more likely to be injured in accidents.[13]

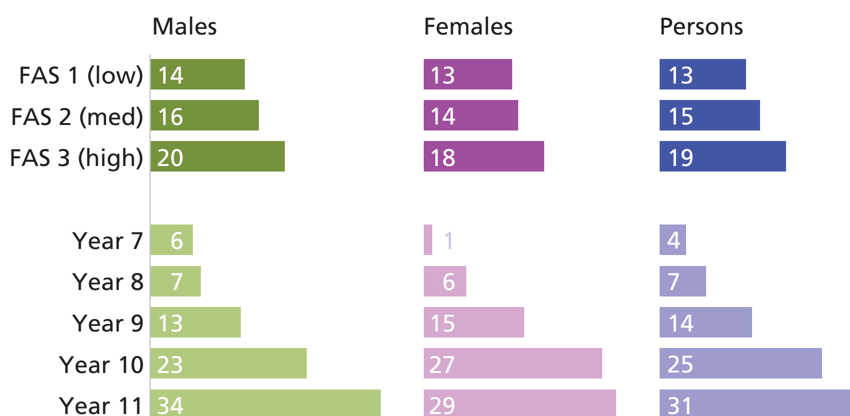
Figure 4.12 **% of persons aged 11-16* who reported drinking alcohol at least once a week, 2009/10**



Data source: HBSC (WG) *Country level data only includes ages 11, 13 and 15.

Figure 4.12 illustrates that the percentage aged between 11 and 16 and consuming alcohol at least weekly is higher in Wales than in Scotland, Ireland, England and the survey average, for both males and females. When compared to Ireland, Wales has more than double the percentage of males and females that consumed alcohol in the last week. At the health board level, higher percentages of 11-16 year olds having consumed alcohol in the previous week can be found in Cwm Taf (18% for both males and females) and Aneurin Bevan (males 21% and females 20%). However, the most noticeable gap can be found in Powys, where the percentage of males drinking alcohol (20%) is double that for females (10%), although this may be the result of sample bias associated with small numbers.

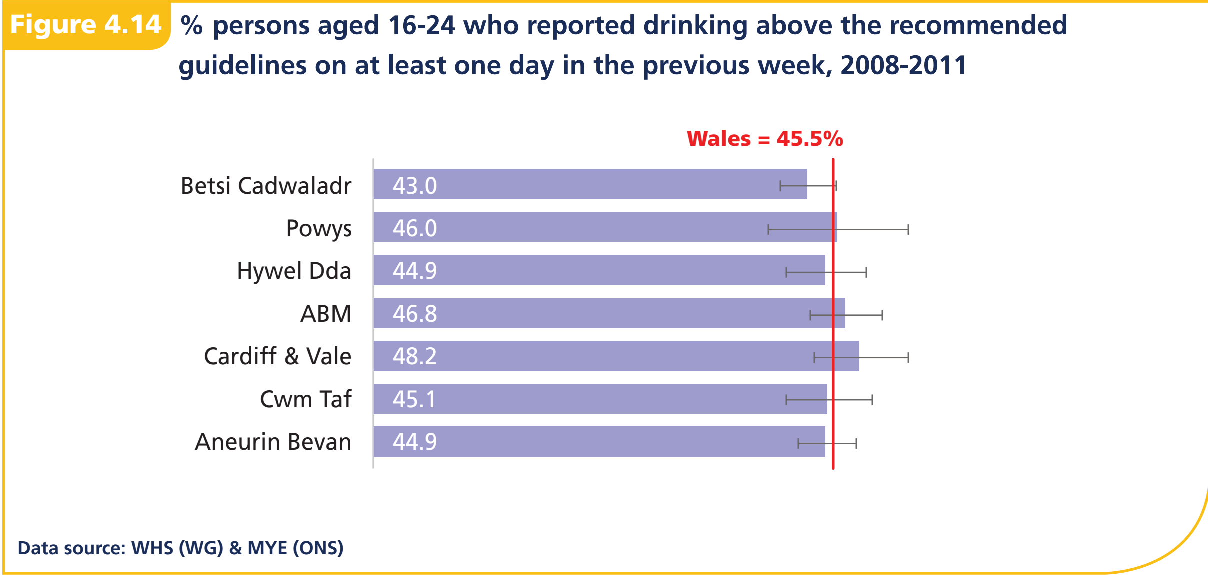
Figure 4.13 **% of persons aged 11-16 who reported drinking alcohol at least once a week, stratified by Family Affluence Scale (FAS), Wales, 2009/10**



Data source: HBSC (WG)

Figure 4.13 shows that the percentage of 11-16 year olds drinking alcohol at least once a week increases with age from 6% in year 7 to 34% in year 11 for males. By year 11 around a third of males and females reported drinking at least once a week. The data also shows that the percentage drinking alcohol at least once a week is higher in more affluent households compared with the least affluent.

Figure 4.14 **% persons aged 16-24 who reported drinking above the recommended guidelines on at least one day in the previous week, 2008-2011**



Data source: WHS (WG) & MYE (ONS)

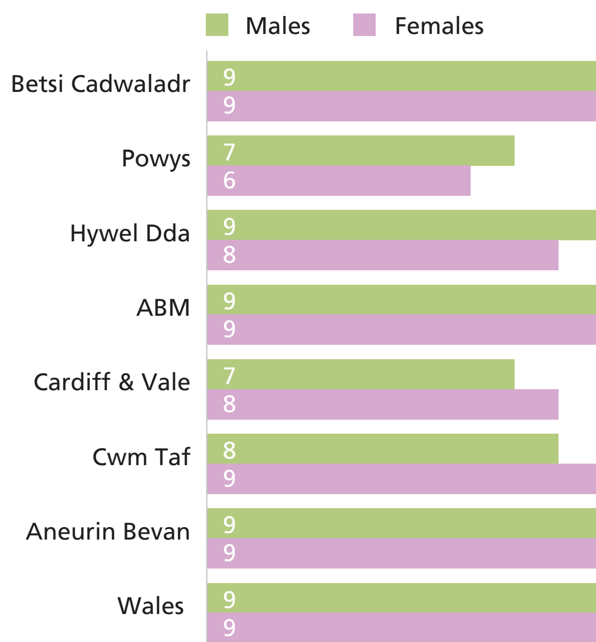
Figure 4.14 shows that almost half (46%) of those aged between 16 and 24 years drank above the recommended guidelines for alcohol on at least 1 day in the previous week. This is a high percentage, particularly when considering those aged under 18 years are not legally allowed to buy alcohol. Higher percentages of young adults drinking above the guidelines can be found in Cardiff and Vale (48%) and Abertawe Bro Morgannwg (47%), 2 areas with large student communities. Lower percentages can be found in Betsi Cadwaladr (43%), however the percentages drinking above guidelines are similar and of concern across all health boards in Wales. Information on reducing harm from alcohol and drugs is included in section 8.4 of this report

4.6 Substance misuse

Substance misuse may cause a range of harms to the individual, including physical and mental health effects, and to their families and to the wider community.[14] It is estimated that the total cost of Class A drug use in Wales is approximately £780 million, with drug related crime accounting for 90% of this. Additionally, the cost to the health service as a result of problem drug use is estimated to be around £17.6 million per year.[14]

The Welsh Government, as part of its Substance Misuse Strategy[14], aims to prevent future substance misuse by ensuring that children, young people and adults are well informed regarding the nature and use of drugs and alcohol and potential harms that may result from misuse. In addition, information about where to seek help and support and access to specialist substance misuse services should be readily available.[14]

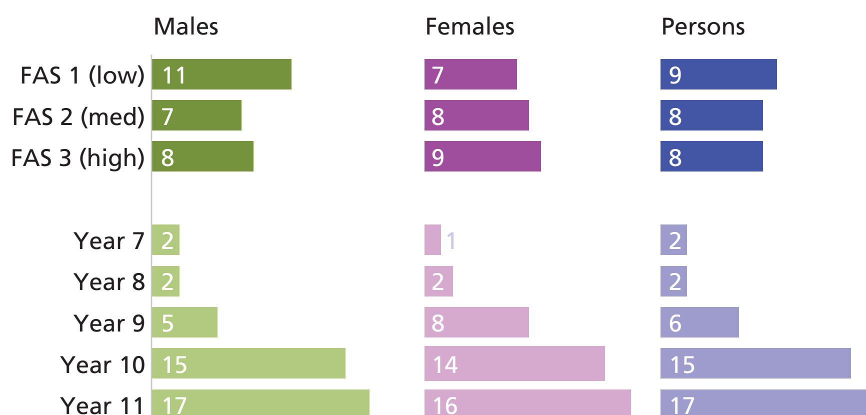
Figure 4.15 **% of persons aged 11-16 who reported using any illicit drug in the last year, 2009/10**



Data source: HBSC (WG)

Figure 4.15 provides a breakdown by sex of the percentage using any drug during the last year for Wales and its health board areas. A list of illegal substances was provided to respondents who then reported whether they had taken any during the last year. The chart suggested that almost 1 in ten (9%) of those aged 11-16 years have used 1 or more illegal drugs in the previous year in Wales. Overall, there is no clear pattern for sex, with similar overall percentages for Wales and Powys having the lowest (7% for males and 6% for females).

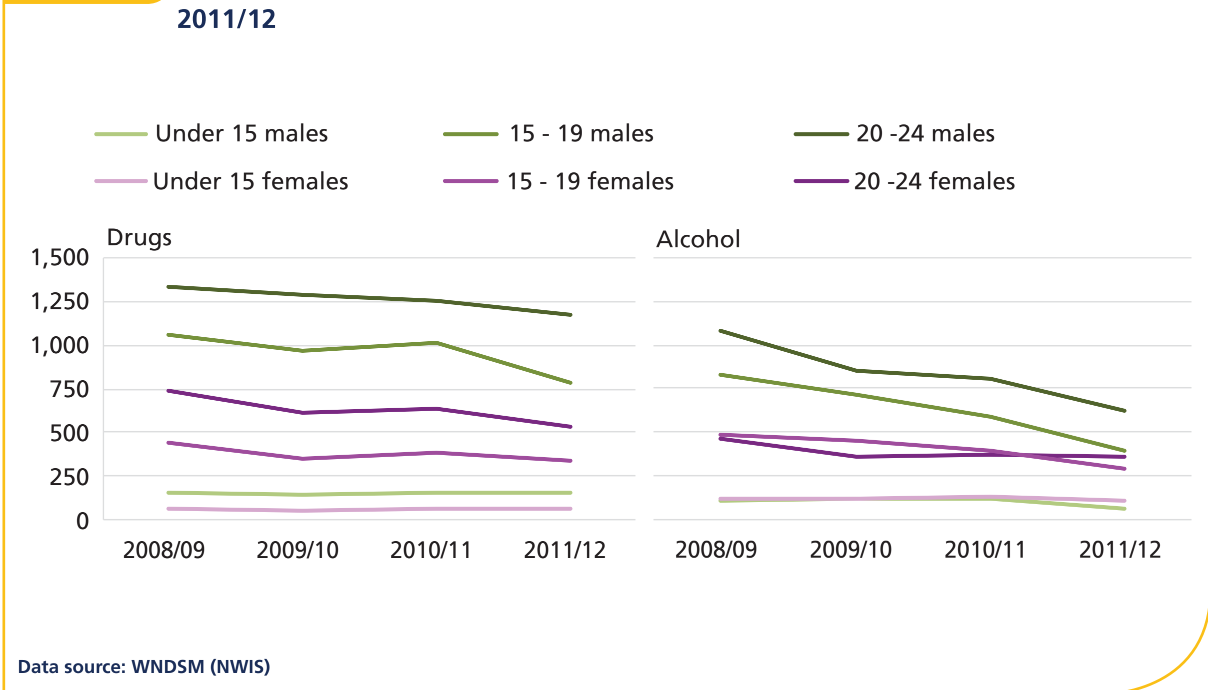
Figure 4.16 **% of persons aged 11-16 who reported using any drug in the last year, stratified by Family Affluence Scale (FAS), Wales, 2009/10**



Data source: HBSC (WG)

Figure 4.16 shows that the percentage of 11-16 year olds using drugs is quite similar for males and females in Wales but that females will start slightly earlier than males, reflected by a higher percentage found in Year 9. The FAS shows that amongst males a higher percentage reporting using drugs during the last year are found in the least affluent households, conversely the high rates for females are found in the most affluent households.

Figure 4.17 **Number of referrals for substance misuse, persons aged 0-24, Wales, 2008/09 – 2011/12**



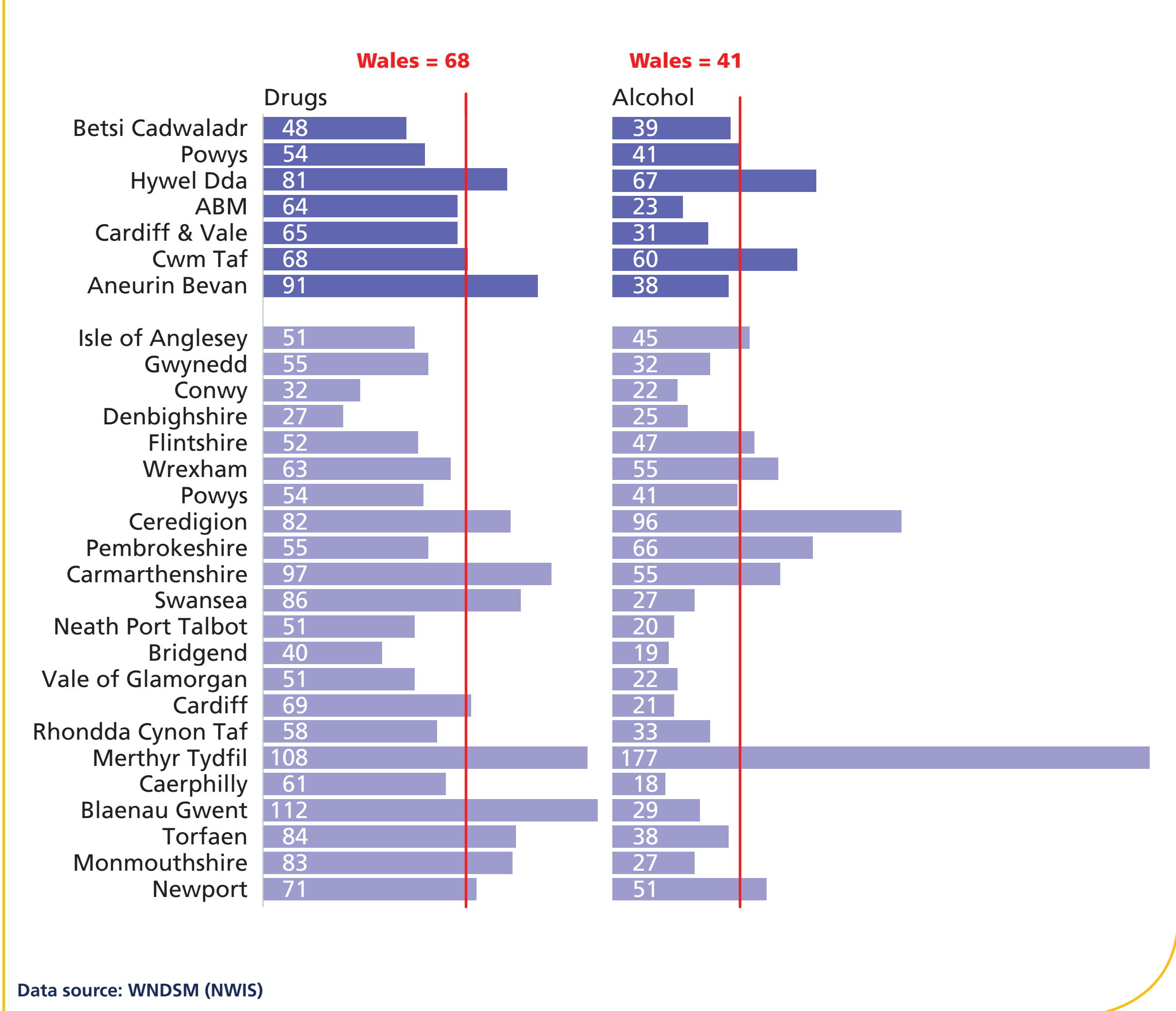
Data source: WNDSM (NWIS)

Figure 4.17 illustrates that for both drugs and alcohol there is a downward trend in the number of referrals. This trend is particularly apparent amongst alcohol referrals and amongst males aged 15-19 and 20-24.

For drugs, the number of referrals has consistently fallen for males and females aged 15-19 and 20-24 over the period.

The number of referrals to specialist drug services for those aged under 15 remain low but stable. This decline in referrals for drugs amongst young people reflects an overall decrease in referrals to specialist services for all ages within Wales. In relation to referrals to specialist alcohol services by young people, there is a more marked decline in referrals amongst males in all specified age groups, which is replicated in the downward trend in hospital admissions for alcohol specific diagnosis amongst young males (aged 0-14 and 15-19 years). However, the picture amongst young females is more complex. In females aged under 15 and 15-19, there has been a gradual decrease in referrals over this period, but no consistent trend is observed in females aged 20-24.

Figure 4.18 Referrals for substance misuse, persons aged 0-24, incidence rate per 100,000, 2011/12



Data source: WNDSM (NWIS)

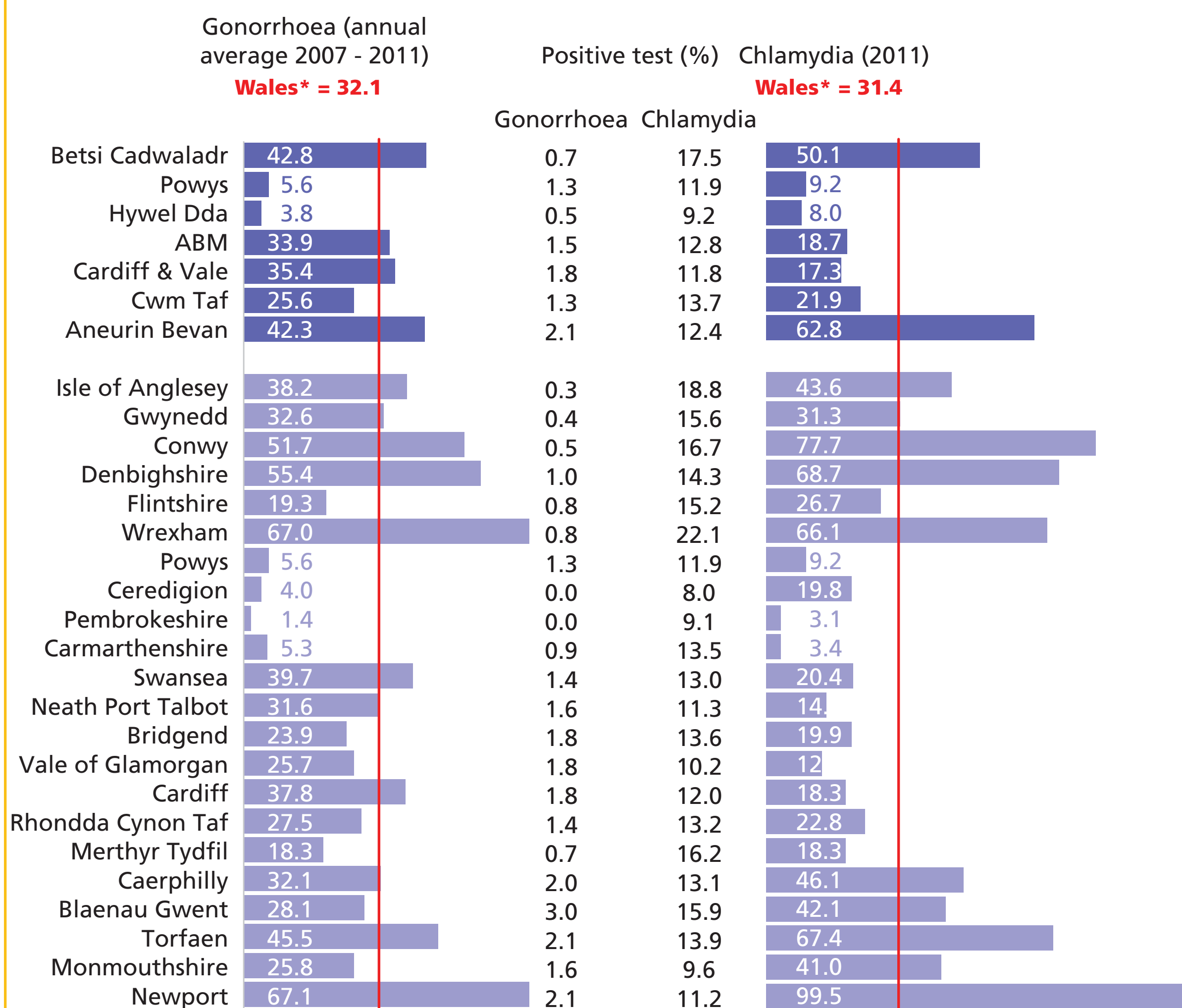
Figure 4.18 suggests that for drug referrals, higher rates can be found in Blaenau Gwent, Merthyr Tydfil, Swansea, Carmarthenshire, Monmouthshire, Torfaen and Ceredigion. Lower rates were found in Denbighshire, Conwy and Bridgend. For alcohol, there were comparatively fewer referrals as a percentage of the population. Higher rates were found once more in Merthyr Tydfil, where the rate is 4 times that for Wales.

4.7 Sexual health

Those aged 15-24 years are disproportionally affected by sexually transmitted infections (STIs) in the UK. Around two thirds of diagnosed STIs in women are in those under 25 years, whilst over half of diagnoses in men are in those under 25.[15]

Sexually transmitted infections

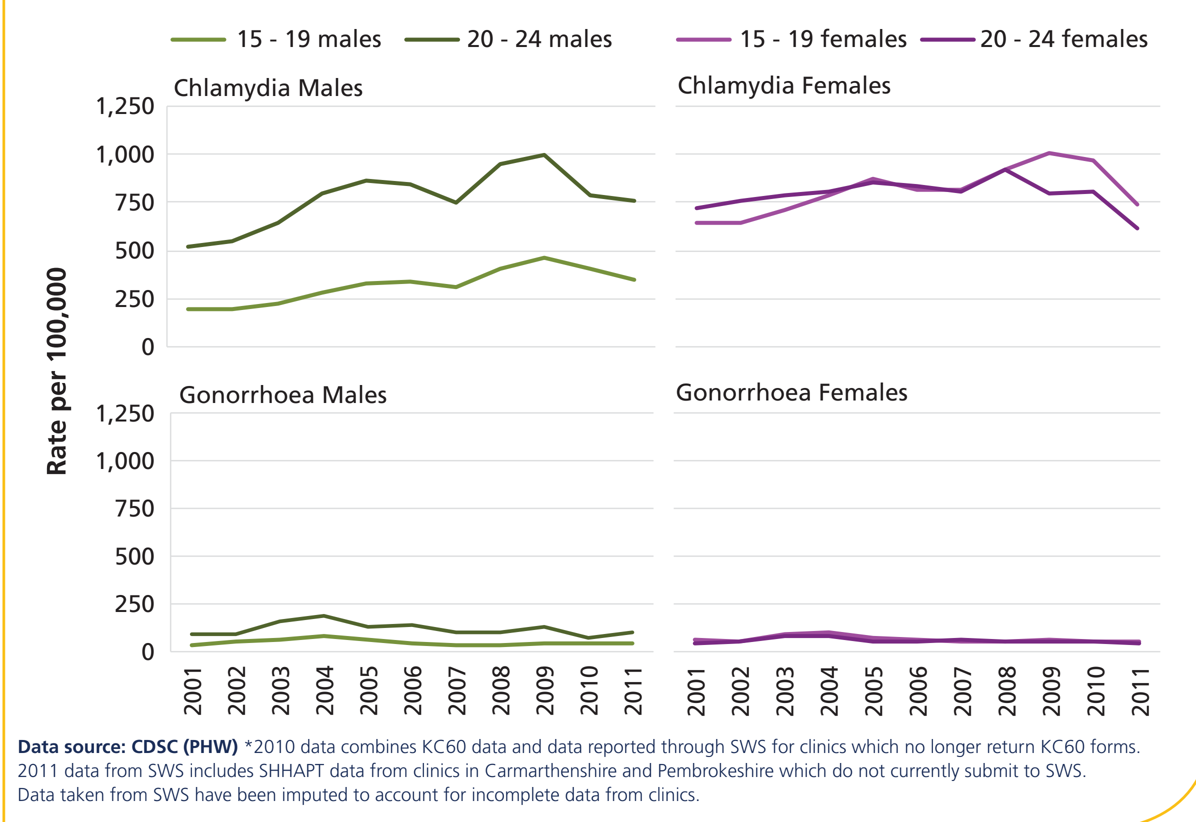
Figure 4.19 Tests for gonorrhoea and chlamydia in persons aged 15-24 by area of residence, rate per 1,000 population



Data source: CDSC (PHW) & MYE (ONS) *Data from clinics in Carmarthenshire and Pembrokeshire are not currently available via SWS so the figures presented represent only residents who have visited clinics elsewhere. Please note that completeness on reporting of area of residence and coding of diagnosis is variable across clinics and so results should be interpreted with caution.

Figure 4.19 shows that the testing rate varies between health boards and local authorities for gonorrhoea and chlamydia. Higher testing rates were found in Newport where open access is provided, Wrexham and Conwy, and will in part be due to differential access to services and differential awareness of testing. High positivity for chlamydia testing was associated with areas of both high and low testing rates, such as Wrexham and Merthyr Tydfil respectively.

Figure 4.20 **New episodes of chlamydia and gonorrhoea reported to GUM clinics, Wales, 2001-2011**



Data source: CDSC (PHW) *2010 data combines KC60 data and data reported through SWS for clinics which no longer return KC60 forms. 2011 data from SWS includes SHHAPT data from clinics in Carmarthenshire and Pembrokeshire which do not currently submit to SWS. Data taken from SWS have been imputed to account for incomplete data from clinics.

Figure 4.20 shows that rates amongst females for the two age groups are similar. Amongst males, however, the rates are higher amongst those aged 20-24 years, which corresponds to the fact that the median age for most STIs is generally higher in males than females. Compared to females, there is generally a higher rate of gonorrhoea in young males.

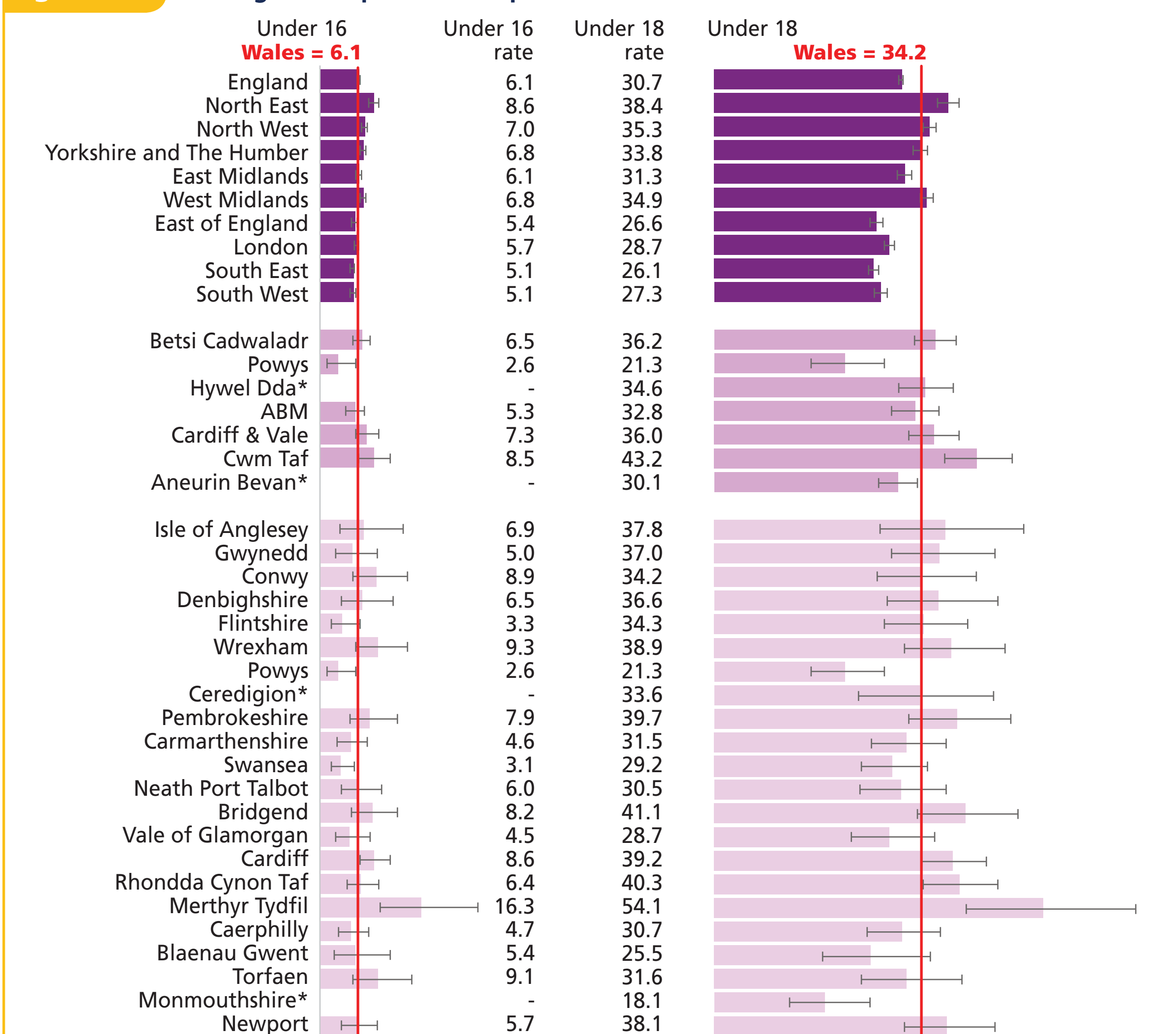
The rates of chlamydia, compared to gonorrhoea show it is much more prevalent within the population. For chlamydia, rates exhibited an upward trend since 2001 but have been decreasing in more recent years. However, the rate is still high with around 700 per 100,000 females aged 15-24 having been diagnosed with chlamydia. Gonorrhoea rates have remained level over the past decade although, with the introduction of a new dual nucleic acid amplification test in 2011, preliminary data for 2012 indicates a recent increase in cases; this would be expected with a more sensitive test.

Teenage conceptions

Higher teenage conception rates are associated with areas of higher deprivation and areas of higher unemployment.[16] Teenage conceptions can be reported for under 16 or those under 18; those under 16 are more likely to suffer negative impacts. Having a baby before the age of 16 is associated with a lack of education and training, leading to poor socio economic conditions later in life.[17] Additionally, teenage mothers are at greater risk of suffering from mental health issues during the three years following birth[16] as well as having a low birth weight and higher infant mortality rate, compared to older mothers.

As well as the mother experiencing poor outcomes, the children of teenage mothers also tend to experience poorer outcomes as young adults. They tend to have a poorer educational attainment, greater risk from economic inactivity and may end up as teenage mother's themselves.[17]

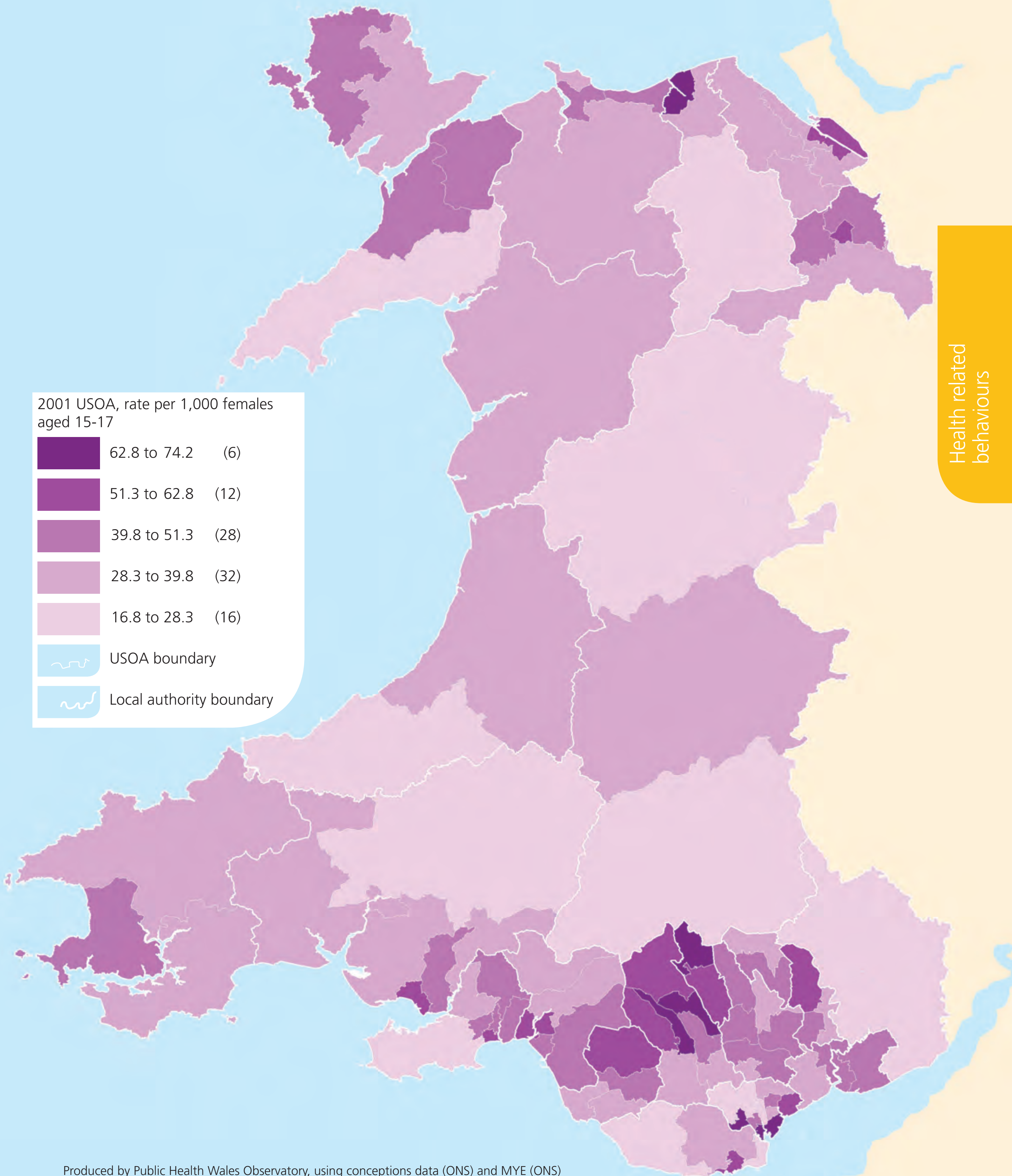
Figure 4.21 Teenage conceptions, rate per 1,000 females†, 2011



Data source: Conceptions data (ONS) †Rates for females under 16 are per 1,000 females aged 13-15; rates for females under 18 are per 1,000 females aged 15-17 *Rates based on counts of less than 5 have been suppressed; secondary suppression has been applied where necessary

Figure 4.21 shows for those under 16 the conceptions rate in Wales is similar to that in England, with the North East of England having the highest rate in England & Wales. Amongst the health boards, the higher rates can be found in Cardiff and Vale and Cwm Taf, there is no data for Hywel Dda and Aneurin Bevan due to secondary suppression associated with small numbers within a constituent local authority. The local authority rates show that the higher rates can be seen in Torfaen, Cardiff, Bridgend, Wrexham, Conwy but are highest in Merthyr Tydfil which (even with a wide confidence interval) is statistically significantly higher than Wales. The 'under 18' chart shows that Wales has a higher rate than England but remains lower than the North East, North West and West Midlands regions of England. For health boards, the chart illustrates that Cwm Taf, Betsi Cadwaladr and Cardiff and Vale have the highest rates, whereas the lowest rates can be found in Powys, a predominantly rural area. The local authority areas show that again, Merthyr Tydfil has the highest rate, followed by Bridgend and Rhondda Cynon Taf. These are largely local authorities with relatively high levels of deprivation and former industrial centres. Lower rates are in the largely rural, more affluent areas such as Powys, Monmouthshire and the Vale of Glamorgan. Notably Blaenau Gwent has a low rate, however the size of the confidence intervals suggest the rate is based on small numbers and might be susceptible to random variation. Overall, teenage conceptions in Wales have been falling in recent years,[18] although the UK rate as a whole, remains higher than a number of other European countries, including Spain, Belgium, Ireland, France and Italy.[19]

Figure 4.22 Teenage conceptions, females aged under 18, Wales, 2007-2011



Produced by Public Health Wales Observatory, using conceptions data (ONS) and MYE (ONS)

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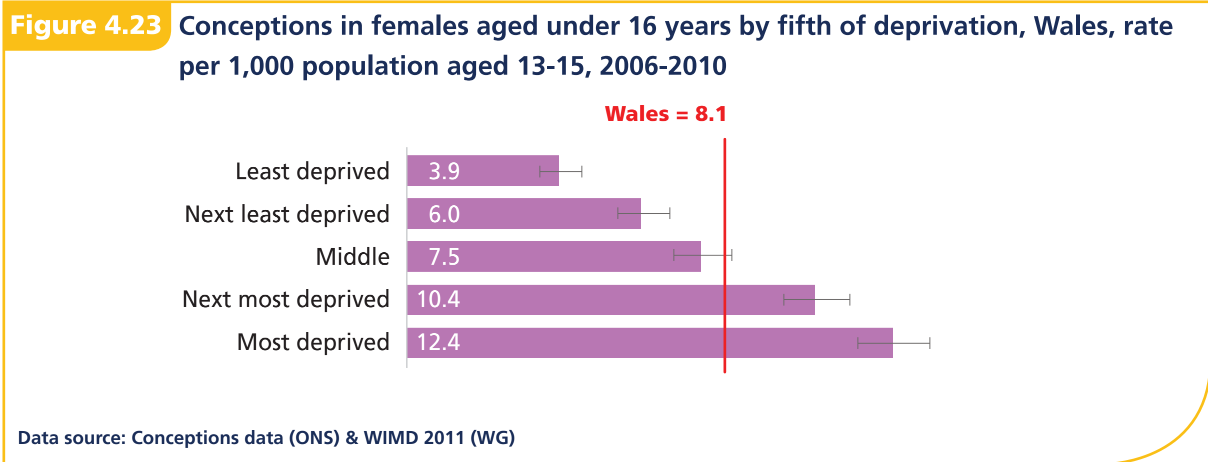
Figure 4.22 shows that teenage conceptions are higher in the former industrial centres of the south Wales valleys, particularly Merthyr Tydfil and the Rhondda and Cynon Valleys, parts of Cardiff and along the North Wales coast. Lower rates are located in the more rural areas of Monmouthshire, Powys, Carmarthenshire, Ceredigion and Denbighshire.

Figure 4.23 Conceptions in females aged under 16 years by fifth of deprivation, Wales, rate per 1,000 population aged 13-15, 2006-2010



Data source: Conceptions data (ONS) & WIMD 2011 (WG)

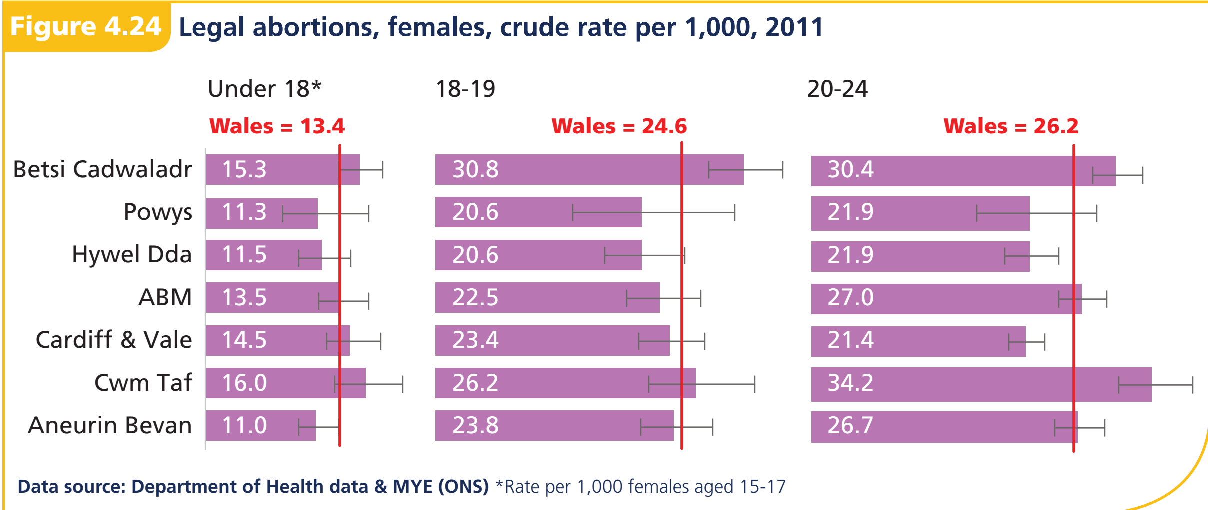
Figure 4.23 illustrates that the higher rates are correlated with increased deprivation. The rate ratio comparing the least and most deprived fifths shows that the rate is over 3 times higher (3.2) in the most deprived fifth. In addition, the confidence intervals show that differences between each fifth of deprivation in Wales are all statistically significant. Information on reducing teenage pregnancy is included in section 8.5 of this report.

Abortions

Legal terminations are undertaken under the Abortion Act 1967, amended by the Human Fertilisation and Embryology Act 1990.[20] Within the confines of these acts, terminations may only be undertaken by registered practitioners and within the NHS or an approved independent provider. It is the responsibility of the doctor to notify the Chief Medical Officer within 14 days of the termination.[19]

Terminations may be undertaken for a variety of reasons, including if there is concern the physical or mental health of the pregnant woman or if there is risk that the child would suffer from physical or mental abnormalities that mean the child is seriously disabled. A termination may only be undertaken on pregnancies under 25 weeks, with the agreement of 2 doctors. In emergencies, the operating practitioner may terminate after 24 weeks gestation if it is to save the pregnant woman's life or to prevent permanent injury or harm to the woman.[20]

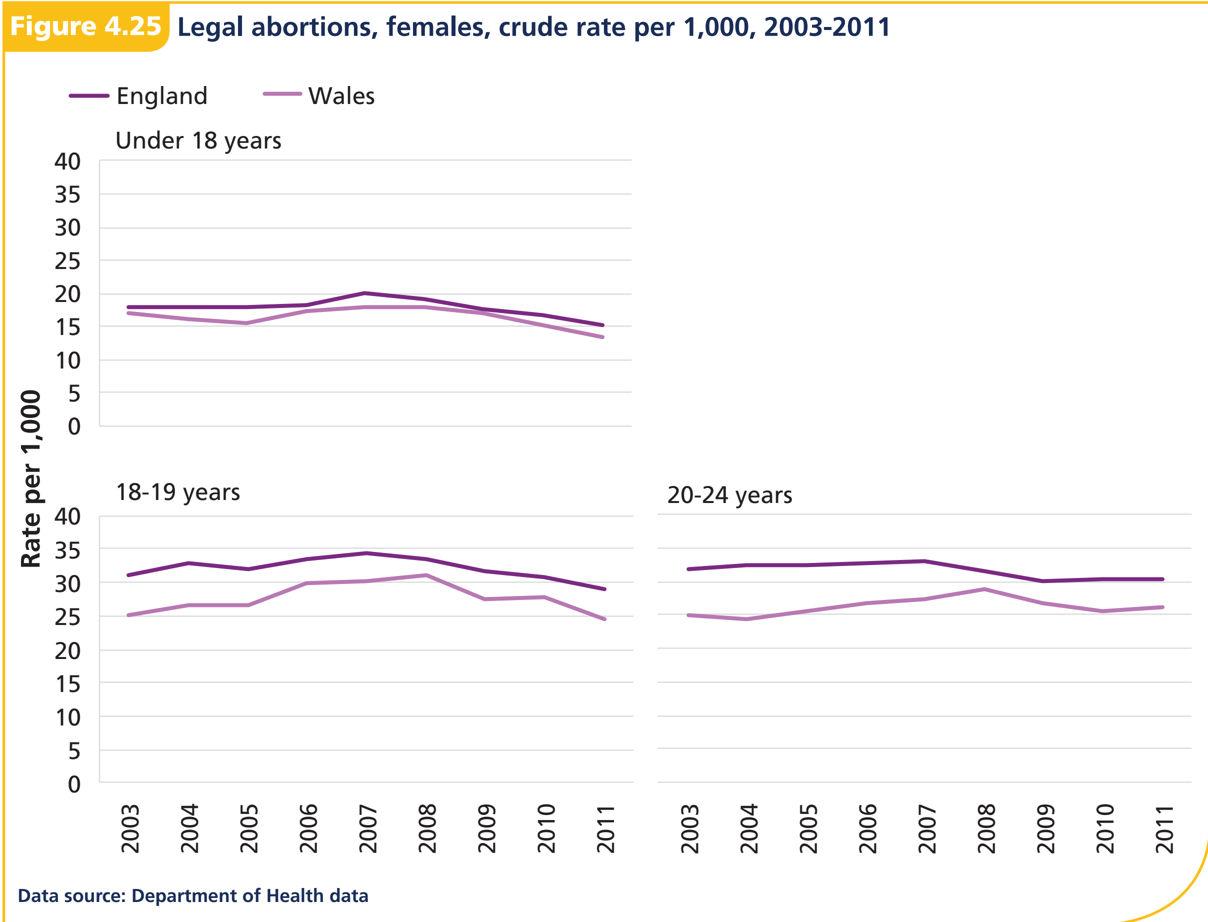
Figure 4.24 Legal abortions, females, crude rate per 1,000, 2011



Data source: Department of Health data & MYE (ONS) *Rate per 1,000 females aged 15-17

Figure 4.24 shows that the highest rates for terminations where the mother is aged under 18 are in Cwm Taf, Betsi Cadwaladr and Cardiff and Vale. Lower rates can be found in Aneurin Bevan, Powys and Hywel Dda. The highest rates of legal terminations for females aged 18-19 years are among residents of Betsi Cadwaladr and Cwm Taf. The lowest rates can be found in Powys and Hywel Dda. Amongst women aged 20-24, the highest rate of terminations is in Cwm Taf, closely followed by Betsi Cadwaladr. Lower rates are seen in Powys, Hywel Dda and Cardiff and Vale. It is in this age group that the termination rate peaks[19], the rate being marginally higher compared to that in 18 and 19 year olds. Figure 4.24 shows that around a third of teenage conceptions amongst those aged under 18 years end in a termination in Wales. Prevention of unintended conceptions amongst those aged under 18 would go some way to minimising terminations in this age group and the dangers associated with it.

Figure 4.25 **Legal abortions, females, crude rate per 1,000, 2003-2011**



Data source: Department of Health data

Figure 4.25 shows that the rate of terminations increases with age and that the overall rates in Wales are less than England. However, the gap between the rates is small amongst those aged less than 18 years, compared to those aged 18-19 and 20-24 years old. The charts suggests that the rate of terminations has been relatively constant throughout the period, with a slight drop over the last few years amongst those aged less than 18 and less than 20 years.

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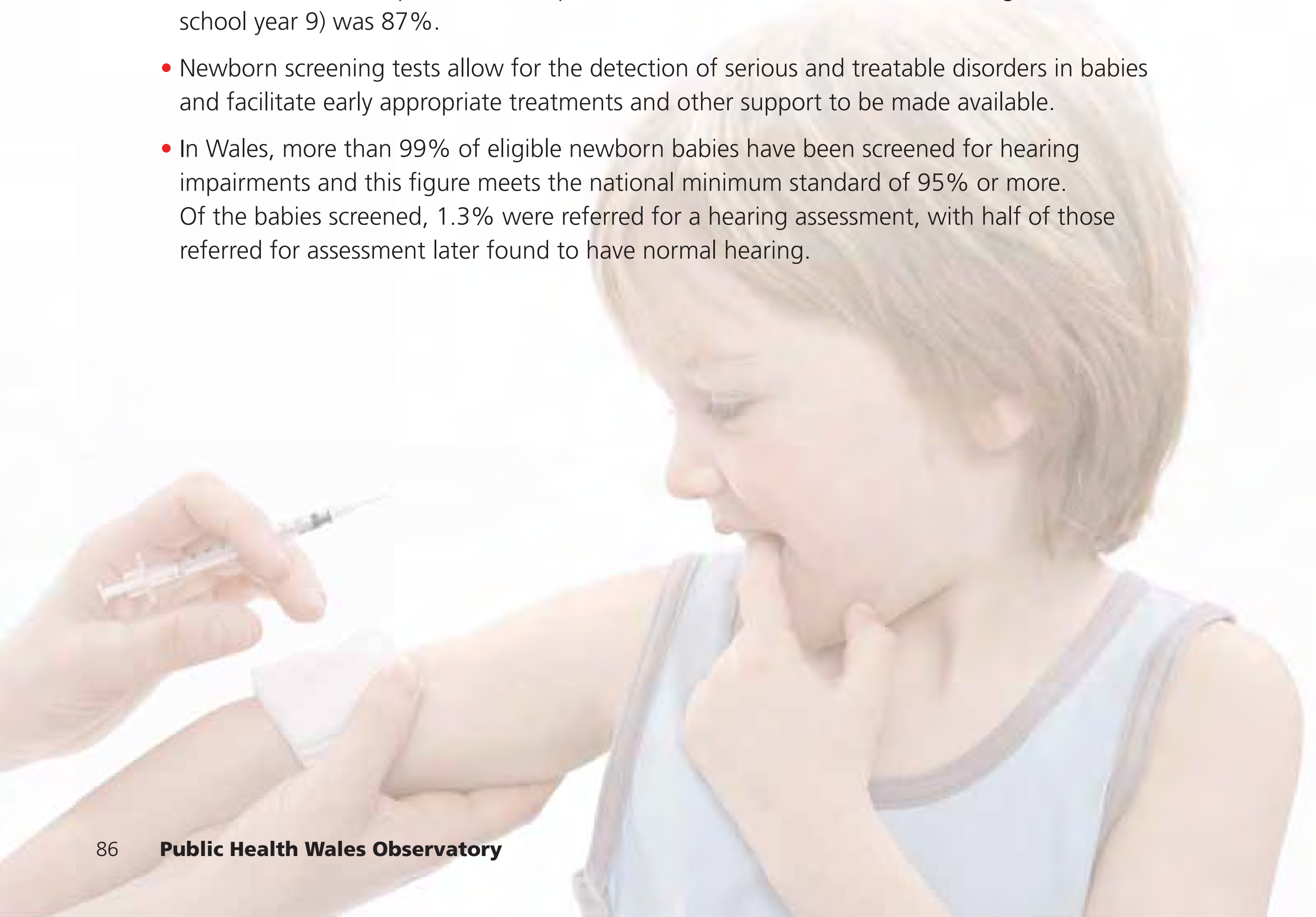
Immunisations and screening

5.1 Immunisations

5.2 Newborn screening

Key messages

- Immunisation is one of the most effective and cost effective ways to protect children against serious infectious diseases.
- The recommended uptake of childhood immunisations is 95%. This uptake confers herd immunity, stopping person to person spread of disease, so as even those who cannot be vaccinated due to their age or underlying health conditions are protected.
- In Wales in 2012/13, 82% of children had completed all the recommended immunisations by their fourth birthday. The percentage of children who were up to date with their routine immunisations varied depending on area of residence. Uptake was lower for children residing in the more deprived areas of Wales.
- Uptake rates for routine immunisations in babies at one year of age are all at or close to the 95% target.
- More than 1,400 cases of measles were reported during a significant outbreak in Wales between November 2012 and May 2013. The majority of confirmed cases were in older children and teenagers. In 2012, only 83% of 16 year olds in Wales had completed a two dose course of the measles, mumps and rubella (MMR) vaccine. An extensive catch-up campaign was launched in 2013 to increase uptake of MMR, particularly in 10-18 year olds. If future large outbreaks are to be avoided there remains a need to ensure that children who have missed out on immunisation previously are offered catch-up vaccinations at every opportunity.
- In September 2008, vaccination against human papillomavirus (HPV) was added to the UK childhood schedule to protect girls from most common types of HPV which can lead to cervical cancer later in life. Uptake of a complete three dose course of HPV vaccine in girls (2011/12 school year 9) was 87%.
- Newborn screening tests allow for the detection of serious and treatable disorders in babies and facilitate early appropriate treatments and other support to be made available.
- In Wales, more than 99% of eligible newborn babies have been screened for hearing impairments and this figure meets the national minimum standard of 95% or more. Of the babies screened, 1.3% were referred for a hearing assessment, with half of those referred for assessment later found to have normal hearing.



Immunisation is described by the World Health Organization as one of the most successful and cost-effective health interventions.[1] It is one of the safest ways to protect children against serious infectious diseases, some of which can be fatal or cause permanent harm to a child's health and well-being.[2]

Newborn screening tests allow for the detection of serious and treatable disorders in babies and facilitate early appropriate treatments and other supports to be made available.[3]

This chapter presents information on childhood immunisation statistics for 4 year old children who are up to date with their routine immunisations, girls receiving the HPV immunisation and MMR immunisation uptake. This chapter also presents information on newborn hearing screening.

5.1 Immunisations

Children and young people in Wales are protected against many serious infectious diseases through immunisation and are offered vaccinations in accordance with the UK Department of Health routine immunisation schedule.[4] The Department of Health publication *Immunisation against infectious disease: the green book* provides the latest information on vaccines which are routinely recommended for children and adults in the UK.[5]

Up to date with immunisations by age four

Babies and young children are routinely immunised against a range of diseases including diphtheria, tetanus, pertussis, polio and haemophilus influenzae type b, pneumococcal infection, meningococcal Group C disease, rotavirus, measles, mumps and rubella.

Public Health Wales monitor uptake levels of all routine childhood immunisations and report them individually through the Coverage of Vaccination Evaluation Rapidly (COVER) scheme.[6] The proportion of children who are up to date with all of their immunisations by their fourth birthday is also reported as an overall marker of compliance with the routine schedule of immunisations.

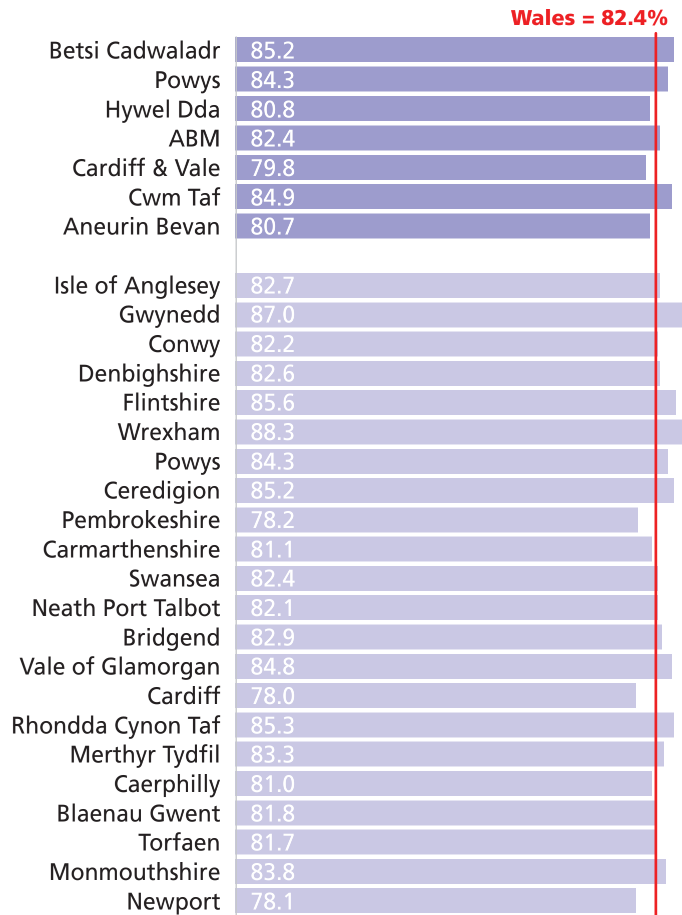
Welsh Government have set a Tier 1 target for health boards, that 95% of all their resident children are up to date with all their routine immunisations by 4 years of age.[7] A 95% uptake for each of the individual immunisations is required to achieve herd immunity. Herd immunity occurs when vaccination uptake is high enough to stop person to person spread of disease, so as even those who cannot be vaccinated due to their age or underlying health conditions are protected.

Figure 5.1 looks at the percentage of children who were up to date with routine immunisations by 4 years of age in 2012. The vaccinations that are included in this analysis are outlined in the technical guide (see www.publichealthwalesobservatory.wales.nhs.uk/childprofile).

Governments '...shall take appropriate measures to combat disease...'.

The United Nations Convention on the Rights of the Child, Article 24.2(c)

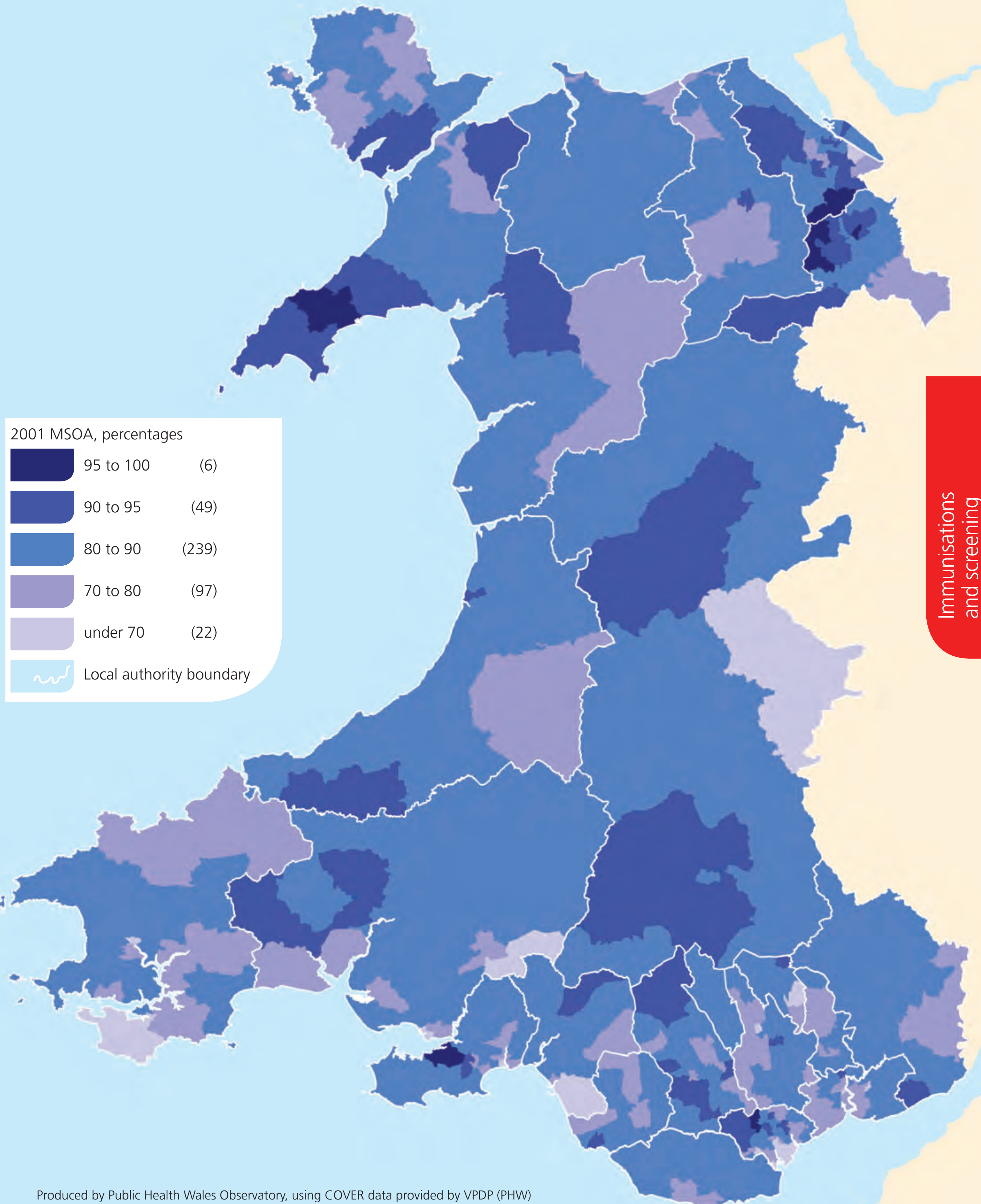
Figure 5.1 % of children up to date with routine immunisations by 4 years of age, 2012



Data source: CDSC & VPDP (PHW)

In Wales, the percentage of children who were up to date with all their routine immunisations by 4 years of age in 2012 was 82%. At the health board level, this ranged from approximately 80% in Cardiff & Vale to just over 85% in Betsi Cadwaladr. At the local authority level, highest percentages were found in Wrexham (88%) and Gwynedd (87%) while lowest percentages were found in Cardiff (78%), Newport (78%) and Pembrokeshire (78%). These figures are considerably lower than the recommended 95% uptake requirement set out by the Welsh Government.[7]

Figure 5.2 % of children up to date with immunisations by 4 years of age, Wales MSOAs, 2012



Produced by Public Health Wales Observatory, using COVER data provided by VPDP (PHW)

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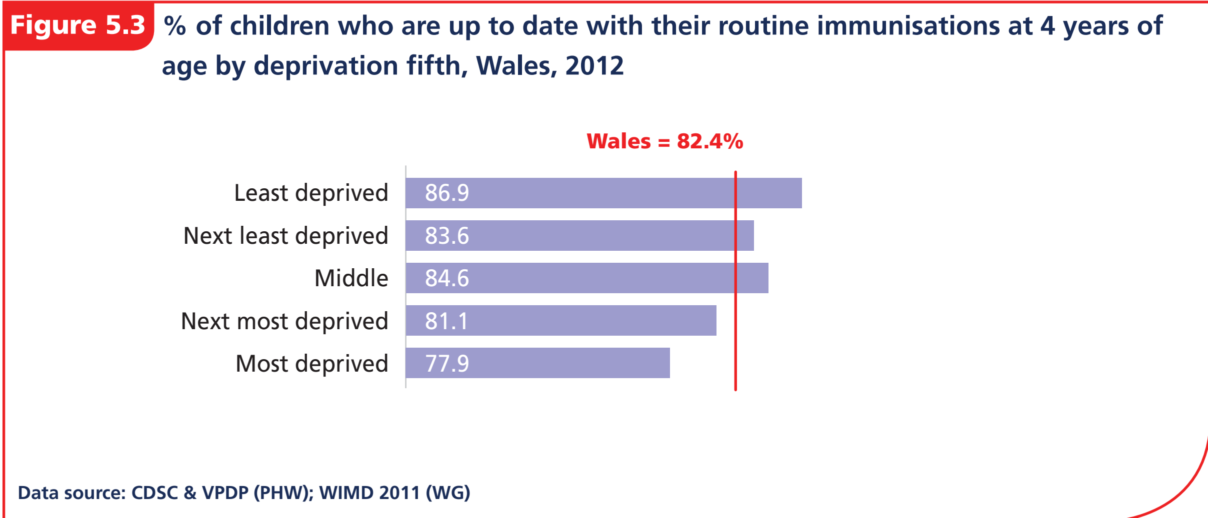
There is considerable variation within local authorities at MSOA level. The map shows that there are only 6 MSOAs in Wales where the 95% target has been achieved. These are the Efail-newydd/Buan area of Gwynedd, the Caergwrle area of Flintshire, the Minera and Stansty areas of Wrexham, the Whitchurch/Tongwynlais area of Cardiff and the Penclawdd area of Swansea. In over half (239 out of 413) of all MSOAs in Wales the percentage of children who are up to date with all immunisations by 4 years of age is between 80 and 90%.

In just over 5% of MSOAs, the percentage up to date by 4 years is less than 70%. Lowest uptake rates are found in the Macot area of Flintshire, the MSOA in Powys which includes the townlands of Beguildy, Llangunllo, Knighton and Old Radnor; the Pembroke and Haverfordwest Garth areas of Pembrokeshire; the Glanmman, Ammanford and Glanymor areas of Carmarthenshire; the Castle area in Swansea; Margam and Tai-bach areas in Neath Port Talbot; the Bargoed area of Caerphilly; the Abertillery area of Blaenau Gwent; the Ringland and Stow Hill areas of Newport and MSOAs in the Cathays, Plasnewdd, Adamstown, Splott, Grangetown and Ely areas of Cardiff.

Deprivation

The percentage of children who were up to date with their routine immunisations by 4 years of age is also presented using the national fifth of deprivation of the LSOA in which the children reside.

Figure 5.3 % of children who are up to date with their routine immunisations at 4 years of age by deprivation fifth, Wales, 2012



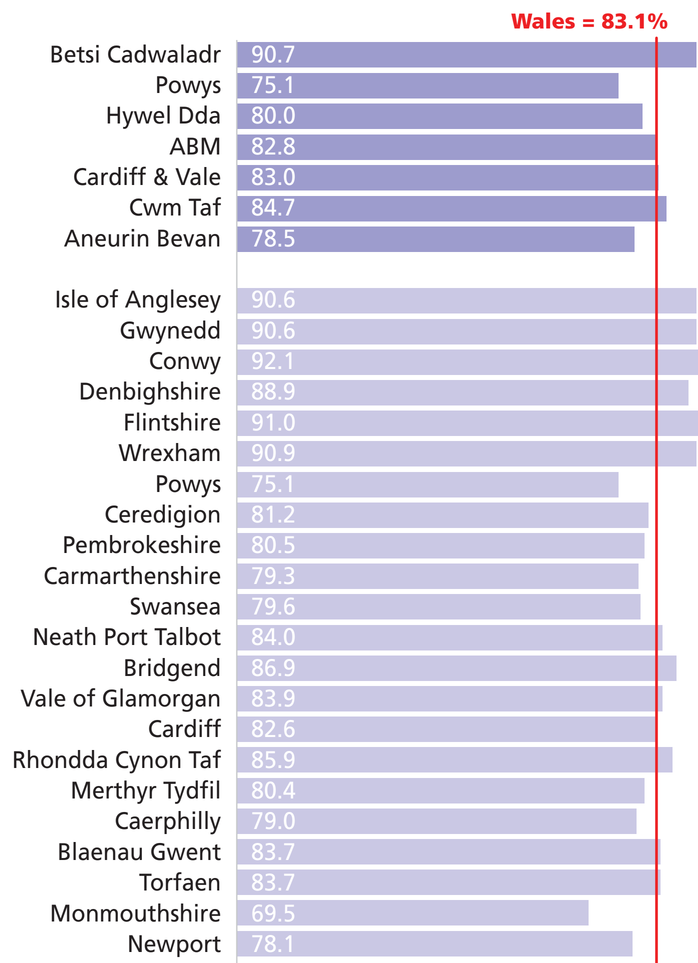
Data source: CDSC & VPDP (PHW); WIMD 2011 (WG)

In Wales, the percentage of children up to date with their routine immunisations by 4 years of age ranged from 78% in the most deprived fifth of LSOAs to 87% in the least deprived fifth.

Measles mumps rubella immunisation

Increasing and maintaining high levels of uptake of MMR immunisation uptake are key to preventing outbreaks of measles, mumps and rubella. There has been a recent increase in the number of measles cases in Wales with more than 1,400 cases reported between November 2012 and May 2013. The majority of these cases have been associated with an outbreak affecting Abertawe Bro Morgannwg, Hywel Dda and Powys health board areas. The majority of confirmed cases have been in older children and teenagers, where uptake of MMR vaccine is lower than the levels seen in children currently attending for their routine MMR vaccinations.[6]

Figure 5.4 **% of persons aged 16 who have completed a 2 dose course of the MMR vaccine, 2012**



Data source: CDSC & VPDP (PHW)

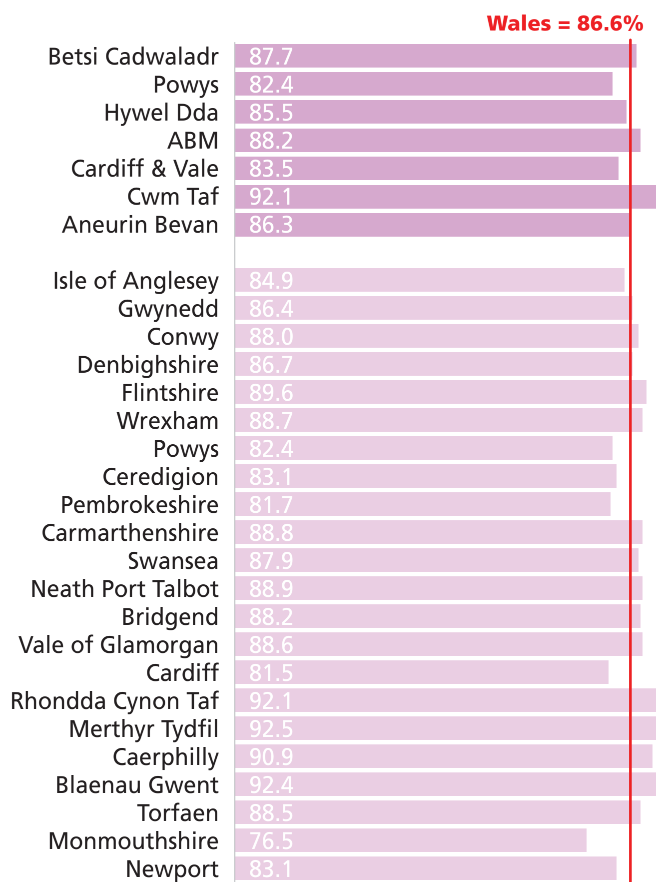
In 2012, only 83% of 16 year olds in Wales had completed a 2 dose course of the MMR vaccine. At the health board level, percentages ranged from just 75% in Powys to 91% in Betsi Cadwaladr. At the local authority level, there is considerable variation between local authorities. Conwy (92%) and Flintshire (91%) had the highest percentages while Monmouthshire (70%) and Powys (75%) had the lowest percentages of 16 year olds who completed a 2 dose course of the MMR vaccine.

The herd immunity target of 95% coverage of 2 doses of MMR was not achieved meaning that measles, mumps and rubella continued to have the potential to be transmitted in this age group in Wales during 2012. In order to reduce the risk and incidence of measles, mumps and rubella, and prevent future outbreaks of these potentially fatal diseases, children and teenagers who have missed out on these vaccinations should be offered the vaccine at every available opportunity.[6]

Human papillomavirus immunisation

In September 2008, a new vaccine called the HPV vaccine was added to the UK Childhood Immunisation schedule. There are many different types of HPV, primarily passed on through sexual contact. High risk types of HPV can lead to cervical cancer later in life; the vaccine protects against the most common cancer-causing types of HPV. The HPV vaccine is given to 12-13 year old girls, in 3 doses over a period of 6 months. In Wales, the vaccine is usually given by nurses in schools.

Figure 5.5 % of girls completing a 3 dose course of HPV vaccine, school year 9, 2012/13



Data source: CDSC and VPDP (PHW)

In 2012/13, uptake of a complete 3 dose course of HPV vaccine in school year 9 girls was 87%. At the health board level, percentages range from 82% in Powys to 92% in Cwm Taf. At the local authority level, the highest percentages are seen in Merthyr Tydfil (93%) and Blaenau Gwent (92%), while the lowest percentages are seen in Monmouthshire (77%) and Cardiff (82%).

In all equivalent reporting systems in all countries in the UK for 2009/10, the percentage of girls receiving a 3 dose course of the HPV vaccine in Wales (77%) has been similar to England (76%) but lower than Scotland (87%) and Northern Ireland (83%).[8]

Improving vaccinations and immunisation uptake

Recommendations on improving vaccination and immunisation uptake from the National Institute for Health and Health Care Excellence (NICE) public health guidelines are available in Chapter 8.

Along with the guidelines set out by NICE, further guidance on improving uptake of immunisation is available from the Public Health Wales Vaccine Preventable Disease Programme (www.wales.nhs.uk/immunisation). Within Wales, specific actions include:

Who should take action	Recommended actions
Health Boards: Directors of Public Health, Immunisation Coordinators, School Nursing Services, Child Health Offices and Primary Care	In order to reduce the risk of children reaching school age without protection against measles, mumps or rubella, health boards and GP practices are obliged to adopt uniform procedures in the routine follow up of immunisation defaulters pre-school age children and upon school entry.[9] Detailed guidance on local procedures for follow up of children is set out in the WHC 2005(081).[9]
Health Boards: Child Health Offices, Immunisation Coordinators. Public Health Wales	Implementation of advice on how the Child Health System in Wales should be used to support improvements in immunisation coverage (and data quality) as set out in the All Wales Child Health Immunisation Process Standards.[10]
Health Boards: all levels	Targets and expectations for delivery of immunisation services are highlighted in the NHS Wales *Delivery Framework 2013-14 and Future Plans*.[7] These are the Tier 1 targets relating to immunisation and young people: • 75% uptake of influenza vaccination among: o Under 65s in at risk groups o Pregnant women • 95% vaccination of all children to age 4 with all scheduled vaccines.

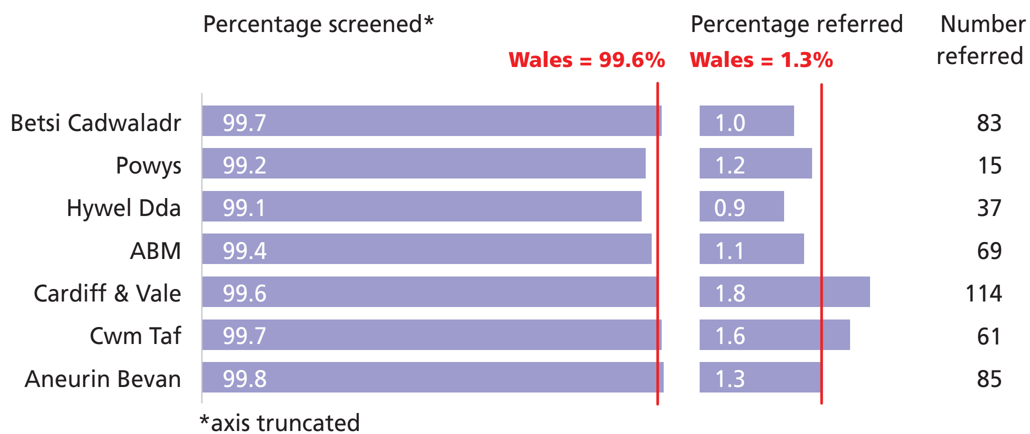
5.2 Newborn screening

The aim of newborn screening is to detect newborn babies with serious, treatable disorders so as to facilitate appropriate interventions to avoid or improve adverse outcomes.[3] The Public Health Wales Screening Division manages the Newborn Hearing Screening Wales Programme and is also undertaking a project to establish a safe and sustainable Newborn Bloodspot Screening Wales Programme.

Newborn bloodspot screening involves taking a small sample of blood from the baby's heel at day 5 to 8 of life, ideally on day 5 (counting day of birth as day 0). The blood sample is screened for rare but serious diseases that respond to early intervention to reduce mortality and/or morbidity. The screening test is part of routine post natal care.[11] In Wales the conditions currently screened for are congenital hypothyroidism, cystic fibrosis, phenylketonuria, medium chain acyl-CoA dehydrogenase deficiency and sickle cell disorders.[12]

Newborn hearing screening was first started in North Wales in March 2003 and was extended in October 2004 with Newborn Hearing Screening Wales becoming the first fully implemented national newborn hearing screening programme in the UK. The Newborn Hearing Screening Wales programme offered screening to more than 99% of eligible babies in Wales in 2011/12, with very few parents declining the screening.[13]

Figure 5.6 **% babies screened by the newborn hearing screening programme and those then referred for a hearing assessment, 2011/12**



Data source: NBHSW Annual Report, March 2013

Figure 5.6 shows in Wales, more than 99% of eligible newborn babies have been screened. This figure meets the national minimum standard of 95% or more.[13] In all health boards, over 99% of eligible newborn babies have been screened for hearing impairment in the financial year 2011/12. Babies who do not meet the newborn hearing test requirements are subsequently referred to their nearest audiology department for an assessment. The chart on the right of figure 5.6 shows that 1.3% of babies in Wales were referred for a hearing assessment in 2011/12, ranging from 0.9% (37 babies) in Hywel Dda to 1.6% (61 babies) in Cwm Taf.

Of those babies referred for a hearing assessment 50% (231/464) were found to have normal hearing.[13]

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Health and use of health services

6.1 Health and well-being

6.2 Disease/chronic condition prevalence

6.3 Dental health

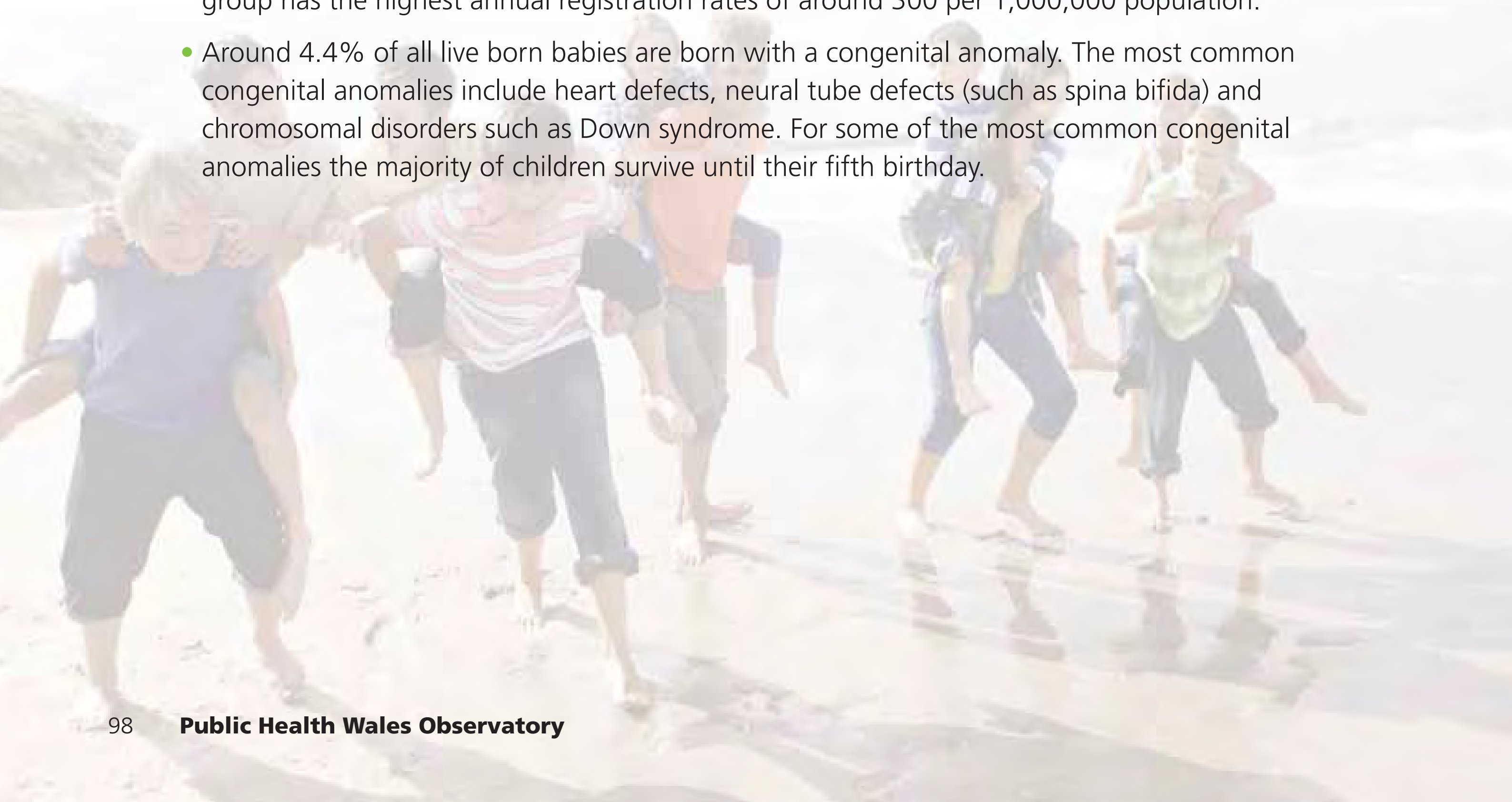
6.4 Emergency department attendances

6.5 Hospital admissions

6.6 Injuries

Key messages

- In Wales, over three quarters of children aged 11-16 rate their health as excellent or good; however, among both boys (81%) and girls (74%) this is lower than the percentage in England, Scotland and Ireland. Those from more affluent families report higher levels of good health.
- When asked to rate their quality of life on a scale of 0 to 10 (0=worst possible life and 10=best possible life) 80% of males and 86% of females aged 11-16 in Wales scored themselves 6 or higher. When compared with England, Scotland and Ireland, Wales exhibited the lowest percentage scoring 6 or higher in both males and females.
- In 2011, over 25,000 males and almost 20,000 females aged 0-24 reported a long-term health problem or disability in Wales which equates to 4.3% of females and 5.7% of males. This is higher than the percentage for England and any English region. The highest percentages in Wales are seen in Neath Port Talbot and across the south Wales valleys.
- Mental health and well-being is high on the Government's agenda due to the significant impact it has on individuals, society and the economy overall. The Welsh Government's mental health strategy, *Together for mental health*, intends to promote mental wellbeing and where possible prevent mental health problems developing. In 2011, over 40,000 children and young people aged 5-16 were estimated to have a mental health disorder in Wales.
- In 2009/10, the percentage of 11-16 year olds reporting being bullied in the last couple of months in Wales was 30% for males and 27% for females.
- Eating disorders include conditions which affect people socially, physically and psychologically and can in extreme cases result in death. In Wales, 37% of girls and 25% of boys aged 11-16 years old perceive their bodies as too fat. However, 15% of girls and 21% of boys of the same age are overweight or obese which suggests that girls have an inaccurate perception of their weight.
- The most common cancers for children and young people are leukaemia, lymphomas (both Hodgkin's and non-Hodgkin's) and brain and central nervous system (CNS). The 18-24 age group has the highest annual registration rates of around 300 per 1,000,000 population.
- Around 4.4% of all live born babies are born with a congenital anomaly. The most common congenital anomalies include heart defects, neural tube defects (such as spina bifida) and chromosomal disorders such as Down syndrome. For some of the most common congenital anomalies the majority of children survive until their fifth birthday.



- The evidence supporting fluoride in reducing dental decay is well established; local priorities for action at a community level are the use of fluoride toothpaste and fluoride varnish. The highest average number of decayed, missing and filled teeth per child is in Blaenau Gwent (3.1).
- Almost 280,000 children and young people aged 0-24 (3 in 10) attended an emergency department in 2011, with males accounting for 55% of the attendances by children and young people aged 0-24. Over a third (37%) of those aged 0-24 attending emergency departments made more than one attendance. The highest rates are seen in the 18-24 year age group and are likely to be attributable to alcohol related attendances, vehicle accidents and sport injuries.
- Around 1 in 10 children and young people aged 0-24 were admitted to hospital as an emergency in 2011. Major causes of admission for 0-4 year olds are respiratory disease and infections whereas for 5-24 year olds the most common cause of admission is injury/poisoning. Rates of emergency admission to hospital are highest for 0-24 year olds in the Merthyr Tydfil and Bridgend local authority areas and across the south Wales valleys. Emergency admission rates may depend on a large number of factors, including underlying population need, provision of services including elective, emergency, community and primary care services as well as patient/parental behaviour in seeking health care.
- Injuries are a major public health issue across the globe. In 2011 there were over 15,000 admissions to hospital of 0-24 year olds due to injuries. Children from more deprived areas are more likely to be admitted to hospital as an emergency as the result of a pedestrian injury than those from the less deprived areas.

Governments '... recognize the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health.'

The United Nations Convention on the Rights of the Child, Article 24.1

The health of children is an important consideration. Influences on health at a young age will continue throughout childhood and into adulthood; resulting in improved well-being in adults.[1] Giving every child a healthy start in life is one of the seven principles identified by the Welsh Government in the strategic action plan to reduce health inequities.[2]

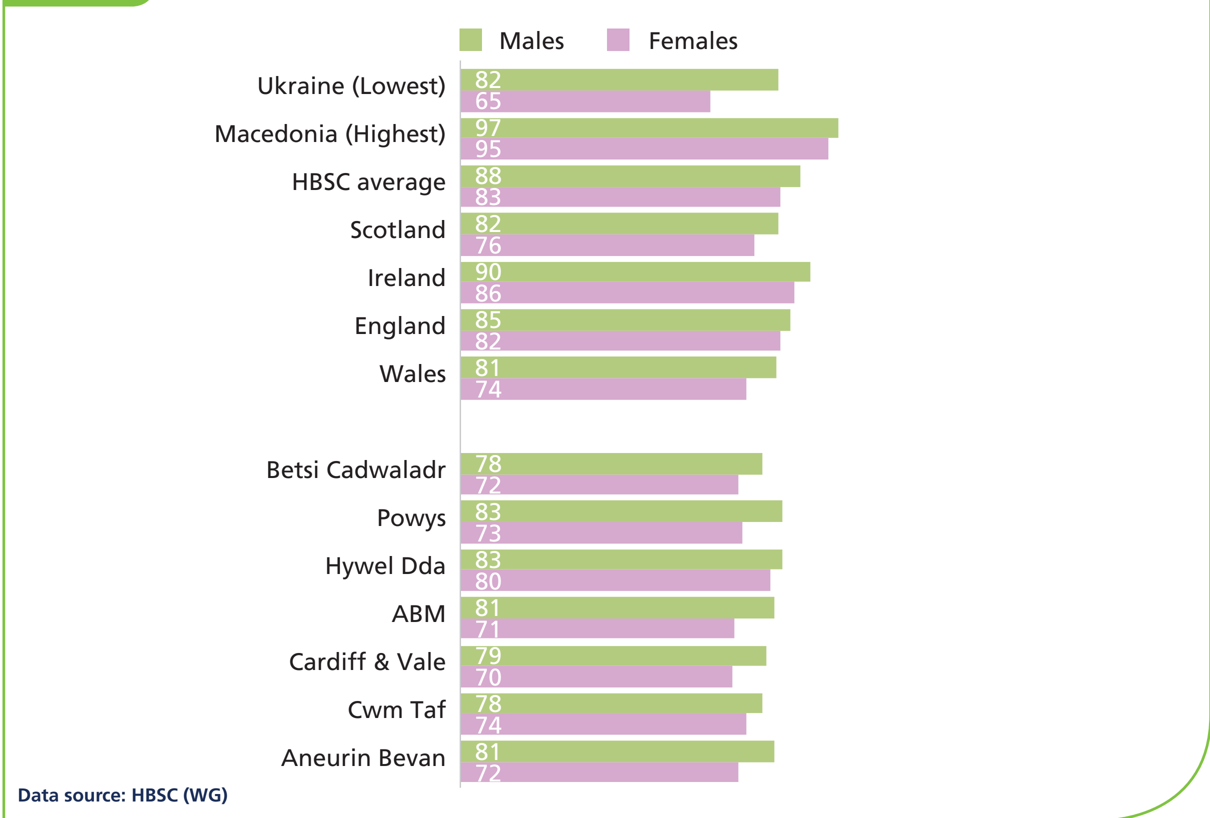
This chapter comprises a large number of measures from a variety of sources which reflect young people's health and well-being. Also included are a number of health service measures related to health outcomes for children and young people.

6.1 Health and well-being

In order to improve the health of children and young people it is essential to understand the social determinants. This will inform policy and practice and ensure that the appropriate interventions can be determined and put in place. The Children Act 2004 places a duty on local agencies to co-operate to improve the well-being of children, including their mental health and emotional health.[3]

The Health Behaviour in School-aged Children (HBSC) survey is a cross-national research study conducted in collaboration with the World Health Organization (WHO) Regional Office for Europe[4] as described in chapter 4 of this report. Figure 6.1 shows the percentage of 11-16 year olds rating their health as excellent or good. It can be seen that the percentage of children for Wales is lower than the HBSC average for both males and females. Wales is seen to have lower (worse) percentages for males and females when compared to England, Scotland and Ireland. The percentage rating their health as excellent or good is higher for males than females for all areas.

Figure 6.1 **% of persons aged 11-16 who rated their health as excellent or good, 2009/10**



Data source: HBSC (WG)

Hywel Dda Health Board has the highest percentage of 11-16 year old males and females rating their health as excellent or good, 83% and 80% respectively. The lowest percentages can be seen in Cardiff and Vale for females (70%) and Betsi Cadwaladr and Cwm Taf for males (78%).

The HBSC Family Affluence Scale (FAS) measure is described in section 4.10 and in the technical guide which can all be accessed on the Public Health Wales Observatory website at: www.publichealthwalesobservatory.wales.nhs.uk/childprofile

Figure 6.2 shows the percentage of 11-16 year olds rating their health as excellent or good stratified by FAS and also for school years 7 to 11 which correspond to 11-16 year olds.

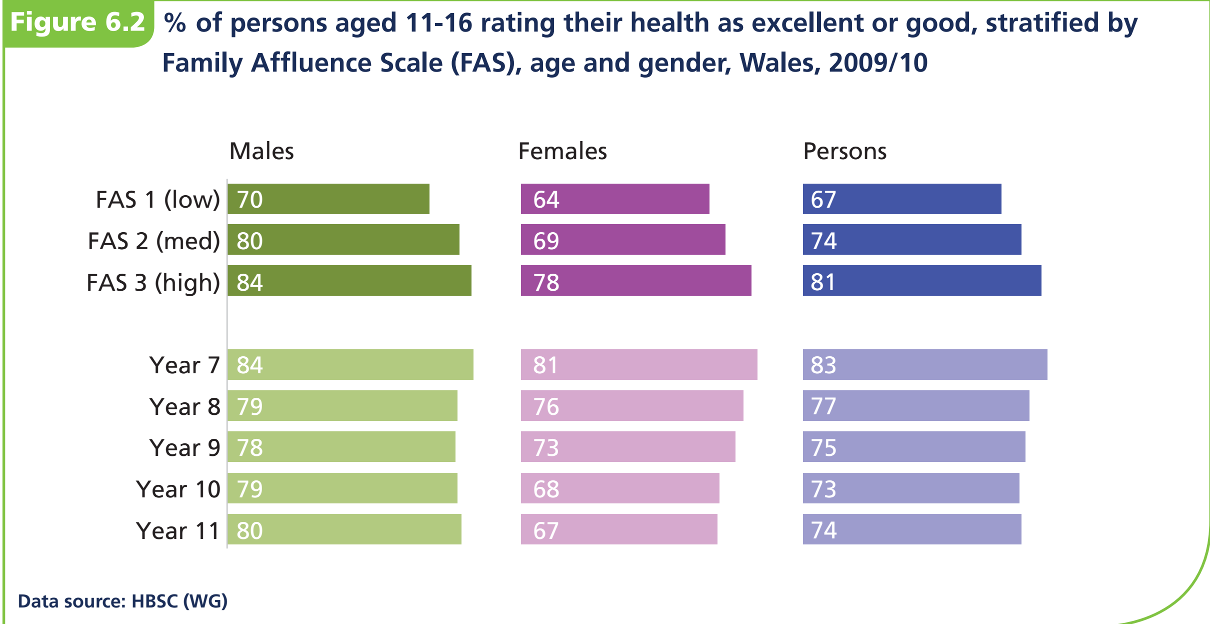


Figure 6.2 **% of persons aged 11-16 rating their health as excellent or good, stratified by Family Affluence Scale (FAS), age and gender, Wales, 2009/10**

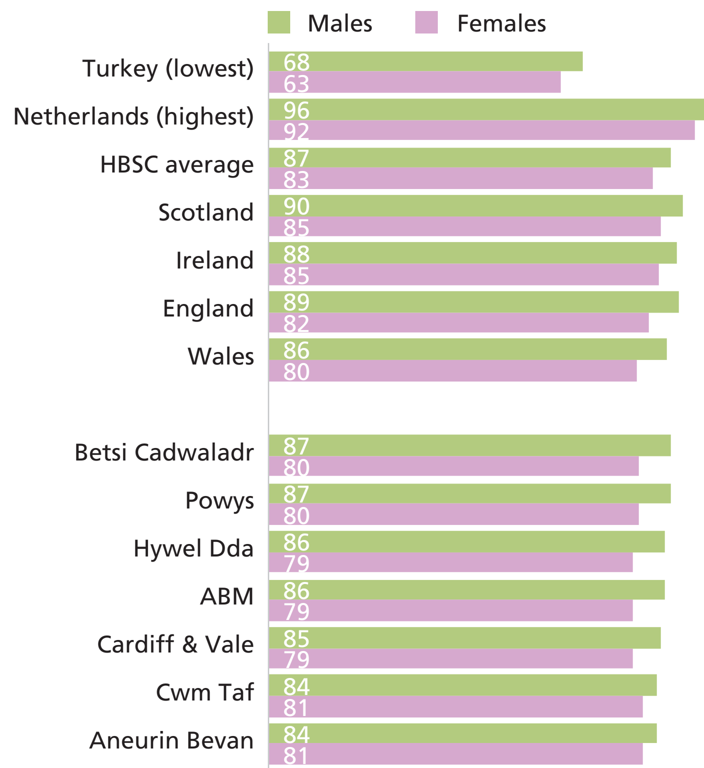
Data source: HBSC (WG)

A higher FAS is associated with a higher percentage of 11-16 year olds rating their health as excellent or good; this is true for both males and females. In the low FAS, 67% of 11-16 year olds rate their health as excellent or good compared to 81% in the high FAS i.e. those from the most deprived households were more likely to rate their health lower than those from the most affluent households.

Looking at the data by age and sex, the percentage of females aged 11-16 rating their health as excellent or good is considerably lower in year 11 (67%) compared to year 7 (81%). This pattern is not replicated in males.

When asked to rate their quality of life on a scale of 0 to 10 (0=worst possible life and 10=best possible life) 80% of males and 86% of females aged 11-16 in Wales scored themselves 6 or higher (Figure 6.3). When compared with England, Scotland and Ireland, Wales exhibited the lowest percentage scoring 6 or higher in both males and females. Similar patterns are observed across all 7 health board areas in Wales with over 3 quarters of 11-16 year old males and females scoring 6 or higher on the quality of life scale.

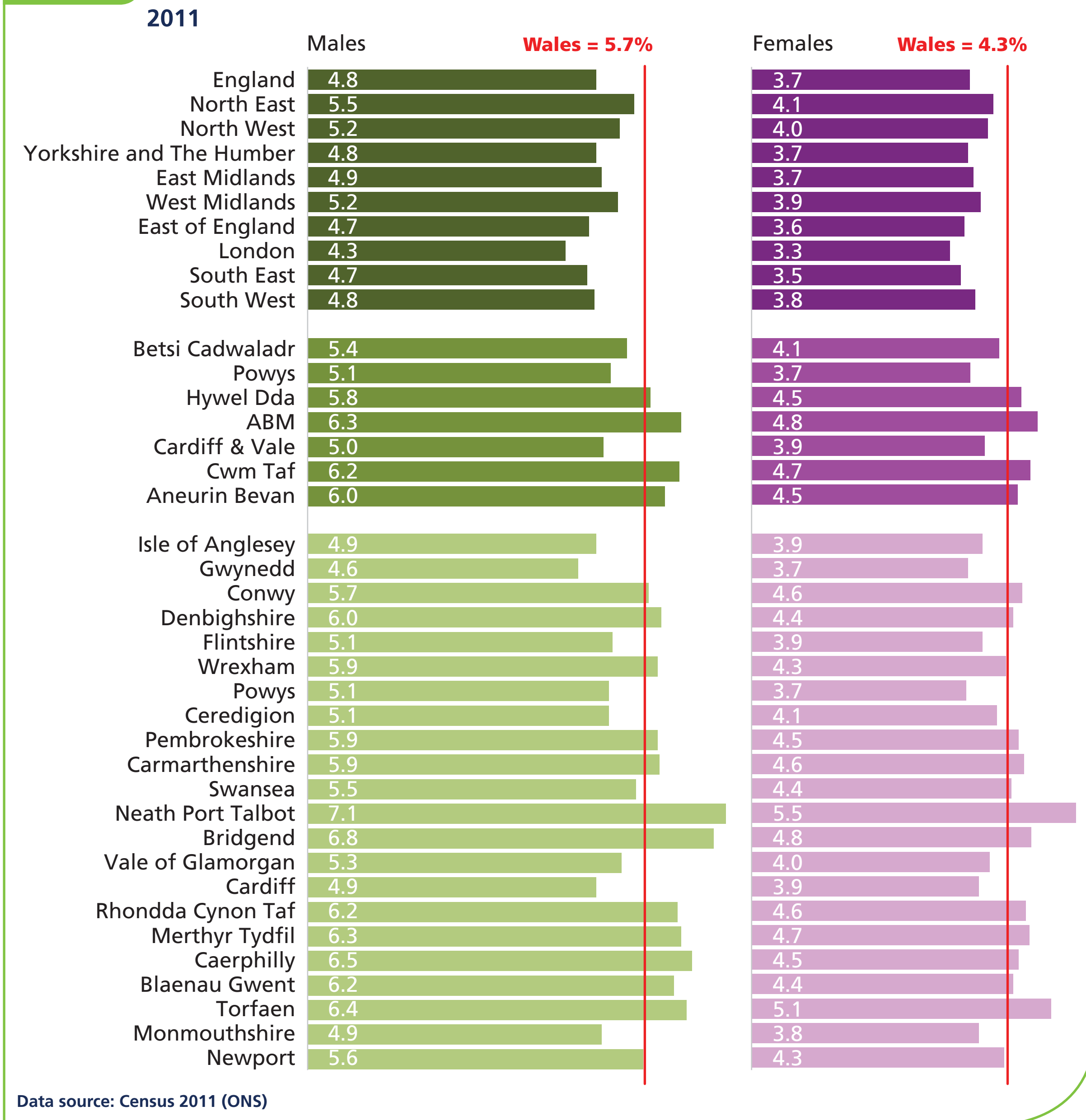
Figure 6.3 % of persons aged 11-16 scoring six or higher on self rated quality of life, 2009/10



Data source: HBSC (WG)

A long-term health problem or disability is one that limits a person's day-to-day activities and has lasted, or is expected to last, at least 12 months.[5] From the 2011 Census, over 25,000 males and almost 20,000 females aged 0-24 reported a long-term health problem or disability in Wales which equates to 4.3% of females and 5.7% of males (Figure 6.4). Wales had the highest percentage when compared to England and its regions for both males and females.

Figure 6.4 % of males and females aged 0-24 with a long-term health problem or disability, 2011



Data source: Census 2011 (ONS)

At the health board level, the percentage of 0-24 year olds who reported a long-term health problem or disability is highest in Abertawe Bro Morgannwg for both males (6.3%) and females (4.8%). The lowest percentages are seen in Cardiff and Vale for males (5.0%) and Powys for females (3.7%).

Further variation can be seen across local authority areas for both males and females.
The highest percentage reporting a long-term health problem or disability occurs in Neath Port Talbot for both females and males (5.5% and 7.1% respectively) whilst the lowest percentages occur in Gwynedd and Powys for females (3.7%) and in Gwynedd for males (4.6%).
The percentages of 0-24 year olds reporting a long-term health problem or disability is higher in males than females across all areas.

The Welsh Government's strategic equality plan contains equality objectives to ensure that public services and employment are fair, accessible and responsive to people's need.[6]

Information on interventions for improving mental well-being is included in section 8.7 of this report.

Bullying and friendship

Individuals develop social skills, enhance their self esteem and gain social support when establishing friendships, all of which contribute to a person's health and well-being.[7] Exposure to bullying increases the risk of health problems and unhappiness in children and young people.[8-11] It has been shown that these health problems extend into adulthood.[12] The impact of bullying on young children has been highlighted by the Child Death Review Pilot, as part of the thematic review into young people taking their own life.[13]

This section of the report examines friendship and bullying in 11-16 year olds using data from the HBSC survey.

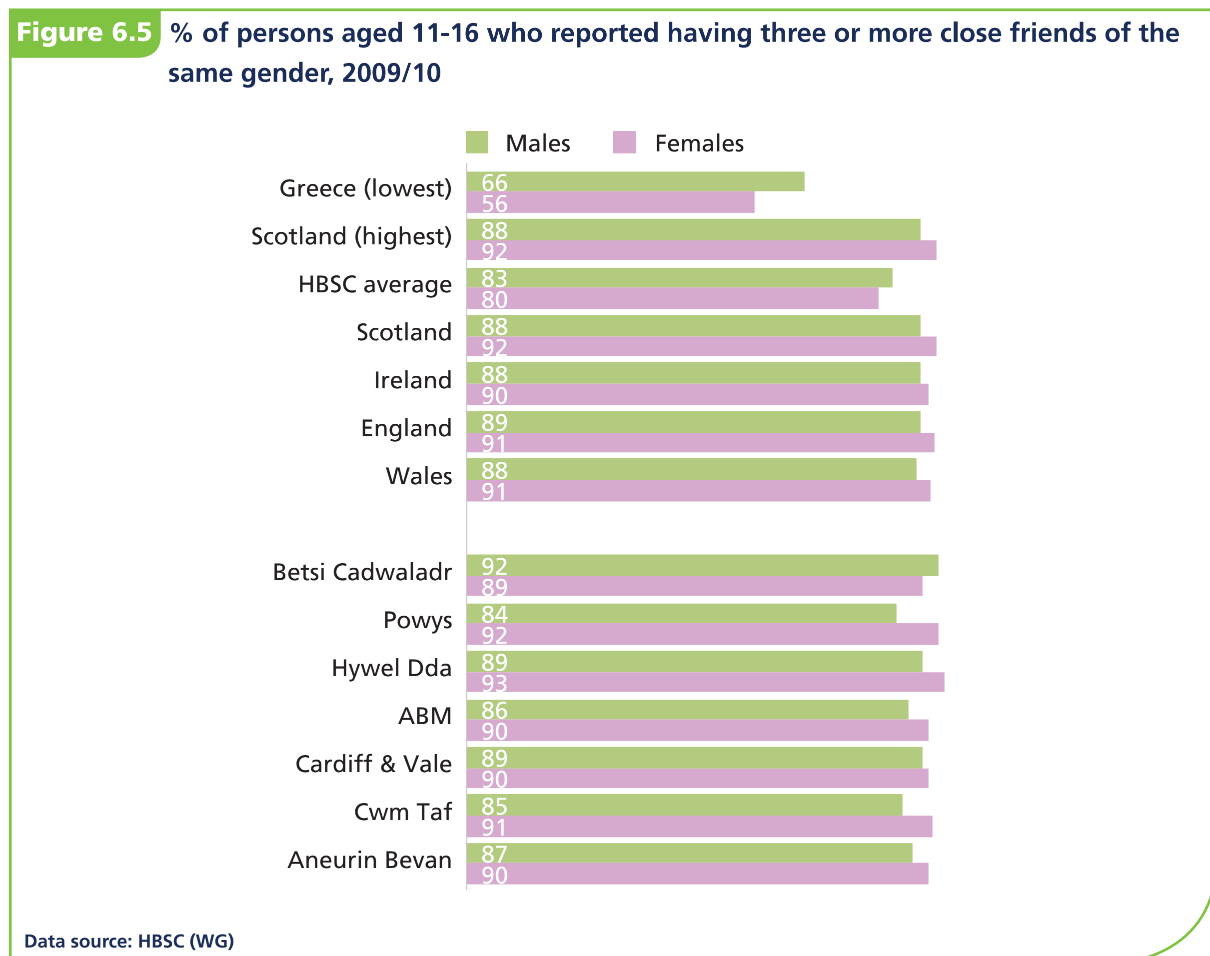


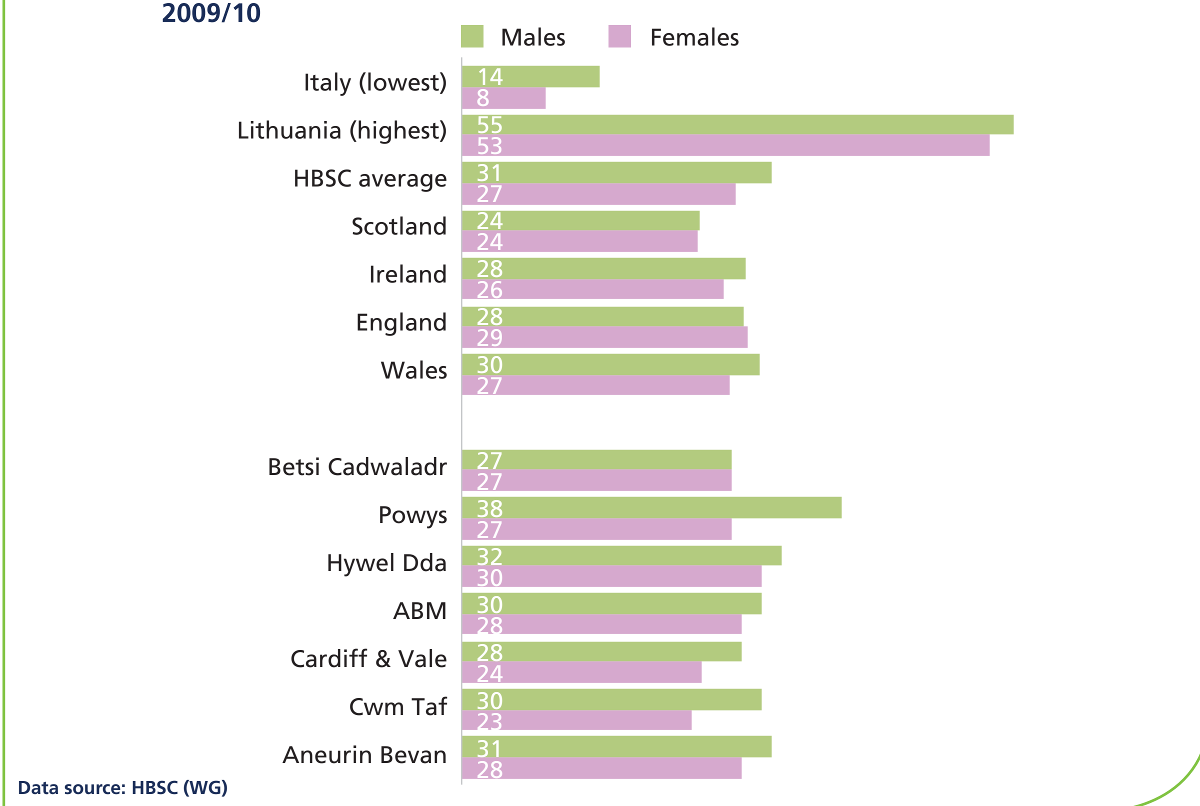
Figure 6.5 % of persons aged 11-16 who reported having three or more close friends of the same gender, 2009/10

Data source: HBSC (WG)

In Wales, 88% of boys and 91% of girls aged 11-16 years old in Wales reported having 3 or more close friends of the same gender (Figure 6.5). Similar percentages were reported across England, Scotland and Ireland.

Across health boards, for males the percentages range from 84% in Powys to 92% in Betsi Cadwaladr and for females the percentages range from 89% in Betsi Cadwaladr to 93% in Hywel Dda. The percentage of 11-16 year olds who reported having 3 or more close friends of the same gender is higher in females than males across all Welsh health boards apart from Betsi Cadwaladr where this pattern is reversed.

Figure 6.6 % of persons aged 11-16 reporting being bullied in the last couple of months, 2009/10



Data source: HBSC (WG)

In 2009/10, the percentage of 11-16 year olds reporting being bullied in the last couple of months in Wales was 30% for males and 27% for females (Figure 6.6). Scotland had the lowest percentage reported for both males (24%) and females (24%) when compared with other regions of Great Britain and Ireland. Compared to the other countries taking part in the survey the percentages reporting being bullied in Wales were comparable to the survey averages and almost half that of the country reporting the highest percentages (Lithuania).

At the health board level, Powys had the highest percentage of males aged 11-16 years old reporting being bullied in the last couple of months (38%) and Betsi Cadwaladr had the lowest (27%). The percentage of females was similar across all health board areas, ranging from 23% in Cwm Taf to 30% in Hywel Dda.

Eating disorders

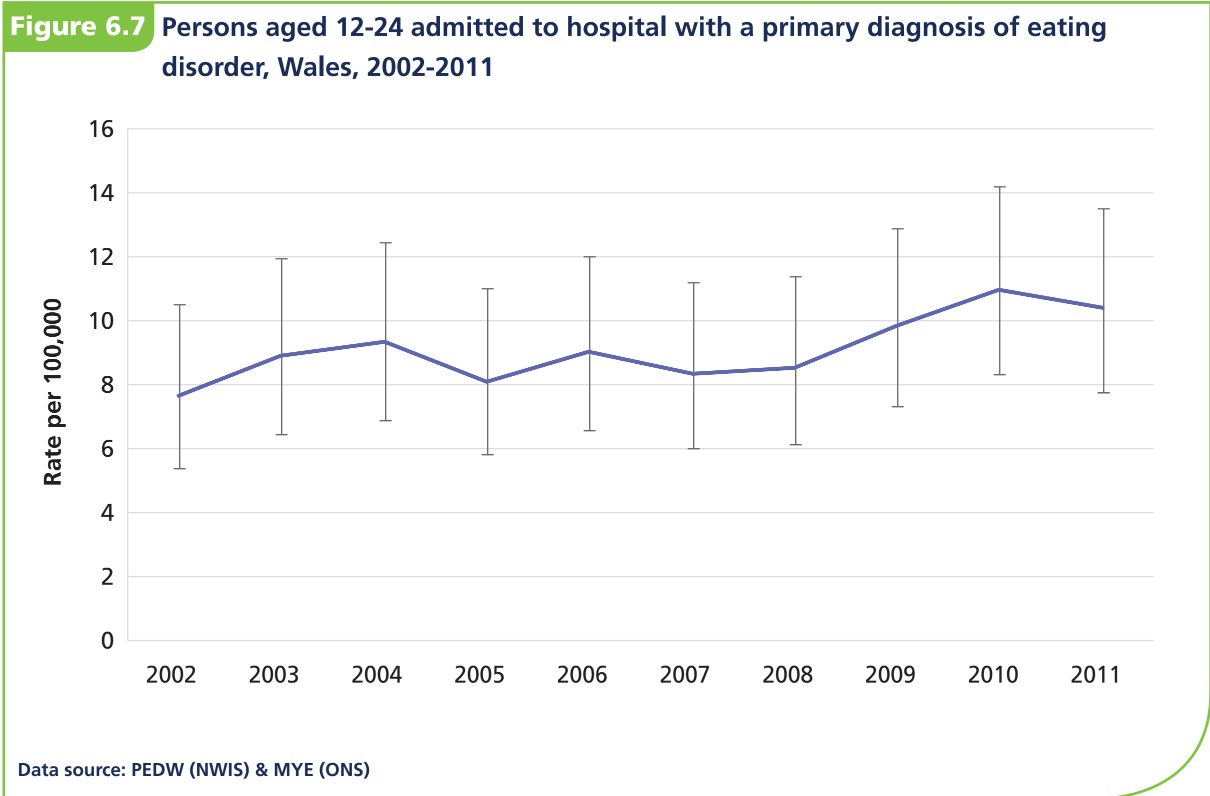
Eating disorders include conditions which affect people socially, physically and psychologically. These conditions are very serious and can affect both males and females. The Third National Survey of Morbidity in General Practice reported that 100 per 100,000 females and 60 per 100,000 males (all ages) consulted their general practitioner for anorexia nervosa.[14]
Early identification and appropriate interventions are essential in order to improve a person's outcome. One of the risk factors associated with eating disorders is low self esteem which is influenced by the way a person perceives their own body.[14]

In Wales, 37% of girls and 25% of boys aged 11-16 years old perceive their bodies as too fat. However, comparisons with the figures for the percentage of 11-16 year olds who were overweight or obese (Figure 5.7) suggests that girls have an inaccurate perception of their weight since 15% of girls were overweight or obese compared to 21% of boys. However, these findings may be affected by the fact that height and weight is self reported and by the threshold used to classify overweight in children.

Figure 6.7 shows the age-specific rates per 100,000 population of hospital admissions with a primary diagnosis of eating disorder in persons aged 12-24 in Wales. A person may have been admitted more than once in a given year but has only been counted once per year in this analysis. The rate increased from 7.7 per 100,000 population in 2002 to 10.4 in 2011, however, further analysis showed that this is not a statistically significantly increasing trend (χ^2 trend = 2.97, $p>0.05$).

Between 2002 and 2011, the average number of people aged 0-24 admitted per year for an eating disorder was 46. Nine in 10 admissions for eating disorders in persons aged 12-24 in the period 2002 to 2011 were female. In 2002-2011, 64% of all admissions for eating disorders in persons aged 12-24 were aged 12-17 and 36% were aged 18-24.

Figure 6.7 **Persons aged 12-24 admitted to hospital with a primary diagnosis of eating disorder, Wales, 2002-2011**



Data source: PEDW (NWIS) & MYE (ONS)

Patients in Tier 3 and Tier 4 eating disorder care are the high risk patients who would benefit from intensive interventions and therefore represent the 'tip of the iceberg' with the majority of patients being cared for in primary care (Tier 1). In July 2013, more than 70 persons aged 18-24 in Wales were receiving Tier 3 or Tier 4 care for eating disorders (figures provided by the Community Adult Eating Disorders Services (CAEDS)).

In responding to the emerging problem of childhood obesity, policy makers will need to be mindful of the risk that an unwanted side effect of any intervention intended to reduce obesity levels may increase the percentage of adolescents engaged in inappropriate weight control.[15]

Mental Health

It is estimated that mental health problems affect a quarter of adults and 1 in 10 children.[16] Mental health and well-being is high on the government's agenda due to the significant impact it has on individuals, society and the economy overall. The Welsh Government's mental health strategy, *Together for mental health*[17], intends to promote mental wellbeing and where possible prevent mental health problems developing. This strategy identifies the need to develop better links with services such as the Child and Adolescent Mental Health Services (CAMHS).

Mental ill health impacts on the ability to provide positive parenting and this is particularly important in the first two years of life when attachments are forming and brain development is most rapid.[18] Good parental mental health is an essential component of secure attachment. This has an important role to play in children's physical health; brain development; self esteem; social skills; and emotional competence.

Due to a lack of data available on mental health, the estimated number of 5-16 year olds with any mental disorder were produced by applying prevalence estimates (9.6%) published by Green et al (2004)[19] to the 5-16 year old population of Wales. Figure 6.8 shows that in 2011, over 40,000 children and young people aged 5-16 were estimated to have a mental health disorder in Wales. The numbers ranged from 1,700 in Powys to almost 9,000 in Betsi Cadwaladr, reflecting the different children's population sizes in these areas.

Figure 6.8 **Estimated number of children and young people aged 5-16 with any mental health disorder, 2011**

	Population	Estimated number (95% confidence interval)	
Betsi Cadwaladr	91,670	8,830	(8,656 to 9,006)
Powys	17,860	1,700	(1,624 to 1,778)
Hywel Dda	50,170	4,900	(4,772 to 5,032)
ABM	68,830	6,701	(6,550 to 6,855)
Cardiff and Vale	62,520	6,197	(6,053 to 6,345)
Cwm Taf	40,750	3,942	(3,826 to 4,060)
Aneurin Bevan	82,940	7,973	(7,808 to 8,140)
Isle of Anglesey	8,810	843	(790 to 898)
Gwynedd	15,540	1,538	(1,467 to 1,613)
Conwy	14,660	1,397	(1,329 to 1,468)
Denbighshire	12,780	1,233	(1,169 to 1,300)
Flintshire	21,300	2,035	(1,953 to 2,121)
Wrexham	18,580	1,783	(1,706 to 1,864)
Powys	17,860	1,700	(1,624 to 1,778)
Ceredigion	8,520	902	(848 to 959)
Pembrokeshire	16,750	1,611	(1,538 to 1,687)
Carmarthenshire	24,900	2,388	(2,298 to 2,480)
Swansea	30,860	3,053	(2,952 to 3,158)
Neath Port Talbot	18,750	1,797	(1,720 to 1,878)
Bridgend	19,230	1,851	(1,772 to 1,932)
Vale of Glamorgan	18,040	1,735	(1,659 to 1,814)
Cardiff	44,480	4,463	(4,340 to 4,589)
Rhondda Cynon Taf	32,650	3,159	(3,056 to 3,266)
Merthyr Tydfil	8,090	783	(732 to 836)
Caerphilly	25,940	2,489	(2,398 to 2,584)
Blaenau Gwent	9,380	909	(854 to 966)
Torfaen	13,090	1,256	(1,191 to 1,323)
Monmouthshire	12,840	1,223	(1,159 to 1,290)
Newport	21,690	2,096	(2,012 to 2,183)
Wales	**414,740**	**40,243**	**(39,871 to 40,618)**

Data source: Green et al (2004)[19] & MYE (ONS)

6.2 Disease / chronic condition prevalence

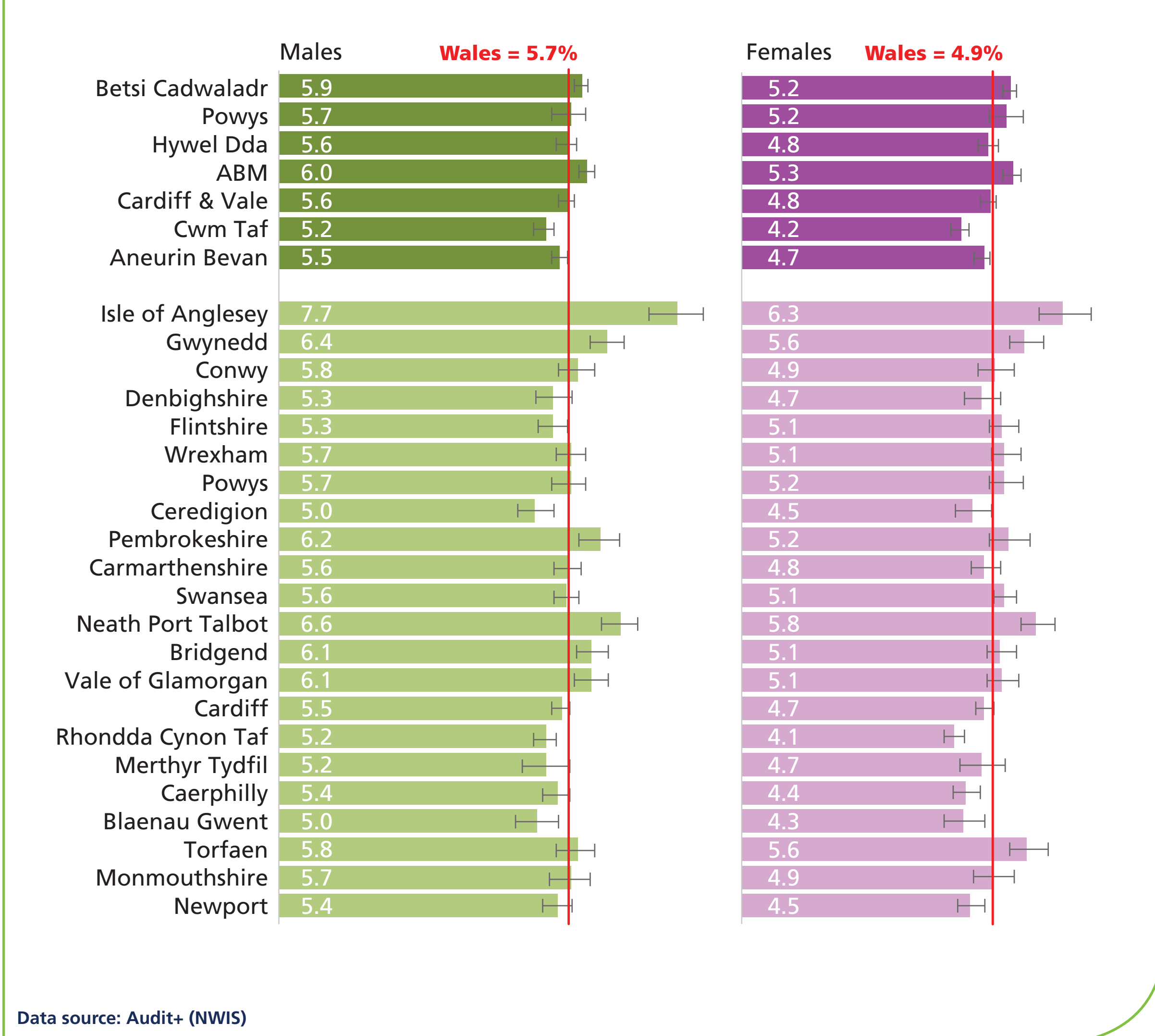
Childhood diseases and chronic conditions can have a life-limiting effect and may increase the use of health services over the lifespan of the individual affected.

Asthma

Asthma prevalence in Wales is one of the highest in the world with over a quarter of a million people living with the condition.[20] The UK also has considerably higher rates of asthma than other European countries such as France, Germany, Finland and Norway.[21] Asthma is the most common chronic condition in children worldwide, and 1 in 10 children in Wales are currently being treated for asthma.[20,22] Although asthma is a condition that can be managed with medication, a report by Asthma UK Cymru found that 1 in 8 patients expects to have to make lifestyle compromises, such as avoiding getting exercise or playing sport, on a daily basis.[20]

The Child Death Review pilot highlighted that asthma can be a lethal condition and stressed the importance of specialist support for children who have had admissions to intensive care or high dependency care with asthma.[13]

Figure 6.9 % of patients on primary care chronic conditions register with asthma, persons aged under 25, February 2012



Data source: Audit+ (NWIS)

In Wales, the percentage of males aged 0-24 years on a GP chronic conditions register with asthma (5.7%) is higher than the percentage of females of the same age (4.9%) (Figure 6.9). At the health board level Cwm Taf has the lowest percentage of male and female patients on an asthma register, and Abertawe Bro Morgannwg has the highest percentages for both males and females. Across local authorities generally males have higher percentages of asthma than females. The Isle of Anglesey has the highest percentage of asthma for both females and males at 6.3% and 7.7% respectively. Rhondda Cynon Taf has the lowest percentages of female patients on the chronic conditions register with asthma at 4.1% and Blaenau Gwent has the lowest percentage of males at 5.0%. Quality and outcomes framework (QOF) data is primarily used to monitor GP practice performance against their contract; secondary use of data should be interpreted with caution e.g. the high and low rates could be attributable to differences in identification, data collection and reporting for the GP practices in those areas.

It is unclear what causes asthma but a family history of the disease increases risk. Common triggers for asthma include house dust mites, animal fur, pollen, tobacco smoke, exercise, cold air and chest infections.[23] Changes in housing and diet and a more hygienic environment may have contributed to the rise in asthma.[24] Environmental pollution can make asthma symptoms worse, but it has not been proven to cause asthma.[24]

Cancer

Cancer in children and young people is relatively rare. In Wales, the incidence of cancer in persons aged 0-24 years was 18 new cases per 100,000 population in 2007-11. The most common cancers for children and young people are leukaemia, lymphomas (both Hodgkin's and non-Hodgkin's) and brain and central nervous system (CNS).[25] Unlike adult cancer, cancer in children (aged 0- 14) is not strongly linked to lifestyle risk factors such as smoking and alcohol consumption, or environmental risk factors such as urban air pollution.[26,27] In Great Britain the 5 year survival rate for cancers in children (aged 0-14) is 78% and the 10 year survival rate is 73%.[25] A 2011 study found that child cancer survivors have increased use of health services in adulthood and are more likely to require hospitalisation than the general population.[28]

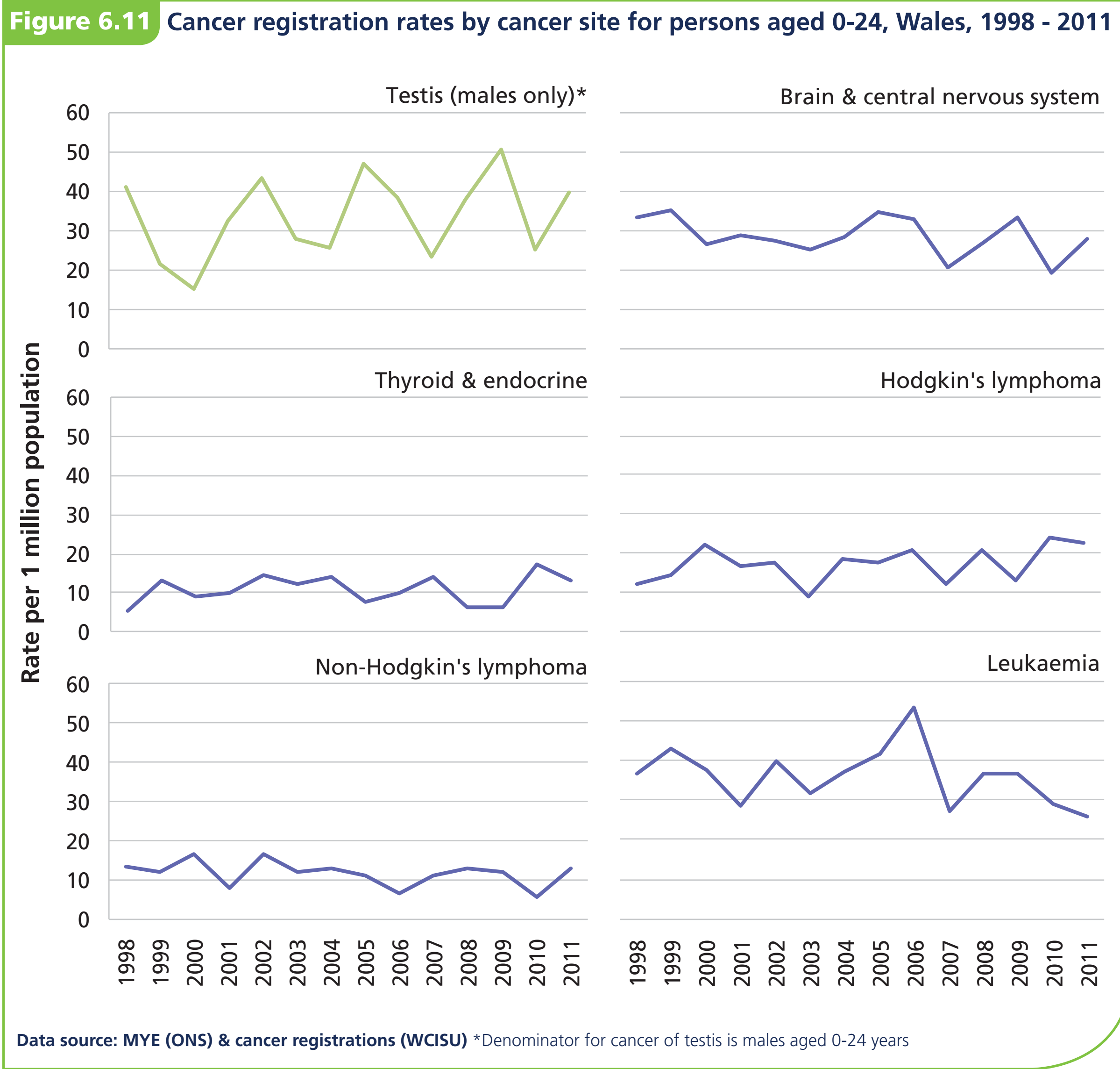
Figure 6.10 Incidence of cancer*, persons aged 0-24, EASR per 100,000 population, 2007-2011

Health Board	Annual average no of new cases	Crude rate	EASR (95% confidence interval)	
Betsi Cadwaladr	38	19.0	19.0	(16.4 to 22.1)
Powys	5	15.2	15.1	(10.1 to 22.8)
Hywel Dda	18	16.5	16.0	(12.9 to 19.9)
ABM	28	18.4	17.9	(15.1 to 21.3)
Cardiff & Vale	29	18.2	17.2	(14.4 to 20.5)
Cwm Taf	14	15.1	14.6	(11.4 to 18.8)
Aneurin Bevan	35	20.0	20.0	(17.1 to 23.3)
Wales	**168**	**18.1**	**17.7**	**(16.5 to 19.0)**

Data source: MYE (ONS) & cancer registrations (WCISU) *All malignancies excluding non melanoma skin cancer (ICD 10 codes C00 – C96 excluding C44).

In Wales, the incidence rate for cancers in children and young people in the 5 year period 2007-11 is 18 per 100,000 (Figure 6.10). Across health boards it ranges from 15 per 100,000 in Cwm Taf to 20 per 100,000 in Aneurin Bevan. The annual average number of new cases ranges from 5 new cases of cancer among persons aged 0-24 per year in Powys to 38 new cases per year in Betsi Cadwaladr.

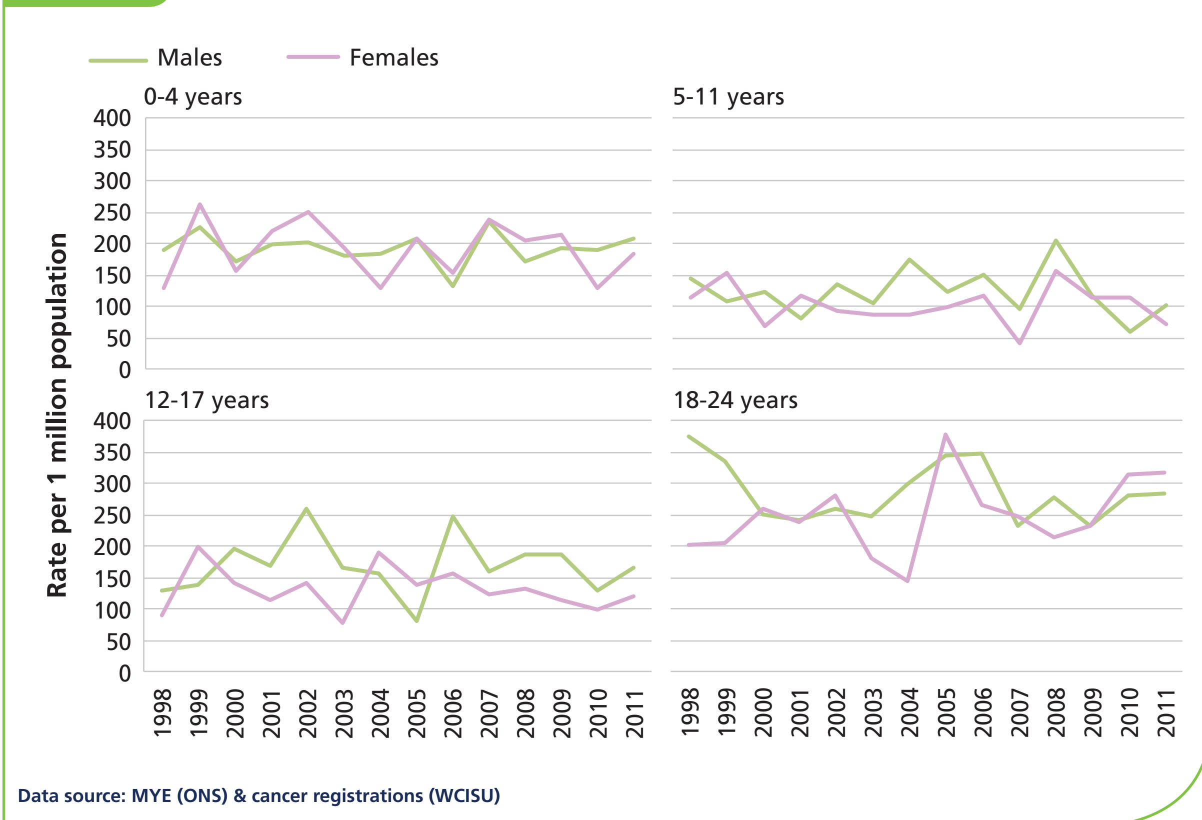
Figure 6.11 **Cancer registration rates by cancer site for persons aged 0-24, Wales, 1998 - 2011**



Data source: MYE (ONS) & cancer registrations (WCISU) *Denominator for cancer of testis is males aged 0-24 years

In Wales the cancer registration rates for the different cancer sites in persons ages 0-24 have remained reasonably static over time (Figure 6.11). The annual fluctuations visible in the above charts are a result of the very small numbers of young people developing cancer. Non-Hodgkin's lymphoma and thyroid and endocrine cancers are the least common with annual registration rates not rising above 20 per million over the 14 year period which equates to an average of 11 cases per year. Hodgkin's lymphoma is similar with annual registration rates around 20 per million over the period, equating to an average of 16 cases per year. Cancer of the testis and of the brain and central nervous system is slightly more common with annual registrations between 20 and 40 per million (average of 16 and 26 cases per year respectively). Leukaemia is the most common cancer occurring among children in Wales and accounts for on average 33 cases per year.

Figure 6.12 Cancer registration rates by age and sex, Wales, 1998-2011



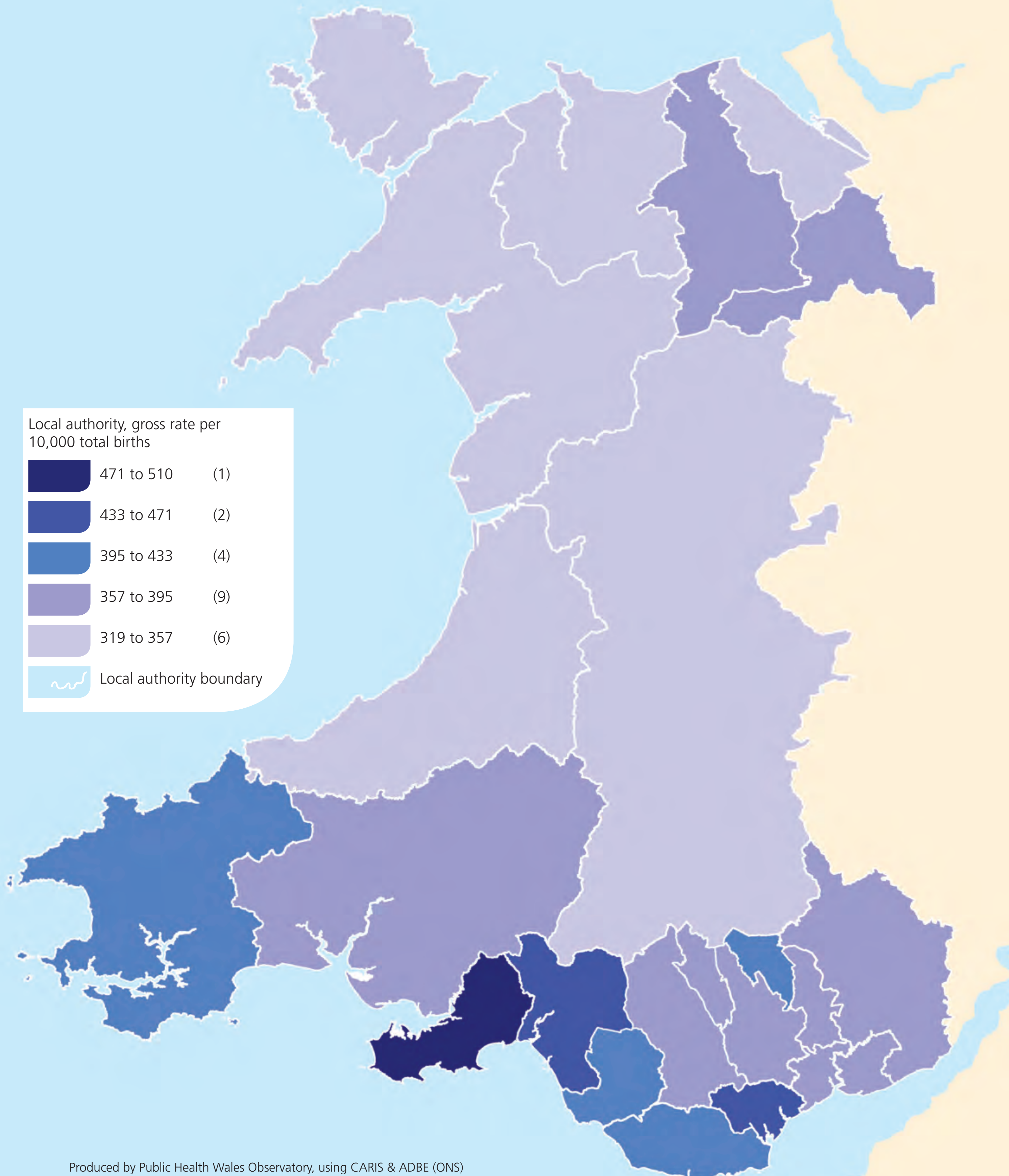
Data source: MYE (ONS) & cancer registrations (WCISU)

Over the 14 year period from 1998 to 2011, cancer registration rates have experienced annual fluctuations but have overall remained fairly constant. Rates for males and females are similar in the 0-4 and 18-24 age groups. Rates for males have been slightly higher than rates for females over some of the 14 year period in the 5-11 and 12-17 age groups. The 5-11 age group has the lowest cancer registration rates, not tending to go above 200 per million. The 0-4 and 12-17 age groups have the next highest registration rates. The 0-4 age group tends to have more consistent annual registration rates, whereas there is greater fluctuation in the 12-17 age group. The 18-24 age group has the highest annual registration rates, though there is considerable fluctuation over the period measured.

Congenital anomalies

Congenital anomalies (also referred to as birth defects) are structural or functional anomalies, including metabolic disorders, which are present at the time of birth.[29] The most common congenital anomalies are heart defects, neural tube defects (such as spina bifida) and chromosomal disorders such as Down syndrome. Congenital anomalies are a major cause of infant mortality, childhood morbidity and long-term disability, but some are potentially preventable.[30] Most congenital anomalies are probably caused by an interaction of environmental and genetic factors. Prevention is aimed at modifying the environmental factors such as encouraging good diet and uptake of folic acid supplements, and discouraging smoking and substance abuse amongst women who are pregnant or wishing to get pregnant.[31]
For the years 1998 to 2011 there were around 23,700 cases of congenital anomalies reported to Congenital Anomaly Register and Information Service (CARIS) (20,400 live born) against a background of 466,500 total (live and still) births in Wales.[32] This equates to a gross rate of congenital anomalies of 4.4% in Wales for the years 1998-2011, which includes fetal losses, terminations of pregnancy, live and still born births.

Figure 6.13 Cases of congenital anomalies, EUROCAT definition, 1998-2011



Produced by Public Health Wales Observatory, using CARIS & ADBE (ONS)

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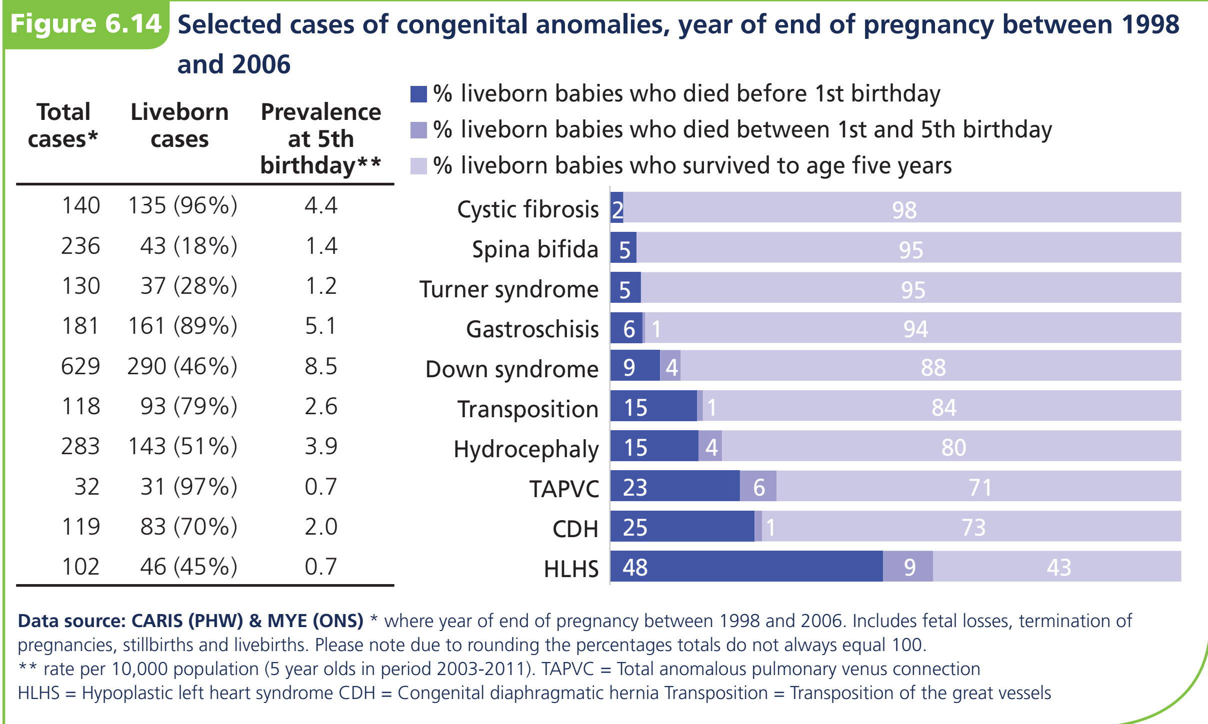
The gross rate of congenital anomalies (EUROCAT definition) in the local authorities areas between 1998 and 2011 ranged from 320 per 10,000 births in Flintshire to 510 in Swansea. Generally mid and north Wales experienced a lower rate of congenital anomalies than west and south Wales. None of the local authorities in south Wales are in the lowest band. It is suspected that the rates are affected by variations in reporting; which, in some areas, are believed to be excellent. This makes it more difficult to distinguish between high rates due to variations in reporting and genuinely higher rates of congenital anomalies.

Figure 6.14 Selected cases of congenital anomalies, year of end of pregnancy between 1998 and 2006



Total cases*	Liveborn cases	Prevalence at 5th birthday**
140	135 (96%)	4.4
236	43 (18%)	1.4
130	37 (28%)	1.2
181	161 (89%)	5.1
629	290 (46%)	8.5
118	93 (79%)	2.6
283	143 (51%)	3.9
32	31 (97%)	0.7
119	83 (70%)	2.0
102	46 (45%)	0.7

Data source: CARIS (PHW) & MYE (ONS) * where year of end of pregnancy between 1998 and 2006. Includes fetal losses, termination of pregnancies, stillbirths and livebirths. Please note due to rounding the percentages totals do not always equal 100.
** rate per 10,000 population (5 year olds in period 2003-2011). TAPVC = Total anomalous pulmonary venus connection
HLHS = Hypoplastic left heart syndrome CDH = Congenital diaphragmatic hernia Transposition = Transposition of the great vessels

For some of the most common congenital anomalies the majority of children survive their early years. Over 90% of children born with gastroschisis, Turner syndrome, spina bifida and cystic fibrosis in Wales in the period 1998-2006 survived past their fifth birthday. Children born with Down syndrome, transposition, hydrocephaly, total anomalous pulmonary venus connection and congenital diaphragmatic hernia had a five year survival rate between 88% and 73%. Hypoplastic left heart syndrome has the lowest survival rate. Until the 1990s, most babies with hypoplastic left heart syndrome did not survive beyond the first few weeks of life but with the development of new surgical procedures 43% of babies are now seen to be surviving past their fifth birthday.

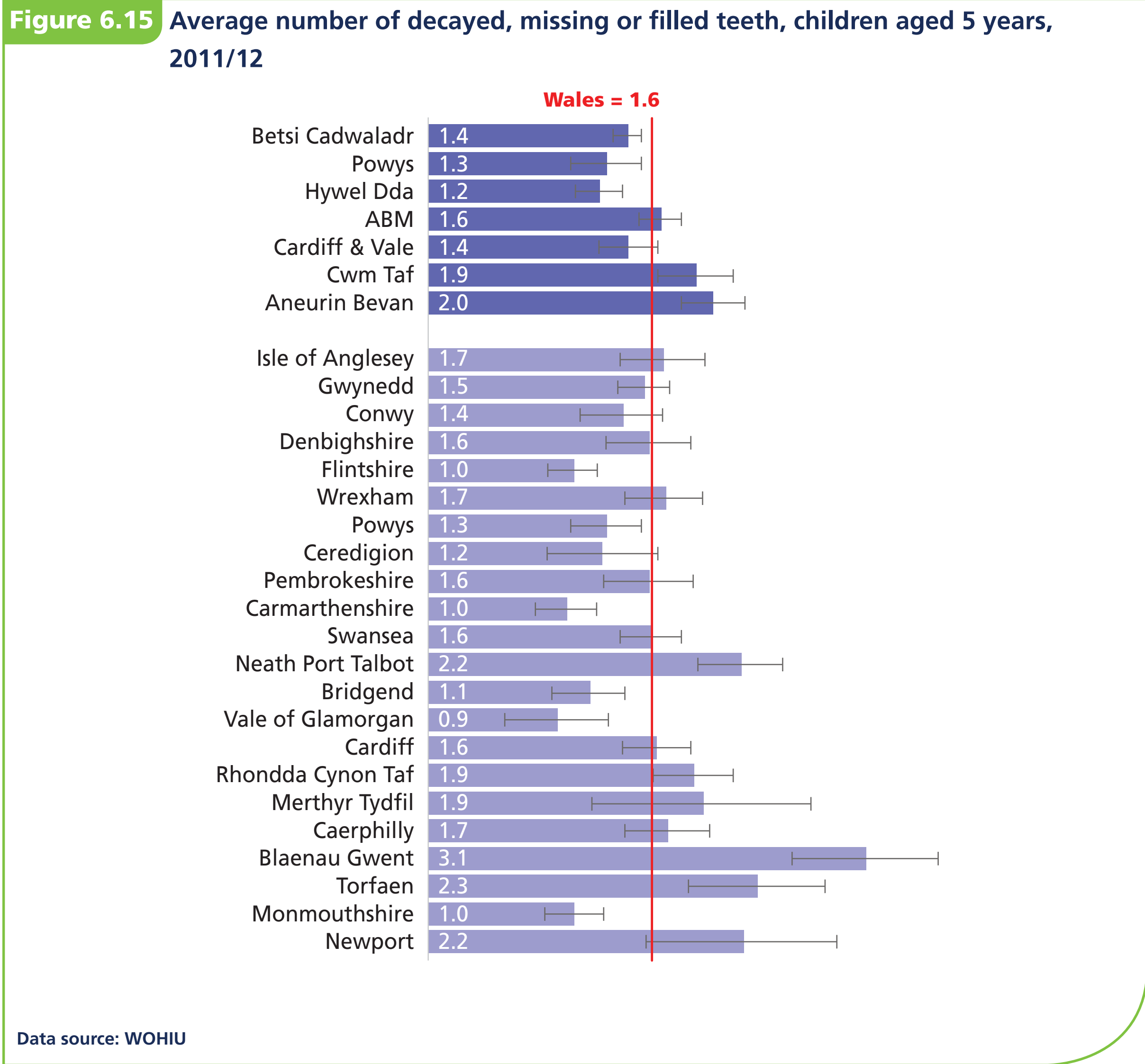
6.3 Dental health

Theoretically almost all oral disease is preventable. The Welsh Government has introduced programmes which are targeted at improving the dental health of the people of Wales such as the National Oral Health Improvement Programme, Designed to smile[33] and the recently announced *Together for health: a national oral health plan for Wales.*[34]

Fluoride occurs naturally in some water (but at very low levels across Wales) and is known to protect teeth from tooth decay if present in sufficient amounts. In order to maximise oral health improvement, a partnership approach addressing poor diet and excessive sugar consumption is the key to preventing tooth decay complemented by optimising fluoride delivery in community settings. The evidence supporting fluoride in reducing dental decay is well established.
Local priorities for action at a community level are the use of fluoride toothpaste and fluoride varnish.[34]

The average number of decayed, missing and filled teeth (dmft) is a measure of the burden of disease which theoretically could have been prevented. This is considered to be key data for evaluation of efforts to prevent decay.[35] Figure 6.15 shows the average number of dmft in 5 year old children across health boards and local authorities in Wales.

Figure 6.15 Average number of decayed, missing or filled teeth, children aged 5 years, 2011/12



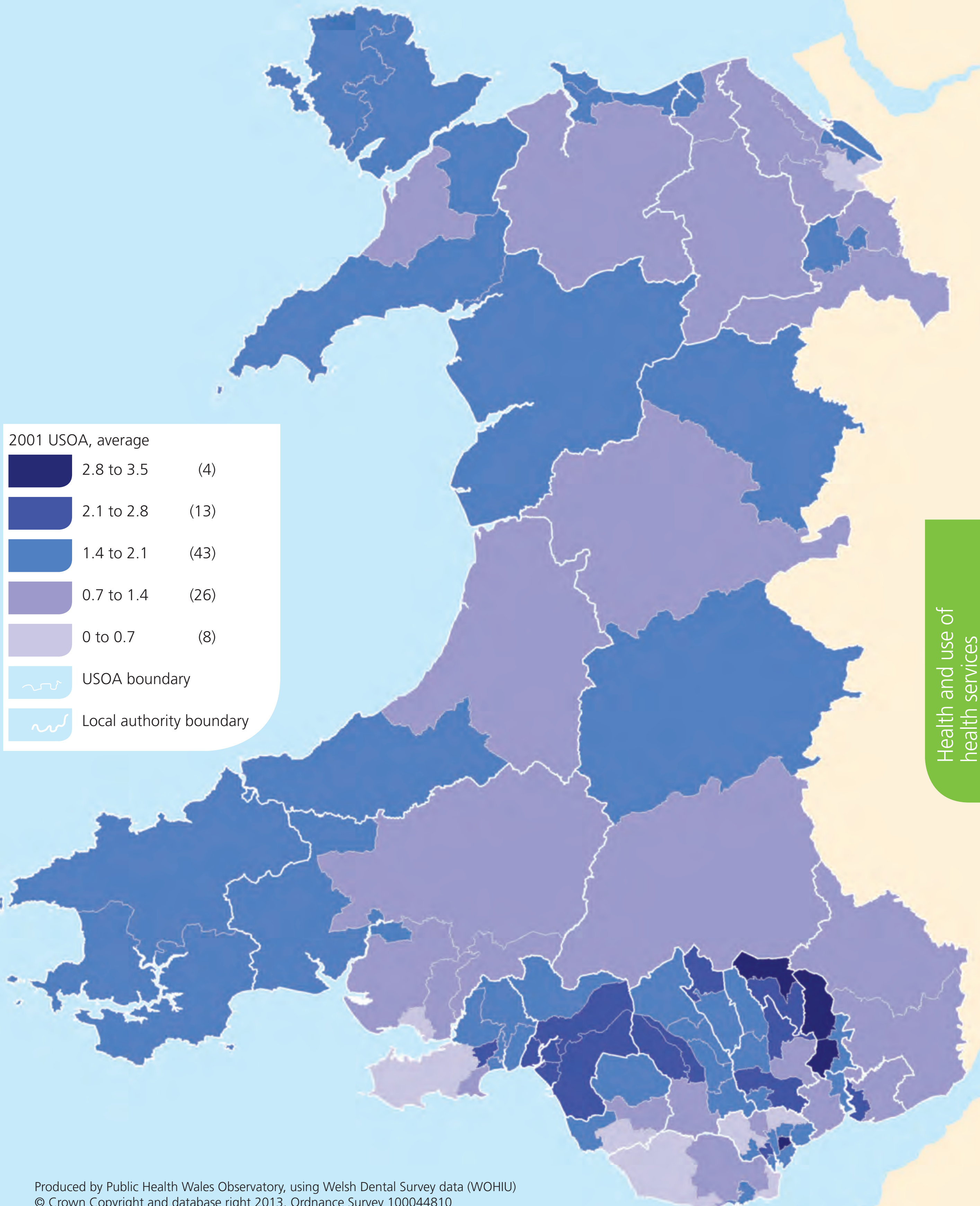
Data source: WOHIU

In Wales, children aged 5 years have on average 1.6 decayed, missing or filled teeth and across health board areas. This ranges from 1.2 in Hywel Dda to 2.0 in Aneurin Bevan (Figure 6.15).

There is considerable variation across local authority areas. The Vale of Glamorgan has the lowest average number of decayed, missing or filled teeth in 5 year olds (0.9) and Blaenau Gwent has the highest (3.1). Three of the 22 local authority areas had a statistically significantly higher average than Wales as a whole (Neath Port Talbot, Blaenau Gwent and Torfaen).

Variation across areas is also evident at the USOA level with the average number of decayed, missing or filled teeth in 5 year olds ranging from 0.06 to 3.5 (Figure 6.16).

Figure 6.16 **Average number of decayed, missing or filled teeth, children aged 5 years, 2011/12**



Produced by Public Health Wales Observatory, using Welsh Dental Survey data (WOHIU)

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The average number of decayed, missing or filled teeth in 5 year old children is greater than 2.1 in 17 of the 94 USOAs in Wales (18%) which are primarily across the south Wales valleys. Understanding the variation at the small area level can help when delivering services and targeting interventions. However, it is important to note that the USOA data is not weighted to take account of the variations in the survey participation rates and differences in the 5 year old population size.

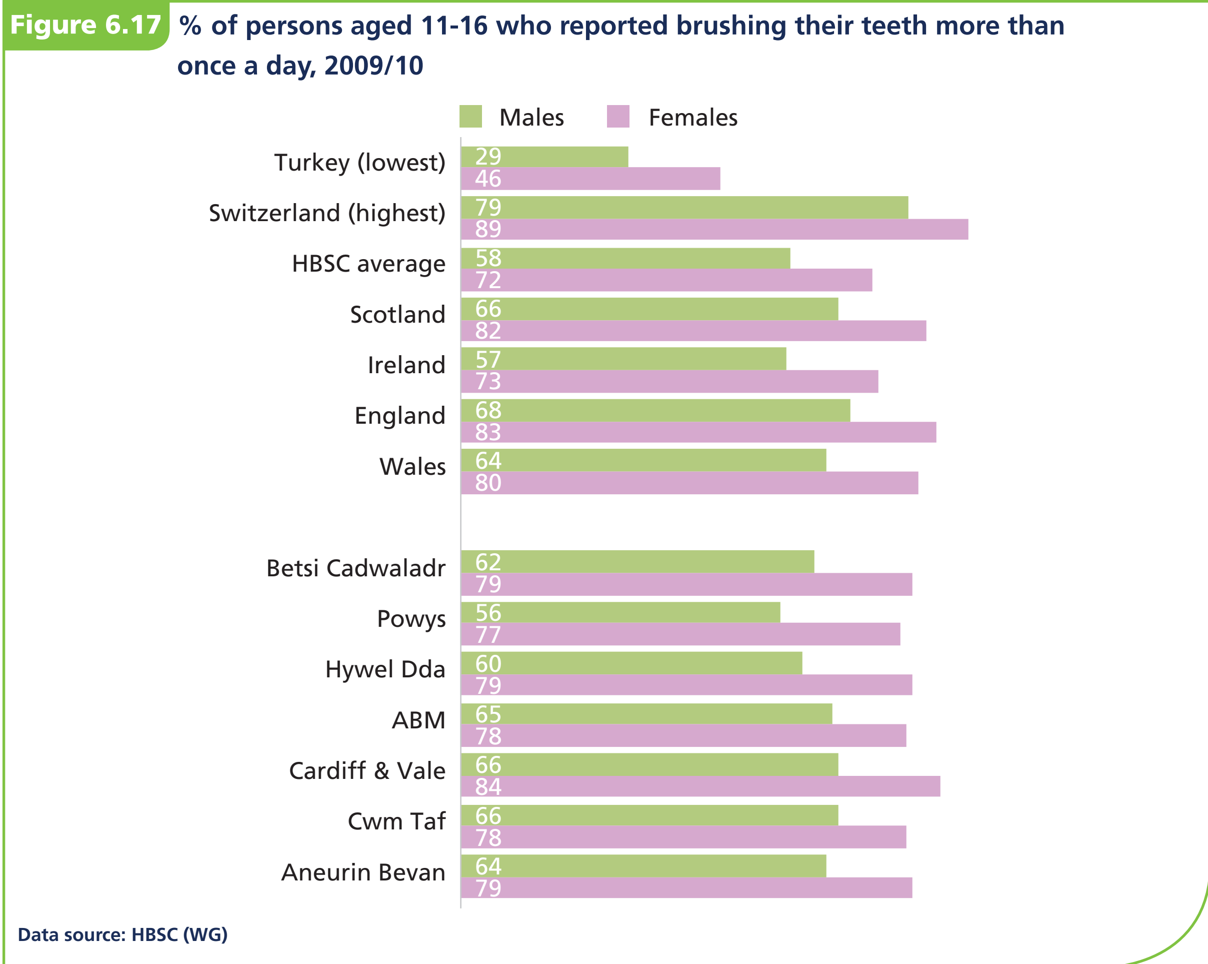
Toothbrushing

Toothbrushing with fluoride toothpaste helps keep teeth clean and strong and it is recommended that children brush their teeth twice a day for 2 minutes.[36] It is important to establish good habits from an early age which could in turn have a positive impact on adult dental health.

In Wales, 80% of girls and 64% of boys aged 11-16 years old report brushing their teeth more than once a day (Figure 6.17). Similar percentages were reported across Great Britain and comparisons with other countries show that the highest percentages were reported in Switzerland, 89% of girls and 79% of boys and the lowest percentages were reported in Turkey, 29% boys and 46% girls.

The percentage of 11-16 year old girls who reported brushing their teeth more than once a day was higher than the percentages reported by boys of the same age across all areas. At the health board level, Powys had the lowest percentage of 11-16 year old boys (56%) and girls (77%) reporting that they brush their teeth more than once a day. Whilst Cardiff and Vale had the highest percentage of 11-16 year old boys (66%) and girls (84%) reporting that they brush their teeth more than once a day.

Figure 6.17 **% of persons aged 11-16 who reported brushing their teeth more than once a day, 2009/10**



Data source: HBSC (WG)

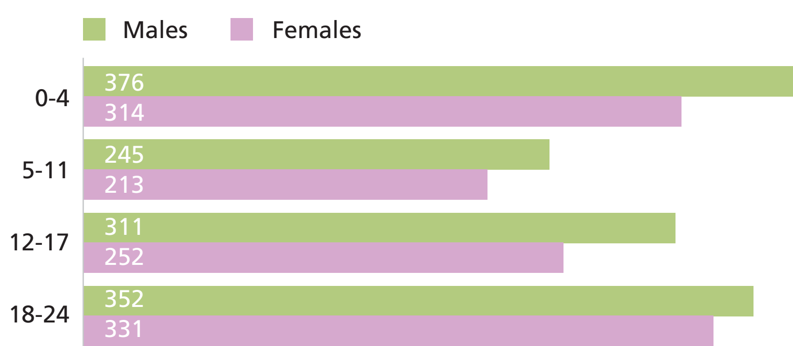
6.4 Emergency department attendances

Service utilisation is an important consideration for planning the allocation and use of resources. During 2011/12 there were nearly 800,000 new attendances across all ages at major emergency departments in Wales, putting substantial pressure on secondary care systems.[37] There are many factors that can affect service utilisation including underlying population need, provision of services (including elective, emergency, community and primary care services) as well as patient and parental behaviour in seeking health care.

Numbers of attendances at emergency departments have increased recently. Widely publicised pressure on emergency departments in early 2013 has demonstrated the challenges facing the service as the population grows older and the pressure on NHS budgets continue. The Welsh Government's Choose Well campaign has developed an application (app) for smart phone technology which provides advice on which service to use when ill or injured and details of how to find them.[38] The aim of Choose Well is to reduce inappropriate pressure on emergency and primary care services.

This section of the report details the attendances at major emergency departments in Wales for Welsh resident but excludes Welsh residents attending emergency departments in hospitals in England since this information is not captured by the data source (Emergency Department Dataset).

Figure 6.18 **Rate per 1,000 of all attendances* to emergency departments in Wales by Welsh residents, 2011**



Data source: EDDS (NWIS) *Individuals are counted more than once if they had multiple attendances to emergency departments

Almost 280,000 children and young people aged 0-24 (3 in 10) attended an emergency department in 2011. The rate of attendance to emergency departments in Wales by Welsh residents aged 0-24 was higher for males than females across all age groups (Figure 6.18). Higher rates of attendance were seen in the 0-4 and 18-24 age groups for both males and females. Rates were highest in the 0-4 age group for males (376 per 1,000) and 18-24 age group for females (331 per 1,000).

Repeat attendances

In 2011, around 3 out of every 5 persons aged 0-24 attending emergency departments in Wales attended only once (Figure 6.19), approximately 1 in 5 attended twice and 1 in 100 more than 5 times in a year. Repeat attendances were counted up to 1 year after attendance to an emergency department in Wales in 2011. Over 30,000 records (11% of all admissions) had an invalid person key and therefore repeat attendances for these individuals could not be counted.

For this reason, all figures in this section must be considered with caution (see Technical guide for further details which is available at:
www.publichealthwalesobservatory.wales.nhs.uk/childprofile).

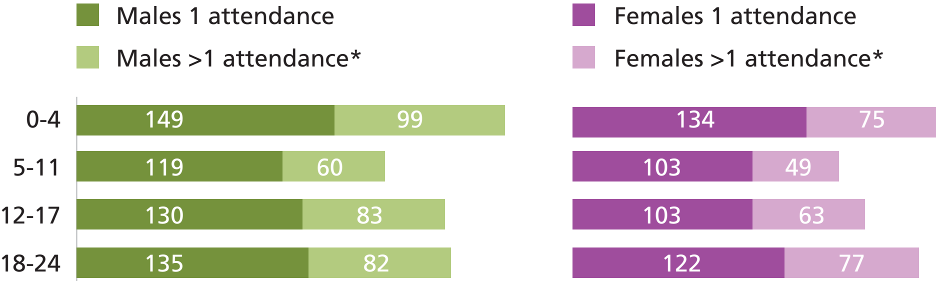
Figure 6.19 Repeat attendances* to emergency departments, persons aged 0-24, Wales, 2011

	Frequency of attendance						
	1	2	3	4	5	>5	Total
Number of people	115,160	44,074	14,892	5,239	2,010	1,748	183,123
%	62.9	24.1	8.1	2.9	1.1	1.0	100.0

Data source: EDDS (NWIS) *Repeat attendances within a year following an attendance to emergency departments in 2011

Figure 6.20 shows that the largest number of emergency department attendances for Welsh residents aged 0-24 are in the lowest and highest age groups (0-4 and 18-24) for both males and females. For each age group and sex, around a third of all attendances to emergency departments in 2011 had a repeat attendance within a year. Over 12,000 males aged 18-24 attended emergency departments in Wales more than once in a year compared to around 11,000 females of the same age. Repeat attendances may be for a number of reasons, and in some cases may raise concerns about child protection.

Figure 6.20 Emergency department attendees, rate per 1,000, Wales, 2011



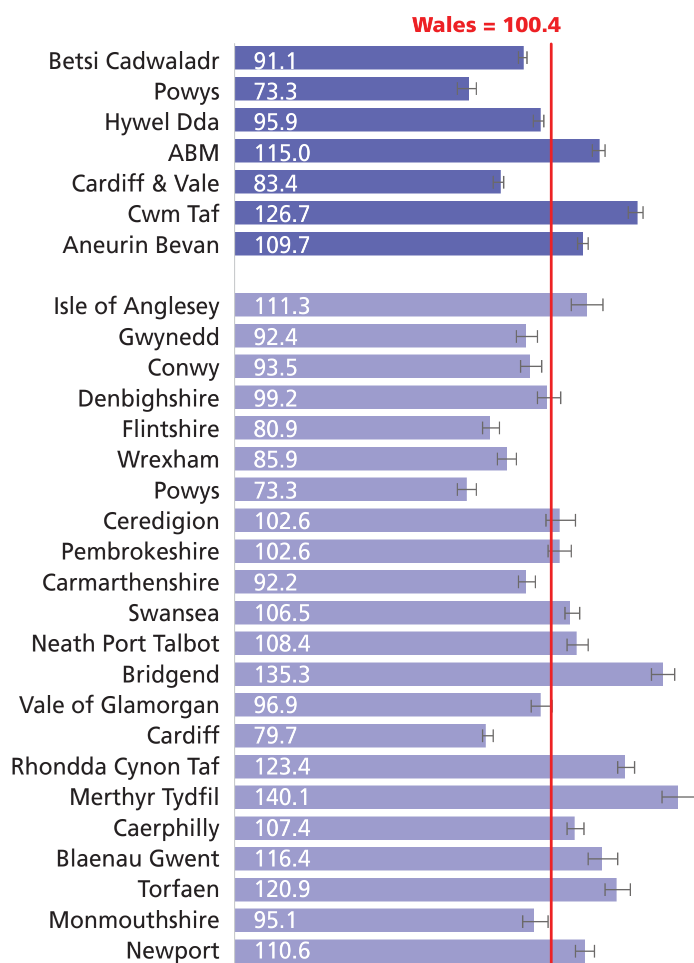
Data source: EDDS (NWIS) *Attendees with repeat attendances within a year following an attendance to emergency departments in 2011

6.5 Hospital admissions

The interplay between healthcare supply, need and demand is complex. Emergency admission to hospital is dependent on a variety of factors which include population need for emergency care, distance from home, provision of services (including elective, emergency, community and primary care services) as well as patient or parent behaviour in seeking health care. This section of the report focuses on emergency hospital admissions by area of residence, level of deprivation and cause.

In 2011, the European age-standardised rate (EASR) of emergency hospital admissions in Wales was 100 per 1,000 population aged 0-24 (Figure 6.21). Rates varied across health board areas and ranged from 83 in Cardiff and Vale to 127 in Cwm Taf per 1,000 persons aged 0-24. At the local authority level the lowest rate was found in Powys (73 per 1,000) and the highest rate (almost double that in Powys) was in Merthyr Tydfil (140 per 1,000). High rates were also found for many of the local authorities in the south Wales valleys.

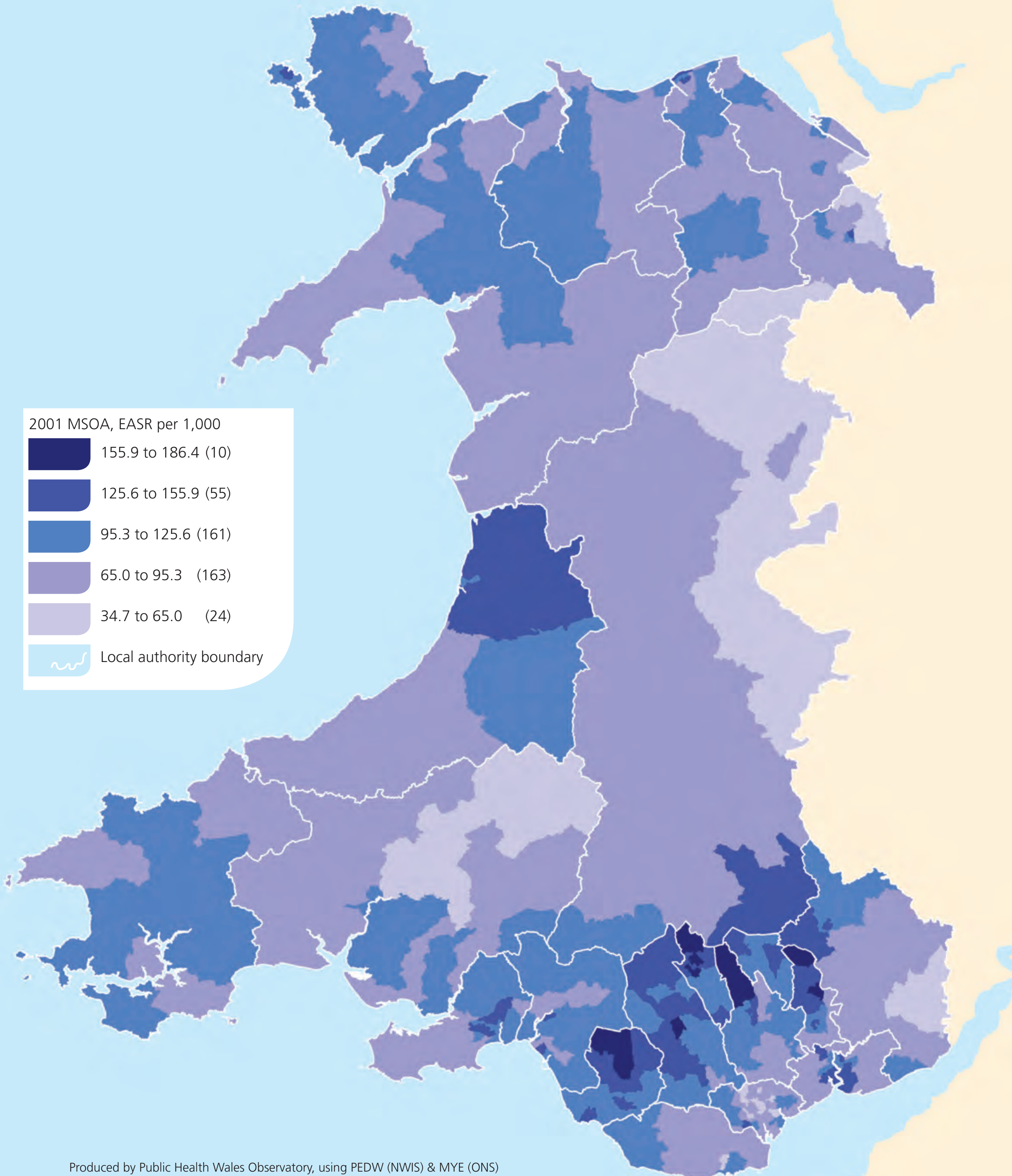
Figure 6.21 Emergency admissions*, persons aged 0-24, EASR per 1,000, 2011



Data source: PEDW (NWIS) & MYE (ONS) *Patients are counted more than once if they had multiple admissions during 2011

Further variation across areas is also evident at the MSOA level with the rate of emergency admissions ranging from 35 to 186 per 1,000 persons aged 0-24 (Figure 6.22). It can be seen that even within local authority areas with a lower rate of emergency hospital admissions than Wales, such as Powys, there are areas with a higher rate than Wales. Again, the higher rates are seen across the south Wales valleys.

Figure 6.22 **Emergency admissions for persons aged 0-24, 2011**



Produced by Public Health Wales Observatory, using PEDW (NWIS) & MYE (ONS)

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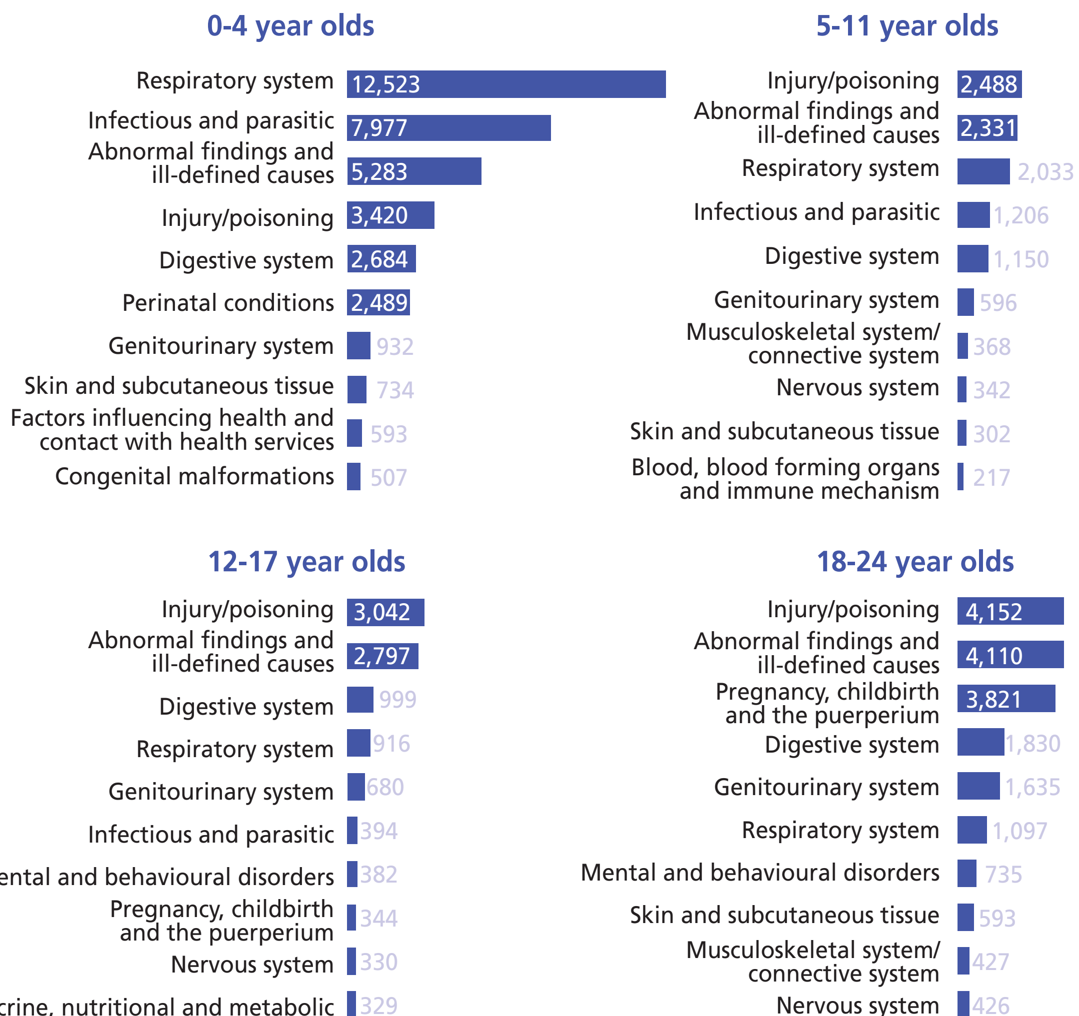
Children aged 0-24 living in the most deprived areas of Wales had the highest rate of emergency hospital admissions (127 per 1,000 persons) (Figure 6.23) whilst children aged 0-24 living in the least deprived area of Wales had the lowest rate (78 per 1,000 persons). The rates were significantly higher than Wales in the most deprived area and next most deprived areas.

Figure 6.23 **Emergency admissions by deprivation fifth, persons aged 0-24, Wales, EASR per 1,000, 2011**

Data source: PEDW (NWIS), MYE (ONS) & WIMD 2011 (WG) *Patients are counted more than once if they had multiple admissions during 2011

Figure 6.24 **Emergency admissions* by main cause for persons aged 0-24, Wales, 2011**



Data source: PEDW (NWIS) *Patients are counted more than once if they had multiple admissions during 2011

Health and use of health services

Figure 6.24 shows the top ten causes of emergency hospital admissions by age. In 2011, the leading causes of emergency hospital admissions in 0-4 year olds were the respiratory system (12,523 admissions) and infections (7,977 admissions). For the 5-11, 12-17 and 18-25 age groups injuries and poisoning was the main cause of emergency admissions (2,488, 3,042 and 4,152 admissions respectively).

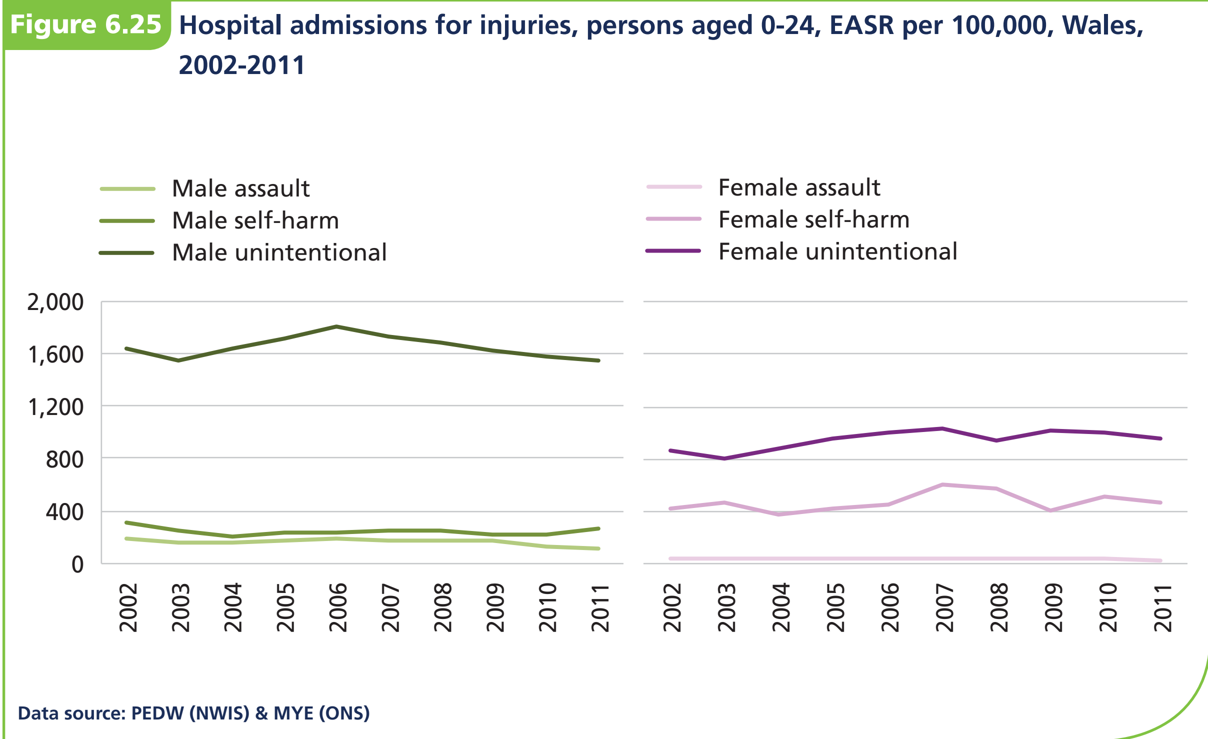
6.6 Injuries

Injuries are a major public health issue across the globe. They are a leading cause of death amongst 0 to 24 year olds and therefore contribute substantially to the burden of premature death and healthy years of life. This places a significant burden upon health and health services.[39]

Hospital admissions

Analysis of hospital emergency admissions data for 2002 to 2011 showed the rate of admission for unintentional injury and assault to be higher in males than females across the whole period. However, for emergency hospital admissions due to self harm the female rates were higher than the male rates. Between 2002 and 2011 the rates of emergency admissions have decreased across all three categories of intent for males but only decreased slightly in the assault category for females. Generally, there is a trend of decreasing injury admissions for males, increasing admissions for females.

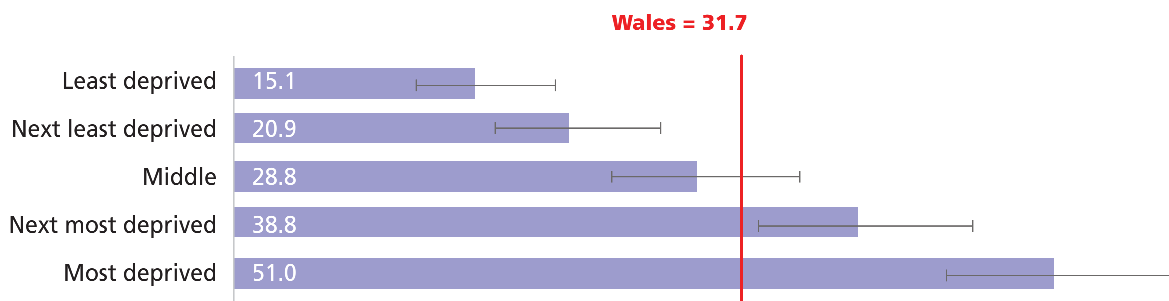
Figure 6.25 **Hospital admissions for injuries, persons aged 0-24, EASR per 100,000, Wales, 2002-2011**



Data source: PEDW (NWIS) & MYE (ONS)

Based on data for 2006-11, and as described previously in other studies, child pedestrian injury admissions increase with increasing deprivation (Figure 6.26).[41] Injuries in the most deprived areas of Wales were three times higher than the least deprived, with rates of 51 per 100,000 population compared with 15 per 100,000 population.

Figure 6.26 Admissions for pedestrian injuries by fifth of deprivation, children aged 5-14, Wales, rate per 100,000, 2006-2010



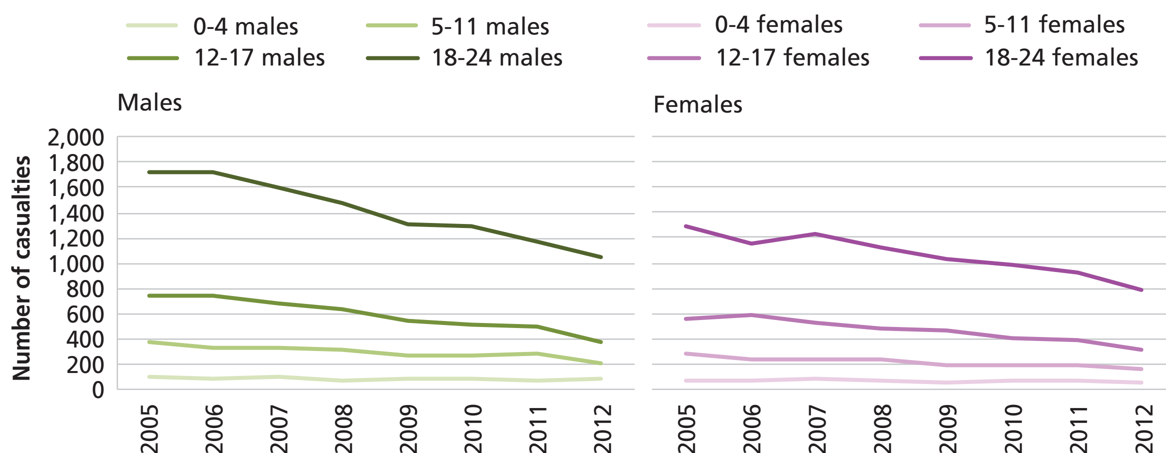
Data source: PEDW (NWIS), MYE (ONS) & WIMD 2011 (WG)

Road traffic crashes

Road traffic crashes are a major cause of unnecessary injury and death. Making roads safer is a key priority for the Welsh Government and road safety targets have recently been set in the *Road safety framework for Wales.*[42] This emphasises the dangers to children as vulnerable road users and also the high risks to young drivers and their passengers.

This section of the report examines road traffic casualties in persons aged 0-24 in more detail. These statistics only include accidents that occur on public roads that are reported to the police. Crashes on private roads, in car parks or where there were no human casualties are not included in this data.[43]

Figure 6.27 Number of road traffic casualties, persons aged 0-24, Wales, 2005-2012



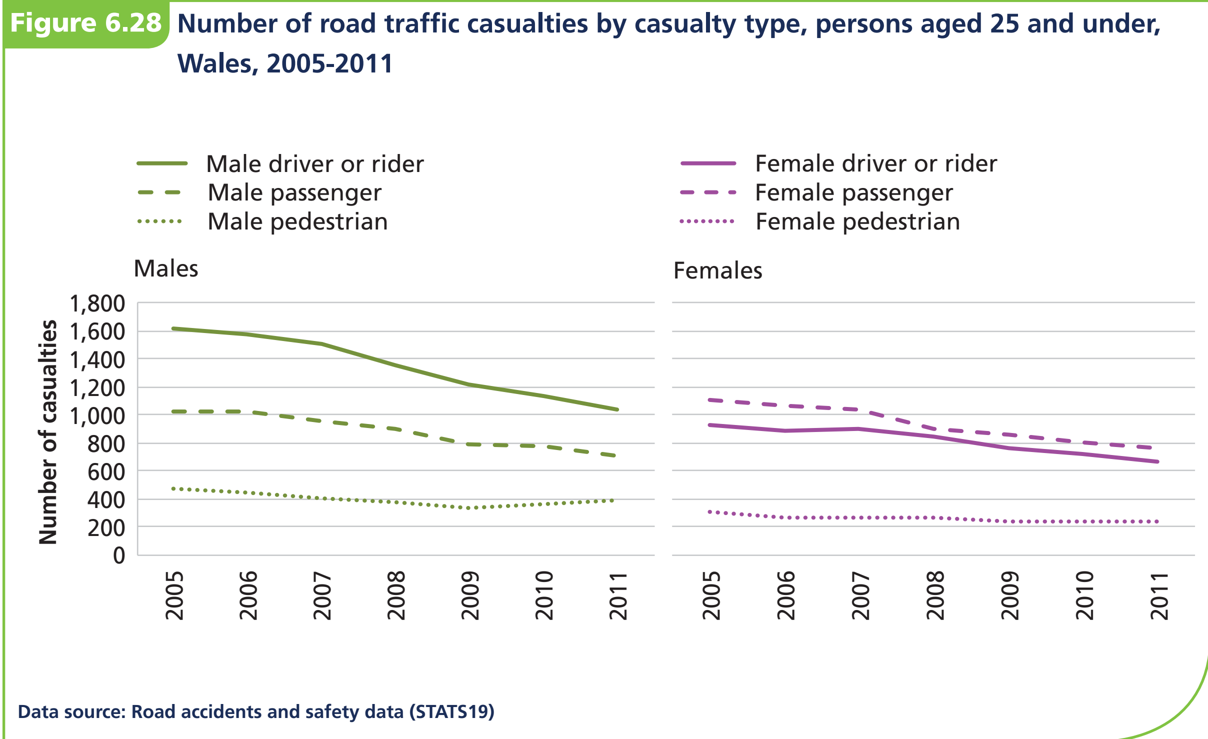
Data source: Road accidents and safety data (STATS19)

Male and female casualties in all age groups have continued to fall across the study period (Figure 6.27). This is a true reflection of change and is not a result of changes in the size of the population which has remained static over this period (Figure 1.4). For both males and females the highest number of road traffic casualties is in the 18-24 age group. In 2012, there were around 1,100 male and 800 female road traffic casualties aged 18-24 in Wales.

This is due mainly to the large numbers of driver and passenger casualties in this age group. Teenagers driving other teenagers are a high risk because of the young age and inexperience of the driver.[42] Although the number of road traffic casualties is decreasing there is still significant potential for further reductions using effective interventions.

Analysis by road user type confirms the overall downward trends (Figure 6.28) which is likely to be due to traffic calming, improved car design and decreased walking. For males, driver/riders casualties decreased from around 1,610 in 2005 to just over 1,000 in 2011. For females, most casualties were passengers but these decreased from around 1,100 in 2005 to 760 in 2011.

Figure 6.28 Number of road traffic casualties by casualty type, persons aged 25 and under, Wales, 2005-2011



Data source: Road accidents and safety data (STATS19)

A thematic review of the deaths of teenagers in motor vehicles was recently conducted in Wales. The review focused on those aged 13-17 and can be accessed at: www.publichealthwales.org/childdeathreview. The *Thematic review of deaths of teenagers in motor vehicles* made specific recommendations for partnerships and government.[44]

Further information on transport accident mortality is included in section 7.5 of this report. Information on interventions for preventing accidents and injuries is included in sections 8.8 of this report.

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Deaths in children and young people

7.1 Stillbirths and perinatal mortality

7.2 Neonatal mortality and infant deaths

7.3 Causes of death

7.4 Mortality trends

7.5 Road traffic crashes

7.6 Suicide

Key messages

- The loss of a child is a tragedy resulting in life-changing effects on families, carers and friends.
- In 2011 there were 345 deaths of children and young people aged 0-24 years and resident in Wales.
- Children aged 0-17 years living in the most deprived parts of Wales are almost twice as likely to die in a given year as those in the least deprived parts of Wales.
- Latest figures (2011) show that each year in Wales there are around:
    - o 170 stillbirths
    - o 240 perinatal deaths (stillbirths and deaths under 7 days)
    - o 100 neonatal deaths (under 28 days, live births only)
    - o 130 infant deaths (under 1 year, live births only)
- In 2011 the main causes of death for children and young people in Wales were (by ICD10 chapter):

	<1 year	1-17 year olds	18-24 year olds
1.	Perinatal conditions	Injury / poisoning	Injury / poisoning
2.	Congenital malformations	Nervous system	Nervous system
3.	Abnormal findings and ill-defined conditions	Congenital malformations & neoplasms	Neoplasms

- Smoking and/or obesity during pregnancy and having a baby at an older age are major risk factors for stillbirth.
- The infant mortality rate for Wales is slowly decreasing but there are still improvements to be made. Infant mortality rates are higher in the most deprived geographical areas.
- Transport crashes are the biggest cause of death in the injury/poisoning category for children and young people. The highest transport crashes death rates are seen in Pembrokeshire and Carmarthenshire.
- An average of 34 young people (aged 15-24 years) committed suicide in Wales in each year from 2002-2011. Bridgend, Neath Port Talbot and Conwy had the highest suicide rates for this age group over the same period. The Welsh Government has produced *Talk to me: A national action plan to reduce suicide and self harm in Wales 2009-2014* to help address this issue.

The death of a child or young adult is a tragedy, with the impact of the loss often having a heavy burden and life-changing effects on families, carers and friends.[1] Data on perinatal mortality provides an indication of the quality of healthcare both during pregnancy and following birth.[2] In 2011 there were 345 deaths of children and young people aged 0-24 years who were resident in Wales. The *Child Death Review Programme* reported a strong relationship between child deaths and deprivation with children aged 0-17 years living in the most deprived parts of Wales being almost twice as likely to die in a given year as those in the least deprived parts of Wales.[1]

This chapter presents information and indicators on stillbirth, perinatal, neonatal and infant mortality. It also provides deaths by age and cause, as well as trends for the main causes of death. Comparisons by area of residence are also included for deaths from suicide and road traffic crashes.

Governments '...shall take appropriate measures to diminish infant and child mortality'.

The United Nations Convention on the Rights of the Child, Article 24.2

7.1 Stillbirths and perinatal mortality

Stillbirths are defined as late fetal deaths i.e. from 24 weeks of gestation, while perinatal mortality is defined as stillbirths plus deaths in the first week of life. Perinatal mortality can be used as a proxy for the quality of antenatal and perinatal care given to the mother and fetus/baby.[3] Perinatal, stillbirth, neonatal and infant mortality rates in Wales have remained largely unchanged in recent years.[3] The stillbirth and perinatal mortality data presented in this section include late terminations (>=24 weeks).

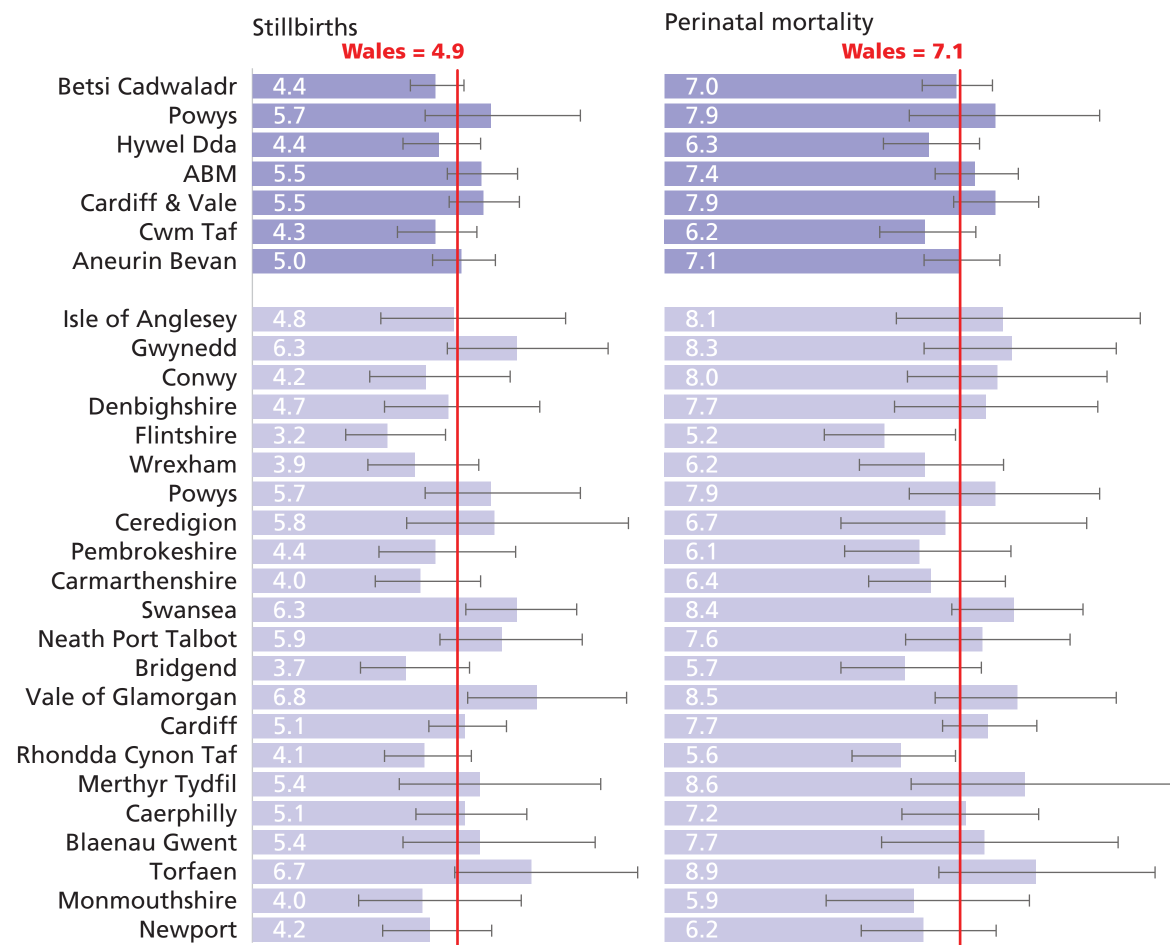
Approximately 1 in every 200 births in Wales results in a stillbirth. In 2011 there were around 170 stillbirths and 240 perinatal deaths in Wales. The stillbirth rate for Wales in 2011 was 4.7 per 1,000 births, which was lower than that for England (5.2 per 1,000 births). Similarly, the 2011 perinatal mortality rate for Wales in 2011 was 6.6 per 1,000 births, which was lower than the perinatal mortality rate for England in the same period (7.5 per 1,000 births).

Figure 7.1 shows that in 2007-2011, at the health board level, stillbirth rates vary from 4.3 per 1,000 births in Cwm Taf to 5.7 in Powys. There is considerable variation at the local authority level with stillbirth rates per 1,000 births ranging from 3.2 in Flintshire to 6.8 in the Vale of Glamorgan (with both rates also being statistically significantly different to Wales).

Similarly, there is variation at both the health board and local authority level for perinatal mortality rates. As with stillbirths, Flintshire is again the local authority area with the lowest rate (5.2 per 1,000 births and statistically significantly lower than Wales).

It is important to note the wide CIs and that for the majority of local authority areas their stillbirth and perinatal mortality rates are not statistically different to Wales.

Figure 7.1 Stillbirth and perinatal mortality rates per 1,000 births, 2007-2011



Data source: ADBE, PHMF & ADDE (ONS)

Smoking and/or obesity during pregnancy and having a baby at an older age are major risk factors for stillbirth.[2,3] Information on interventions for tackling smoking in pregnancy is included in section 8.3 of this report. The *Welsh Initiative for Stillbirth Reduction* (WISR) is working with *1000 Lives Plus* to address issues relating to and raise maternal awareness of growth restriction and reduced fetal movements, with a view to reducing the numbers of stillbirths.[4]

7.2 Neonatal mortality and infant deaths

Neonatal deaths are defined as deaths in the first month of life (<28 days) and infant deaths are defined as occurring within the first year of life. The majority of childhood deaths occur in the first year of life, with the main causes being prematurity and congenital anomalies.[3]

In 2011, there were around 100 neonatal deaths and 130 infant deaths in Wales. The neonatal mortality rate for Wales in 2011 was 2.8 per 1,000 live births, which was comparable to that for England (2.9 per 1,000 births). However, the 2011 infant mortality rate for Wales (3.7 per 1,000 births) was below the England rate of 4.2 per 1,000 births.

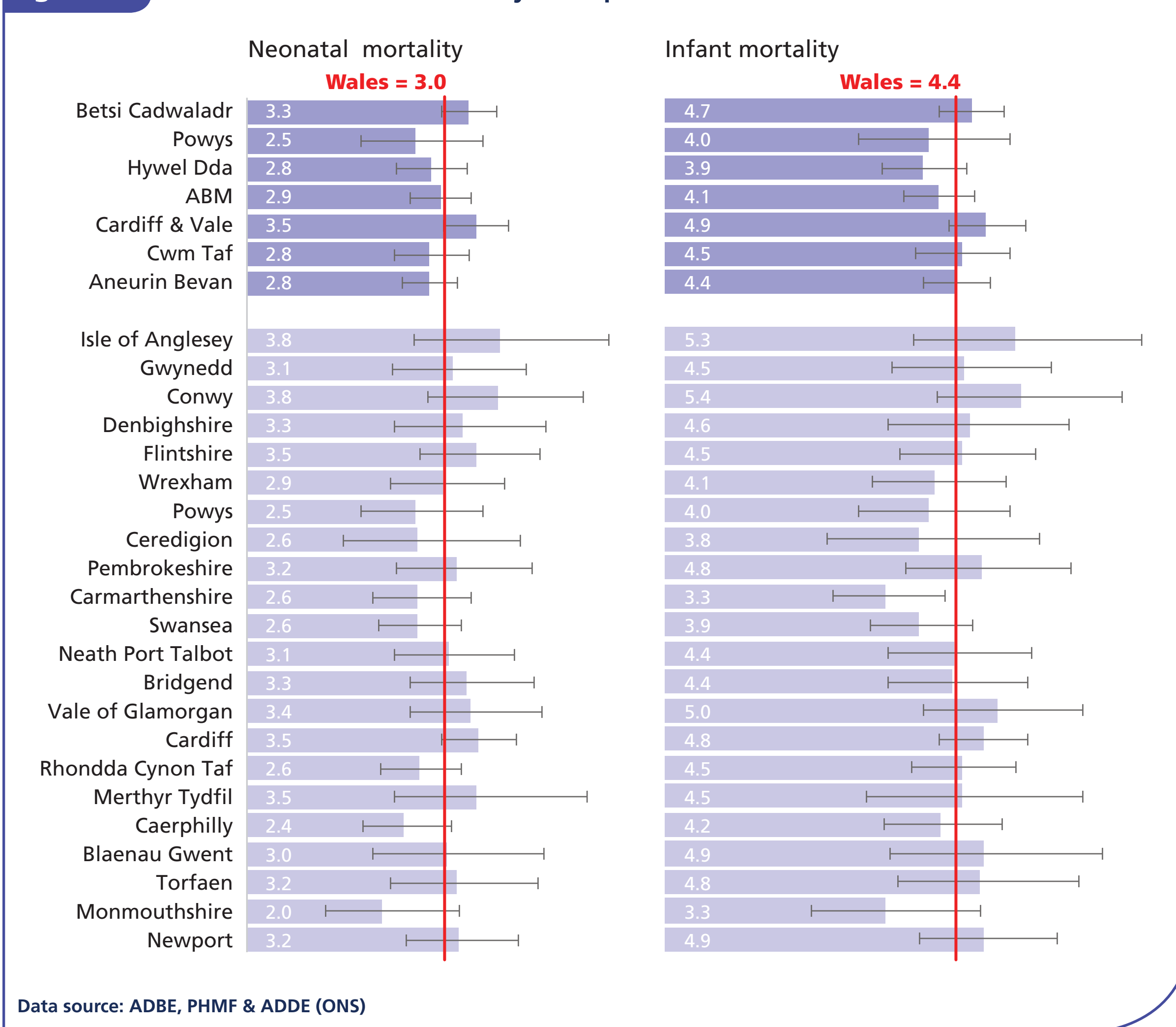


Figure 7.2 Neonatal and infant mortality rates per 1,000 live births, 2002-2011

Data source: ADBE, PHMF & ADDE (ONS)

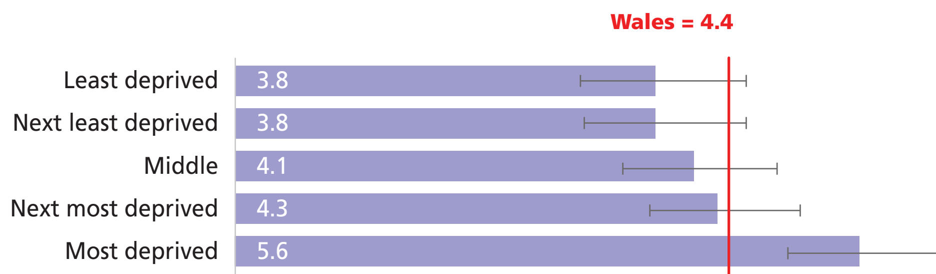
Figure 7.2 shows that in 2002-2011 neonatal mortality rates, at the health board level, are seen to vary from 2.5 per 1,000 live births in Powys to 3.5 in Cardiff and Vale. There appears to be considerable variation at the local authority level. However, it is important to note that despite the fact that 10 years' data has been aggregated to produce these figures, the CIs are wide and none of the rates are statistically significantly different to the Wales rate of 3.0 per 1,000 live births.

Variation at both the health board and local authority level is also evident for infant mortality rates. However, Carmarthenshire (3.3 per 1,000 live births) is the only area with an infant mortality rate that is statistically significantly different to that for Wales (4.4 per 1,000 live births).

There has been an overall decrease in the infant mortality rate for Wales over the last 10 years which has been attributed to various factors including improved living conditions, diet, sanitation, birth control, advances in medicine and healthcare.[5,6] Compared with other European countries, Wales ranked 21 out of 38, with a 2011 infant mortality rate of 3.7 per 1,000 live births. For the other countries the infant mortality rates ranged from 0.9 per 1,000 live births in Iceland (ranked 1) to 13.1 in Kosovo (ranked 38).[7]

Neonatal and infant mortality rates are higher in the most deprived areas.[2,3] The latest figures show the infant mortality rate per 1,000 births for the most deprived fifth to be almost 50% higher than the least deprived fifth (Figure 7.3).

Figure 7.3 Infant mortality by fifth of deprivation, Wales, rate per 1,000 births, 2006-2010



Data source: ADBE & ADDE (ONS), WIMD 2011 (WG)

7.3 Causes of death

The most common cause of death in children and young people is injury/poisoning, which accounts for around one third of all deaths in the 0-24 year age group. However, there are noticeable differences by age (Figure 7.4).

Figure 7.4 Main causes of death by ICD10 chapter for children and young people, Wales, annual average, 2007-2011

Data source: ADDE (ONS)

In the under 5s the most common cause of death (by ICD10 chapter) was perinatal conditions, which accounted for just over half (51%) of the deaths in this age group in 2011. Examples of perinatal conditions include prematurity, birth trauma, infections, cardiovascular disorders, respiratory disorders and digestive disorders. The next most common cause was congenital malformations, which accounted for 1 in 6 deaths (16%). More than 85% of deaths in this age group were infants i.e. aged under 1 year.[1] *The Child Death Review Programme* reported that unknown cause of death (includes sudden infant death syndrome (SIDS)) accounts for around 9% of deaths in the under 1 age group.[1]

Deaths in the 5-11 age group are rare with 19 deaths registered in 2011, accounting for 5.5% of all deaths in the 0-24 year age group. Diseases of the nervous system and injuries/poisonings were the main underlying causes of death for this age group.

Deaths associated with risk taking behaviours among children and young people increase with age. In the 12-17 age group injury/poisoning is the main cause of death, accounting for half (114/229) of all deaths in 2007-2011. However, in the 18-24 year age group injury/poisoning accounts for 6 out of every 10 deaths (60%).

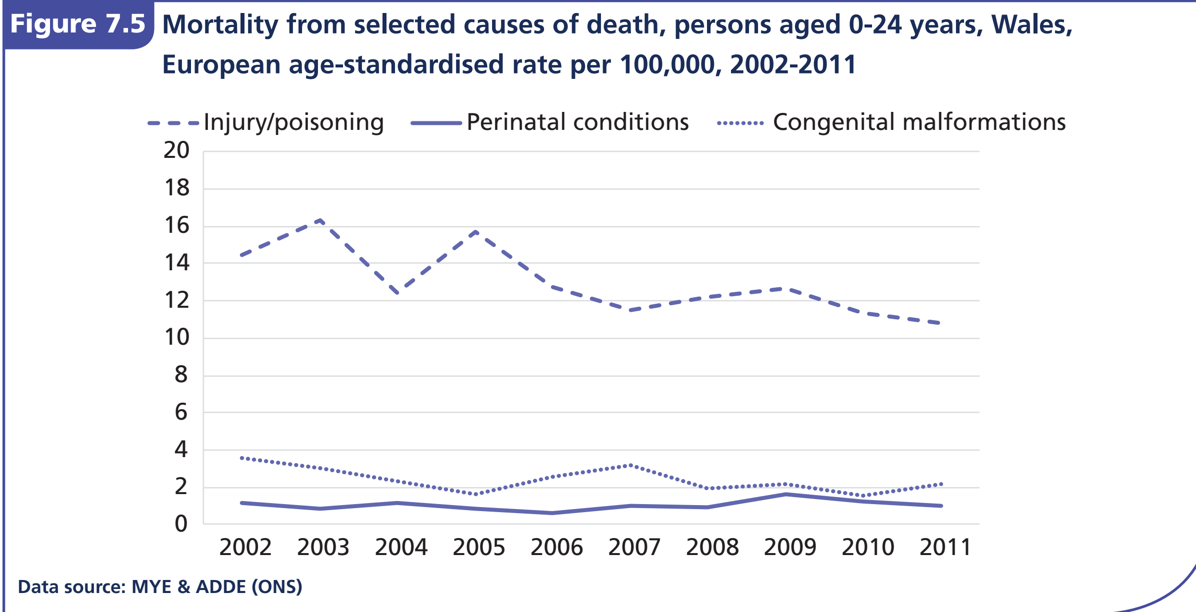
Male deaths are higher than females across all age groups, with more than 6 out of every 10 deaths (65%) in the 0-24 year age group being among males. This is particularly the case among injury/poisoning deaths. Males are also known to be more likely to engage in risk-taking behaviour than females.

Information on interventions for preventing injuries is included in section 8.8 of this report. Further evidence on interventions is outlined in the *Burden of injury report*[8] and in the evidence review to support the *Thematic review of deaths of teenagers in motor vehicles.*[9]

7.4 Mortality trends

There has been a downward trend for injury/poisoning deaths in the last decade (Figure 7.5). The rate of deaths from congenital malformations has also declined since 2002 but has seen little variation in the last 4 years. There has been little change in the death rate for perinatal conditions across the period.

Figure 7.5 Mortality from selected causes of death, persons aged 0-24 years, Wales, European age-standardised rate per 100,000, 2002-2011



Data source: MYE & ADDE (ONS)

Deaths in children and young people

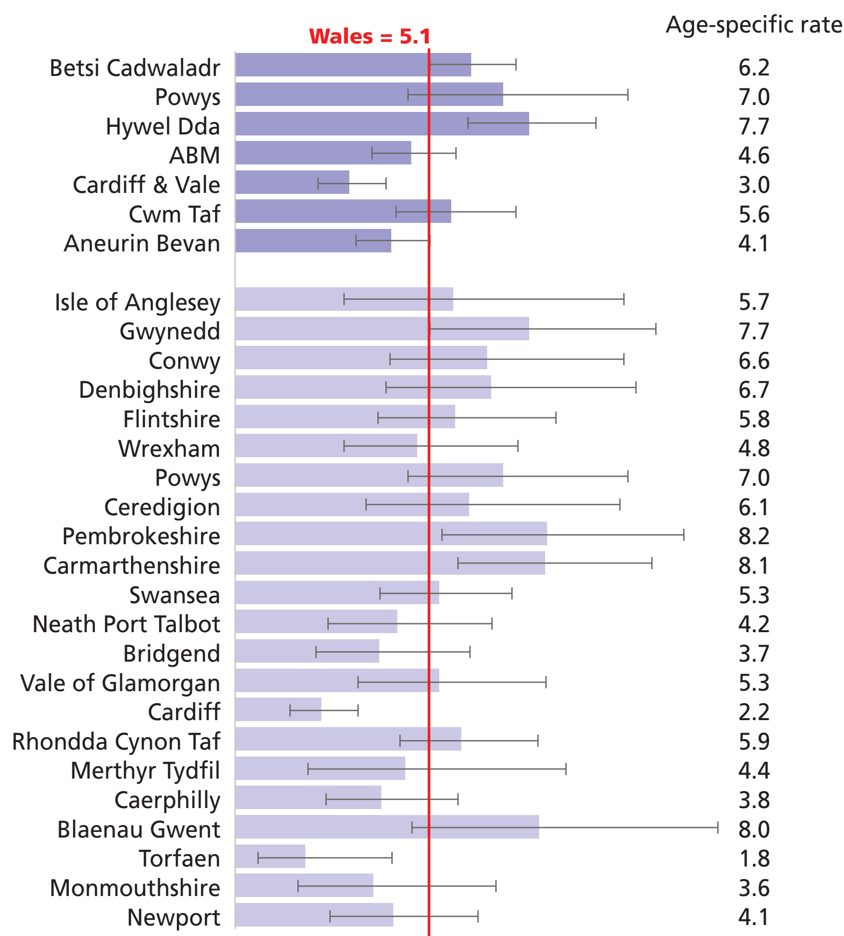
7.5 Road traffic crashes

The main cause of injury/poisoning deaths for persons of all ages is falls.[8] However, the main cause of injury/poisoning death for children and young people aged 0-24 years is road traffic crashes, accounting for 37% (approx 50 per year) of these deaths. Road traffic crashes include pedestrian injuries. A report looking at the burden of injuries in Wales found that road traffic crash deaths are most common in the 15-29 year age group. This is likely to be linked to driver and passenger casualties in crashes involving new drivers.[8] (Figure 7.6).

There is considerable variation at the health board level in road traffic crash death rates. The lowest rate per 100,000 population is seen in the Cardiff and Vale area (3.0) and the highest in the area of Hywel Dda (7.7) with both rates being statistically significantly different to the Wales average. Much of this is due to the different geographies of the health boards; Cardiff and the Vale being a more urban area with a wider variety of transport options and Hywel Dda being a much more rural area with few transport options. Surveys have shown that drivers, especially younger and inexperienced ones, on rural roads drive with less care than they do on urban roads. They think it is safer to break the speed limit on rural roads and they believe these roads are safer because they are quieter. Unfortunately, they often do not realise that rural roads present many unforeseen hazards, such as blind bends, hidden dips, animals and mud on the road.[10]

Greater variation is evident at the local authority level with Torfaen (1.8) and Cardiff (2.2) having the lowest rates per 100,000 population and Pembrokeshire (8.2) and Carmarthenshire (8.1)

Figure 7.6 Transport accident mortality by area of residence, persons aged 0-24, rate per 100,000 population, 2002-2011



Data source: MYE & ADDE (ONS)

having the highest rates. Again, the two highest and lowest rates are seen to be statistically significantly different to the Wales average.

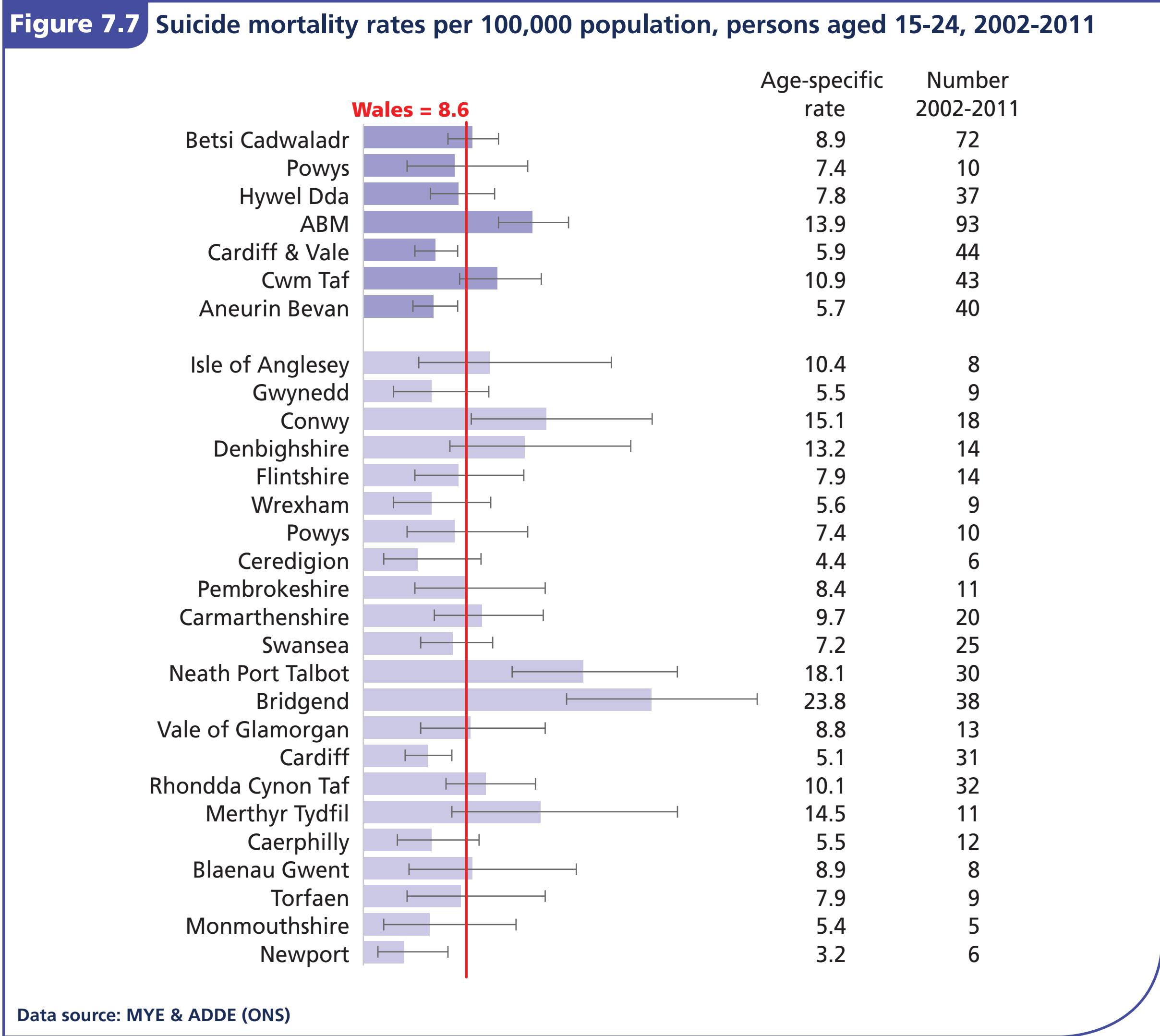
A thematic review of the deaths of teenagers in motor vehicles was recently conducted in Wales. The review focused on those aged 13-17 and can be accessed at: www.publichealthwales.org/childdeathreview. The *Thematic review of deaths of teenagers in motor vehicles* made specific recommendations for partnerships and government.[9]

Information on interventions for preventing road traffic crashes is included in section 8.8 of this report. Further evidence is outlined in the *Burden of injury report.*[8]

7.6 Suicide

Suicide is a rare event but each suicide is a tragedy; a life and a family member lost.[1] It accounts for 31% of deaths due to injury and poisoning among those aged 15-24 years. In Wales, between 2002 and 2011 an average of 34 young adults (15-24) committed suicide each year (Figure 7.7).

Figure 7.7 Suicide mortality rates per 100,000 population, persons aged 15-24, 2002-2011



	Age-specific rate	Number 2002-2011
Betsi Cadwaladr	8.9	72
Powys	7.4	10
Hywel Dda	7.8	37
ABM	13.9	93
Cardiff & Vale	5.9	44
Cwm Taf	10.9	43
Aneurin Bevan	5.7	40
Isle of Anglesey	10.4	8
Gwynedd	5.5	9
Conwy	15.1	18
Denbighshire	13.2	14
Flintshire	7.9	14
Wrexham	5.6	9
Powys	7.4	10
Ceredigion	4.4	6
Pembrokeshire	8.4	11
Carmarthenshire	9.7	20
Swansea	7.2	25
Neath Port Talbot	18.1	30
Bridgend	23.8	38
Vale of Glamorgan	8.8	13
Cardiff	5.1	31
Rhondda Cynon Taf	10.1	32
Merthyr Tydfil	14.5	11
Caerphilly	5.5	12
Blaenau Gwent	8.9	8
Torfaen	7.9	9
Monmouthshire	5.4	5
Newport	3.2	6

Data source: MYE & ADDE (ONS)

Figure 7.7 shows that, at the health board level, suicide rates per 100,000 population for the 15-24 year age group are seen to be lowest in the Aneurin Bevan area (5.7) and Cardiff and Vale area (5.9). The highest rate is seen in the Abertawe Bro Morgannwg area (13.9). These 3 rates are all statistically significantly different to the Wales average.

Within the health board areas there is considerable variation at the local authority level with rates per 100,000 population ranging from 3.2 in Newport to 23.8 in Bridgend. The rates in Neath Port Talbot (18.1) and Conwy (15.1) are also high (again all 4 areas being statistically significantly different to Wales). However, it is important to note that the pattern seen in Bridgend, Neath Port Talbot and Conwy is also present for all ages (the 3 areas being statistically significantly different to Wales) i.e. this is not only an issue for children and young people in these areas. Also, the numbers of suicides in each year are small and this can make a difference to the rate. Figures ranged from 1 to 6 suicides occurring in each year in Neath Port Talbot and 2 to 7 suicides occurring in each year in Bridgend.

The *Child Death Review Programme* have undertaken a pilot review on deaths of young people taking their own life and plan to revisit this theme as the next child death thematic review.[1] The Welsh Government have produced a national action plan to reduce suicide and self harm in Wales.[11] A regional suicide prevention group is being set up in mid and west Wales. The group is being led by Abertawe Bro Morgannwg University Health Board and will feed into the national group for suicide prevention. Information on interventions for improving mental well-being is included in section 8.7 of this report.

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Actions to improve health and well-being

8.1 Reducing unhealthy eating

8.2 Increasing physical activity

8.3 Reducing smoking prevalence

8.4 Reducing harm from alcohol and drugs

8.5 Reducing teenage pregnancy

8.6 Improving vaccination and immunisation uptake

8.7 Improving mental well-being

8.8 Reducing accidents and injuries

This chapter summarises recommendations on action that could be taken to improve the health and well-being of children and young people. The topics included map to the priority outcomes in *Our healthy future*, the Welsh Government's strategic framework for public health. The recommendations focus on multi-agency activity and therefore actions that should predominantly be delivered by the NHS are not included. The source of these recommendations is National Institute for Health and Care Excellence (NICE) guidance and the Cochrane and Campbell collaborations. No further literature searches were undertaken. Only a summary of the recommendations have been provided, the source documents should be consulted to inform implementation.

Governments '... shall assure to the child who is capable of forming his or her own views the right to express those views freely in all matters affecting the child, the views of the child being given due weight in accordance with the age and maturity of the child'.

The United Nations Convention on the Rights of the Child, Article 12

Most of the recommendations have been taken from NICE public health guidelines. This has no formal status in Wales but it is a useful source of reviewed evidence. A small number of recommendations from NICE clinical guidelines, relevant to multiagency activity, have been included. NICE clinical guidelines have formal status in Wales. This means that health professionals (and the organisations that employ them) are expected to take NICE clinical guidelines fully into account when deciding what treatments to give people.

Some further information from systematic reviews has been included. Systematic reviews summarise the best available research on a specific question. The research included is screened for quality so that the findings of a number of studies can be combined. The included systematic reviews are from either the Cochrane or the Campbell collaborations. The Cochrane Collaboration focuses on health care. The Campbell Collaboration looks at the research on education, crime and justice, social welfare and international development.

8.1 Reducing unhealthy eating

Prevention of obesity in children	
Who should take action	Recommended interventions
Nurseries and other childcare facilities	Implement Government guidelines on food and health. Ensure that children eat regular, healthy meals in a pleasant, sociable environment free from other distractions (such as television). Children should be supervised at mealtimes and, if possible, staff should eat with the children. NICE 2006[1] and NICE 2006[2] (Government guidelines Welsh Government 2009[3])
Head teachers and chairs of governors, in collaboration with parents and pupils	Assess the whole school environment and ensure that the ethos of all school policies helps children and young people to maintain a healthy weight, eat a healthy diet and be physically active, in line with existing standards and guidance. Head teachers and chairs of governors should ensure that teaching, support and catering staff receive training on the importance of healthy-school policies and how to support their implementation. NICE 2006[1] and NICE 2006[2]
Welsh Government, those planning obesity prevention programmes, Welsh Network of Healthy School Schemes	Evidence supports beneficial effects of child obesity prevention programmes on BMI, particularly for programmes targeted to children aged 6-12 years. A broad range of programme components have been used in research but it is not yet possible to distinguish which components were most effective. Promising policies and strategies are: • school curriculum that includes healthy eating, physical activity and body image • improvements in nutritional quality of the food supply in schools • environments and cultural practices that support children eating healthier foods and being active throughout each day • support for teachers and other staff to implement health promotion strategies and activities (e.g. professional development, capacity building activities) • parental support and home activities that encourage children to eat more nutritious foods. Cochrane Database 2011[4]

Maternal and child nutrition	
Who should take action	Recommended interventions
Local authorities, local strategic partnerships, voluntary agencies and local businesses that fund or provide community projects.	Provide support (both practical and financial) to develop and maintain community-based initiatives which aim to make a balanced diet more accessible to people on a low income. Examples include: food cooperatives, 'cook and eat' clubs, 'weaning parties' and 'baby cafes'. Work with local retailers to improve the way fresh fruit and vegetables are displayed and promoted. NICE 2008[5]

Interventions where there is limited evidence
Prevention of eating disorders Current evidence does not allow for any firm conclusions to be made about the impact of prevention programs for eating disorders in children and adolescents. Cochrane Database 2002[6]

8.2 Increasing physical activity

High level policy and strategy	
Who should take action	Recommended interventions
Chairs of children and young people's partnerships, health board chief executives, directors of children's services, directors of public health.	Ensure that local needs assessments, development and planning frameworks, plans and strategies explicitly address the need for children and young people to be physically active. NICE 2009[7]

Families	
Who should take action	Recommended interventions
Parents and carers.	Encourage active play, try to be more active as a family, gradually reduce sedentary activities (watching television, playing video games) and consider active alternatives. Encourage children to participate in sport or other active recreation and make the most of opportunities for exercise at school. NICE 2009[7] and NICE 2006[8]

Schools, nurseries and child care facilities	
Who should take action	Recommended interventions
Governors and heads of schools and colleges, those involved in governing or leading pre-school and early years education, school travel advisers.	Develop a school travel plan which has physical activity as a key aim, in line with existing guidance. Foster a culture that supports physically active travel for journeys to school (for all staff, parents and students) and during the school day. NICE 2009[9] and NICE 2012[10]
Staff in childcare and other early years settings, trainers working with childcare staff, including home-based childminders and nannies.	Nurseries and other childcare facilities should minimise sedentary activities during play time and provide regular opportunities for enjoyable active play and structured physical activity sessions. NICE 2006[8]
Staff in schools and governors, health professionals working in/ with schools, children and young people's strategic partnerships, healthy schools schemes.	Schools should ensure that improving the diet and activity levels of children and young people is a priority for action. A whole-school approach should be used to develop life-long healthy eating and physical activity practices. NICE 2006[8]
Teachers and other staff in schools, parents.	School-based physical activity should focus on fostering positive attitudes to physical activity and be geared to the developmental level of participants. Teachers and school staff should be encouraged to act as role models by demonstrating more physical activity during the course of the school day. Parental involvement could be an integral part of the school based intervention. Cochrane Database 2009[11]
Children's services, school sport partnerships, school governing bodies and head teachers.	Ensure school playgrounds are designed to encourage varied and physically active play. NICE 2009[7]and NICE 2008[9]

Local strategic planning	
Who should take action	Recommended interventions
Those responsible for all strategies, policies and plans involving changes to the physical environment.	Create safe routes to schools - for example, by using traffic-calming measures near schools and by creating or improving walking and cycle routes to schools. NICE 2008[9]
Local strategic partnership agencies responsible for physical activity facilities and services for children and young people. Policy makers and planners working in the public, voluntary, community and private sectors.	Identify groups of local children and young people currently unlikely to participate in at least 1 hour of moderate to vigorous physical activity a day. Work with public health, schools and established community partnerships and voluntary organisations, the children, young people and their families to achieve the physical activity guidelines for these groups. NICE 2009[7]
Local strategic partnerships.	Ensure indoor and outdoor physical activity facilities are suitable for children and young people with different needs particularly those from lower socioeconomic groups, minority ethnic groups with specific cultural requirements and those with a disability. Facilities should be available before, during and after the school day, at weekends and during school holidays. NICE 2009[7]
Governors and heads of schools and colleges, local authorities, road safety officers, school travel advisers, transport planners.	Ensure local transport plans are fully aligned with other local authority plans which may impact on children and young people's physical activity. NICE 2009[7]

Local planning, delivery and training	
Who should take action	Recommended interventions
Those responsible for/able to influence opportunities for children and young people to be physically active, governors and heads of schools and colleges.	Identify local factors that may affect whether or not children and young people are physically active by regularly consulting with them, their parents and carers. NICE 2009[7]
Employers or supervisors of those providing programmes or opportunities for children and young people aged 18 and under to be physically active.	Ensure informal and formal physical activity sessions (including play) are led by those with relevant sector standards or qualifications, including requirements for child protection, health and safety, equality and diversity. Ensure they have the skills (including interpersonal skills) to design, plan and deliver physical activity sessions (including active play sessions) that meet children and young people's different needs and abilities. NICE 2009[7]
Education and training organisations.	Establish continuing professional development (CPD) programmes for people involved in organising and running formal and informal physical activities. NICE 2009[7]
Public, voluntary, community and private sector organisations involved in designing physical activity projects and programmes. Governors and heads of schools and colleges.	Develop multi-component physical activity programmes and identify education institutions willing to deliver these, involving school, family and community-based activities. Identify families, community members, groups and organisations and private sector organisations willing to contribute. NICE 2009[7]
Managers and decision-makers responsible for/able to influence opportunities for children to be physically active.	Ensure opportunities, facilities and equipment are available to encourage children to develop movement skills, regardless of their ability or disability. NICE 2009[7]
Managers and decision-makers able to influence physical activity facilities, opportunities and programmes for girls and young women.	Consult with girls and young women to find out what type of physical activities they prefer. Address any psychological, social and environmental barriers to physical activity. NICE 2009[7]

Interventions where there is limited evidence
The body of evidence in this review does not support the hypothesis that multi-component community wide interventions effectively increase population levels of physical activity. Much of the available research is of poor quality inhibiting the ability to interpret the results and draw conclusions. Cochrane Database 2011[12]
Interventions that are not currently recommended
Increasing participation in sport There is an absence of high quality evidence to support interventions designed and delivered by sporting organisations to increase participation in sport. Cochrane Database 2008[13]

8.3 Reducing smoking prevalence

Prevention of smoking uptake in children and young people	
Who should take action	Recommended interventions
Organisers and planners of national, regional and local mass media campaigns including Welsh Government, NHS Wales, local authorities and tobacco control alliances.	Develop mass media campaigns to prevent the uptake of smoking targeted at children and young people. These should be based on research and testing with target audiences and use a range of strategies. NICE 2008[14], Cochrane 2010[15]
Local authorities and trading standards bodies.	Make it as difficult as possible for young people under 18 to get cigarettes and other tobacco products by addressing illegal tobacco sales. NICE 2008[14]
Education authorities, schools and other educational establishments.	Develop organisation wide or whole school smoke-free approaches and policies. These could include adult and peer led interventions and training and development of teachers and support staff. NICE 2010[16]

Interventions where there is limited evidence
There is limited evidence supporting the effectiveness of community interventions to influence smoking behaviour, including prevention of smoking in young people. Cochrane Database 2011[17]
Interventions that are not currently recommended
It is not possible to draw firm conclusions from the current evidence base about the efficacy of family interventions to prevent adolescent smoking, or whether the interventions are intense enough to produce a sustained effect. Cochrane Database 2007[18]
Currently, there is no high quality evidence that incentives aimed at children and adolescents prevent smoking initiation in the long-term. Cochrane Database 2012[19]
There is insufficient evidence to recommend exercise as a specific aid to smoking cessation. Cochrane Database 2012[20]
Although several interventions, including parental education and counselling programmes, have been used to try to reduce children's tobacco smoke exposure, their effectiveness has not been clearly demonstrated. Cochrane Database 2008[21]

8.4 Reducing harm from alcohol and drugs

Community interventions for vulnerable young people	
Who should take action	Recommended interventions
Local strategic partnerships.	Develop and implement a strategy to reduce substance misuse among vulnerable and disadvantaged people under 25 years. The strategy should be based on a local profile and supported by a local service model defining the role of local agencies and practitioners. NICE 2007[22]
Those in education, voluntary, community, social care, youth and criminal justice sectors working with vulnerable and disadvantaged children and young people.	Use existing screening and assessment tools to identify vulnerable and disadvantaged children and young people who are misusing, or who are at risk of misusing, substances; provide support and refer as appropriate to other services. For those aged 11-16 offer a family-based programme of structured support over 2 or more years, drawn up with the parents or carers and led by staff competent in this area. For children aged 10–12 who are persistently aggressive or disruptive, and assessed to be at high risk of substance misuse, offer group-based behavioural therapy over 1 to 2 years, before and during the transition to secondary school. For those under 25 who are problematic substance misusers, offer 1 or more motivational interview(s) according to need. NICE 2007[22] , NICE 2007[23], NICE 2010[24] and Cochrane Database 2011[25]
School based interventions on alcohol	
Who should take action	Recommended interventions
Head teachers, teachers, school governors and others who work in (or with) schools.	Ensure alcohol education is an integral part of the national science and personal and social educational curricula in line with Welsh Government guidance. NICE 2007[22] Evidence suggests generic psychosocial and developmental prevention programs such as Life Skills Training Programme (USA), the Unplugged Programme (Europe) and the Good Behaviour Game (USA and Europe) can be effective and could be considered as policy and practice options. Cochrane Database 2011[26]

School based interventions on alcohol - continued	
Who should take action	**Recommended interventions**
Teachers, school nurses and school counsellors.	Where appropriate, offer brief one-to-one advice on the harmful effects of alcohol use, how to reduce the risks and where to find sources of support. Offer a follow-up consultation or make a referral to external services, where necessary. NICE 2007[23] and NICE 2010[24]

Preventing harmful drinking	
Who should take action	**Recommended interventions**
Welsh Government, UK Government.	Take action to make alcohol less affordable (consider introducing minimum price per unit). Take action to make alcohol less available (consider revising legislation on licensing). Take action to ensure that children and young people's exposure to alcohol advertising is minimised. NICE 2010[24]
Local authorities, trading standards officers, police, magistrates, revenue and customs.	Use local crime and related trauma data to map the extent of alcohol-related problems before developing or reviewing a licensing policy. Ensure sufficient resources are available to prevent under-age sales. Work in partnership with the appropriate authorities to identify and take action against premises that regularly sell alcohol to people who are under 18. NICE 2010[24]

Reducing alcohol use in university or college students	
Who should take action	**Recommended interventions**
Policy makers, those considering interventions in universities and colleges.	Use normative feedback. Feedback can be given alone or in addition to individual or group counselling. Evidence suggests that individual and personalised normative interventions over the immediate and medium term appear to reduce alcohol use, misuse and related problems amongst university or college students. Cochrane Database 2009[27]

Interventions where there is limited evidence
Universal multi-component alcohol misuse prevention Multi-component prevention programmes that deliver interventions in multiple settings, for example in both school and family settings, typically combining school curricula with a parenting intervention can be effective. However, there is little evidence that interventions with multiple components are more effective than interventions with single components. This means that this review found little evidence of a synergistic effect to multi-component interventions. Cochrane Database 2011[28]
Interventions that are not currently recommended
Currently there is insufficient evidence to recommend the use of structured mentoring programmes to reduce rates of drug and alcohol use in young people. Cochrane Database 2011[29]

8.5 Reducing teenage pregnancy

Personal, social, health and economic education (PSHE) focusing on sex and relationships	
Who should take action	Recommended interventions
School & college governors, teachers, principals, lecturers and tutors. Commissioners and managers in children's services. Practitioners working with young people with responsibility for, school, college and community-based personal, social, health and economic (PSHE) education focusing on sex and relationships.	Raise awareness among school and college communities, (including parents), that effective education on sex and relationships has a positive impact on children's and young people's health and well-being. Consult and involve the whole school and college community in developing a comprehensive and complementary curriculum integrated within a planned programme of PSHE education. Help primary school children to develop and sustain relationships and friendships. Ensure they understand the importance of valuing and having respect for others, providing a foundation for later teaching about sex and relationships. Teachers and lecturers should encourage and support health professionals, members of other agencies and members of local community groups to contribute to the teaching of PSHE education. Ensure all those who teach about sex and relationships have received accredited training. Provide specialist accredited training for PSHE education as part of initial teacher training. This includes sex and relationships education. Use a range of evidence-based teaching methods to suit different learning styles. Commission community-based education about sexual health and relationships for young people who may have missed some of their school and college-based education, or who did not feel it met their needs. Ensure vulnerable children and young people receive PSHE education including education on sex, individually tailored information and advice, help to identify and manage risks and make responsible, healthy and safe choices. NICE 2010[30]

Behavioural interventions for young women	
Who should take action	Recommended interventions
Those providing interventions in schools, colleges and health care settings.	Behavioural interventions (mainly information plus skills development) which aim to promote sexual behaviours protective of sexually transmitted infection transmission can encourage condom use for sexual intercourse. Cochrane Database 2011[31]
Interactive computer based interventions	
Who should take action	Recommended interventions
Those responsible for sexual health education in schools and colleges.	Interactive computer based interventions are effective for learning about sexual health leading to gains in knowledge in comparison with minimal intervention, and face-to-face interventions. Cochrane Database 2010[32]

Interventions where there is limited evidence
Concurrent use of interventions such as education, skill-building and contraception promotion may reduce the risk of unintended pregnancy in adolescents. There is little evidence about the effect of each of these interventions offered alone. Overall, the evidence remains inconclusive and is not the basis for recommending the use or discontinuation of any of these interventions already in use. Cochrane Database 2009[33]
This review found no consistent evidence that pregnancy prevention programs altered the sexual activity or pregnancy risks of young people. Limited evidence supported programmes with an abstinence focus. There was no consistent evidence that sex education programs altered the likelihood that young people would initiate sex, would risk pregnancy, or would become (or get someone) pregnant. The most promising results were for more intensive multi-component youth development programs serving higher risk adolescents and results tended to be most favourable for females. Campbell Systematic Reviews 2006[34]

8.6 Improving vaccination and immunisation uptake

Who should take action	Recommended interventions
Head teachers, school governors and heads of further education colleges and pupil referral units.	Head teachers, school governors, managers of children's services and PCT (health board) immunisation coordinators should work with parents to encourage schools to become venues for vaccinating local children. This would form part of the extended school role. NICE 2009[35]

In addition, specific actions and resources for Wales are outlined in Chapter 5, Immunisation and screening.

8.7 Improving mental well-being

Early years	
Who should take action	Recommended interventions
Those planning and commissioning services for under 5s in local authorities, the NHS and partner agencies.	Ensure the social and emotional well-being of vulnerable children features in the Single Integrated Plan as one of the most effective ways of addressing health inequalities. NICE 2012[36]
Professionals in early years settings, primary schools, NHS, voluntary and community sector, safeguarding services, police, housing departments.	Professionals should develop trusting relationships with vulnerable families and adopt a non-judgmental approach, while focusing on the child's needs. NICE 2012[36]
Those providing early education and childcare, health visiting, local authority children's services, school nursing.	Ensure all vulnerable children can benefit from high quality childcare outside the home on a part or full-time basis and can take up their entitlement to early childhood education. NICE 2012[36]
Early years settings primary schools, NHS, voluntary and community sector, safeguarding services.	Put systems in place to deliver integrated universal and targeted services that support vulnerable children's social and emotional well-being, including systems for sharing information and for multidisciplinary training and development. NICE 2012[36]
Primary education	
Those with responsibility for commissioning or providing primary education, teachers and other practitioners working in primary education.	Ensure that schools adopt a whole school approach to children's social and emotional well-being and have access to the skills, advice and support needed to deliver a comprehensive and effective programme that is integrated with the curriculum. NICE 2008[37]
Secondary education	
Those commissioning and providing services to young people in secondary education.	Enable all secondary education establishments to adopt an organisation-wide approach to promoting social and emotional well-being of young people. This should encompass organisation and management issues as well as the curriculum and extra-curriculum provision. NICE 2009[38]

Those commissioning programmes to prevent school drop-out.	Drop-out prevention and intervention programs, regardless of type, will be effective if implemented well and appropriate for the local environment. Campbell Systematic Reviews 2011[39]
Looked after children - a wide range of actions have been recommended covering the following areas	
Who should take action	Recommended interventions
Commissioners of health services and local authority children's services. Directors of children's services and directors of public health.	**Strategic leadership, planning and commissioning** High-performing local authorities are those with strong leaders who have an aspirational vision of effective corporate parenting for all looked after children and young people. NICE and SCIE 2010[40]
Estyn, Care and Social Services Inspectorate Wales (CSSIW) and Health Inspectorate Wales (HIW).	**Audit and inspection** A robust audit and inspection framework ensures that looked after children and young people continue to be strategic priorities for local authorities, the NHS and their key partners. NICE and SCIE 2010[40]
Directors of children's services.	**Care planning, placements and case review** Effective care planning, led by social workers, promotes permanence and reduces the need for emergency placements and placement changes. NICE and SCIE 2010[40]
Directors of children's services and public health. Senior staff with responsibility for commissioning and providing health services.	**Professional collaboration** For the team around the child to provide effective care, professionals need to collaborate closely and share relevant and sensitive information. When multi-agency teams are supported and encouraged to address their way of working, they are better able to collaborate when handling difficult and complex situations. NICE and SCIE 2010[40]
Directors of children's services. Commissioners of mental health services.	**Dedicated services to promote mental health and emotional wellbeing** Early intervention to promote mental health and well-being can prevent the escalation of challenging behaviours and reduce the risk of placement breakdown. NICE and SCIE 2010[40]

Looked after children - continued	
Who should take action	Recommended interventions
Placement teams. Social workers and social work managers.	**Placements** Membership of a sibling group is a unique part of the identity of a child or young person and can promote a sense of belonging and promote positive self esteem and emotional well-being. NICE and SCIE 2010[40]
Social work managers.	Frequent moves and parents' physical and mental health problems can adversely affect the ability of babies and very young children to form healthy attachments that lead to healthy emotional and physical development. NICE and SCIE 2010[40]
Commissioners and providers of health services. Social work managers.	**Health assessments, records and information** Accurate and up to date personal health information has significant implications for the immediate and future well-being of children and young people during their time in care and afterwards. NICE and SCIE 2010[40]
Social workers and social work managers.	**Quality of life** Developing a positive personal identity and a sense of personal history is associated with high self esteem and emotional well-being. NICE and SCIE 2010[40]
Directors of children's services.	**Supporting foster and residential care** Foster and residential care are complex activities that require rehabilitative and therapeutic approaches and skills. NICE and SCIE 2010[40]
Directors of children's services.	Care provided by family and friends may lead to good long-term outcomes for many children and young people. NICE and SCIE 2010[40]
Those responsible for providing and commissioning education, including those with responsibility for teacher training.	**Education** Education that encourages high aspirations, individual achievement and minimum disruption is central to improving immediate and long-term outcomes for looked after children and young people. NICE and SCIE 2010[40]

Looked after children - continued	
Who should take action	Recommended interventions
Directors of children's services.	**Preparing for independence** Services designed with young people in mind and delivered by friendly, approachable professionals can help young people find the right support and advice at the right time, to help them become independent. NICE and SCIE 2010[40]
Those with responsibility for training staff working with looked after children and young people.	**Training for professionals** Evidence suggests that the experiences and needs of looked after children and young people are not well understood by all the professionals who come into contact with them. Developing national training curricula, with levels appropriate for a wide range of professionals, will increase understanding of this diverse group of children and young people. NICE and SCIE 2010[40]

Group based parenting programmes	
Who should take action	Recommended interventions
Psychologists, therapists/ counsellors, social workers or community workers and others delivering parenting programmes.	Evidence supports the use of group based parenting programmes to improve parental psychosocial functioning. Parental psychosocial health can have a significant effect on the parent-child relationship, with consequences for the later psychological health of the child. Campbell Systematic Reviews 2005[41]
Conduct disorders – prevention and management	
Who should take action	Recommended interventions
Health and social care professionals, managers and commissioners in collaboration with colleagues in educational settings.	Develop and implement evidence based local care pathways that address prevention and promote access to services for children and young people with a conduct disorder and their parents. NICE 2013[42]

Interventions where there is limited evidence
Treatment foster care is a promising social intervention for children and young people at risk of placement in settings that restrict their liberty and who are at risk of a range of adverse outcomes. This holds for a range of children and youths with behavioural and emotional disorders, but particularly those with conduct disorders and delinquency. Campbell Systematic Reviews 2007[43]
There is some evidence that vigorous exercise has positive short-term effects on self esteem in children and young people aged between 3 and 20 years. Campbell Systematic Reviews 2005[44]
There is evidence that participation in psycho- educational internet safety interventions is associated with an increase in internet safety knowledge but this is not significantly associated with a change in risky online behaviour. Campbell Systematic Reviews 2009[45]
Interventions that are not currently recommended
There is insufficient evidence for any firm conclusions to be made about the impact of prevention programs for eating disorders in children and adolescents. Cochrane Database 2002[46]
There is insufficient evidence to recommend independent living programmes to improve outcomes for young people leaving the care system. Cochrane Database 2006[47]
The research included in this review did not provide evidence that home-based interventions that are specifically targeted at improving developmental outcomes for preschool children from socially disadvantaged families are effective. Cochrane Database 2011[48]

8.8 Reducing accidents and injuries

Preventing unintentional injuries in those under 15 years	
Who should take action	Recommended interventions
Welsh Government, local authority children's services and their partners.	Ensure local and national plans and strategies for children and young people's health and well-being include a commitment to preventing unintentional injuries. NICE 2010[49]
Local authority children's services, local safety partnerships.	Ensure a child and young person's injury prevention coordinator works with local partners and develops a 2 to 3 year injury prevention strategy. NICE 2010[49]
Welsh Government, local authority children's services and their partners.	Parenting interventions (commonly provided in the home as part of a multi-faceted intervention to improve a range of outcomes) are effective in reducing self-reported or medically attended unintentional injury. These may also improve home safety. Evidence relates mainly to families 'at risk' of adverse child health outcomes including child abuse and neglect. Cochrane Database 2013[50]
Welsh Government.	Encourage funding for educational establishments and organisations to help them develop standards for competencies in and courses and modules on the prevention of unintentional injuries among children and young people. NICE 2010[49]
Local authority children's services and partners injury prevention coordinators, health, social care & education providers.	Provide access to appropriate education and training in preventing unintentional injuries for everyone who works with (or cares for and supports) children, young people and their families. Prioritise those who work directly with these groups. NICE 2010[49]
Local authorities.	Consider developing local agreements with housing associations and landlords to ensure permanent home safety equipment is installed and maintained in all social and rented dwellings. NICE 2010[49] and NICE 2010[51]
Welsh Government.	Ensure national child health initiatives include guidance on delivering home safety assessments and providing safety education to families with a child under 5 or with other children who may be particularly vulnerable to unintentional injuries. NICE 2010[49] and NICE 2010[51]

Preventing unintentional injuries in those under 15 years - continued	
Who should take action	Recommended interventions
Local authority children's services and their partners.	Ensure home safety assessments and education are incorporated in local plans and strategies for children and young people. They should be aimed at families with a child under 5 or with other children who may be particularly vulnerable to unintentional injuries. NICE 2010[49] and NICE 2010[51]
Local authority children's services and their partners, health and social care providers.	Home safety education and provision of safety equipment is effective in increasing a range of safety practices and possibly also in reducing child injury rates. Cochrane Database 2012[52]
Head teachers, school governors, local strategic partnerships, play and leisure providers in all sectors.	Ensure policy takes a balanced approach to assessing the risks and benefits of play and leisure environments and activities. NICE 2010[49]
Injury prevention coordinators, lifeguards, outdoor activity and holiday centre managers, schools, swimming instructors, swimming pool managers.	Know which groups of children and young people are at high risk of drowning – and when that risk is increased. Provide children, young people, their parents and carers with information and education on water safety in play and leisure environments. Encourage children, young people, their parents and carers to become competent swimmers and to learn other water safety skills. Ensure swimming lessons include general and specific water safety information. NICE 2010[49]
Leisure facility providers, hoteliers, holiday companies and tour operators.	Use risk analysis and management procedures to identify where there may be a risk of drowning. Minimise that risk, wherever possible, without discouraging swimming. NICE 2010[49]
UK and Welsh Government, individuals and organisations with swimming pools.	Isolation fencing with dynamic self-latching gates is an effective environmental intervention reducing unintended access to pools and risk of drowning for preschool children. Legislation accompanied by educational campaigns should be implemented for all public, semi-private and private swimming pools. Legislation should require fencing of both newly constructed and existing pools and include enforcement provisions, in order to be effective. Cochrane Database 1998[53]

Preventing unintentional injuries in those under 15 years - continued	
Who should take action	Recommended interventions
Local authorities, schools and school travel advisers, injury prevention coordinators, police, retail outlets and cycle hire centres.	Use local information campaigns and ongoing education to encourage cycle training and promote the use of correctly fitted and fastened cycle helmets while cycling. Schools, school travel advisers, injury prevention coordinators, local authorities and the police should ensure travel plans cover off-road routes. Retailers should provide point-of-sale advice on the correct fitting of cycle helmets. Cycle hire centres should advise about the advantages of children and young people wearing correctly fitted and fastened cycle helmets. NICE 2010[49]
Local highway authorities.	Maintain the existing road safety partnership (or establish one) to help plan, coordinate and manage road safety activities. Ensure local child road safety reviews are carried out at least every 3 years. NICE 2010[49]
Local authority children's services and partners.	Review local partners' priorities and strategies to ensure they are coordinated. NICE 2010[49]
Local highway authorities and their road safety partnerships.	Use signage, road design and engineering measures to reduce vehicle speeds on roads where children and young people are likely to be, such as those passing playgrounds or schools and streets that are primarily residential where pedestrian and cyclist movements are high. NICE 2010[49] and NICE 2010[54]
Environmental health officers, fire service, injury prevention coordinators, children's services and partners, police, schools, trading standards officers.	Conduct local firework injury prevention campaigns, informed by emergency department surveillance data, during the lead up to all celebrations and festivals where fireworks are used. NICE 2010[49]
Reducing crash rates in young drivers	
Welsh Government, UK Government.	Graduated driver licensing is effective in reducing crash rates of young drivers. The magnitude of the effect varies across jurisdictions. Individual provisions may be less important than the overriding principle of gradually introducing new drivers to higher risk situations as they acquire more driving experience. Cochrane database 2011[55]

School based interventions to prevent violence	
Who should take action	Recommended interventions
Welsh Government, local authorities, school teachers and governors.	School-based interventions targeted to children exhibiting aggressive or violent behaviours are beneficial in reducing both reported or observed aggressive behaviour and school responses to aggression. Interventions designed to improve relationship skills or social skills may be more effective than interventions designed to teach skills of non-response to provocative situations. Cochrane Database 2006[56]

Interventions where there is limited evidence
Pedestrian safety education can result in improvement in children's knowledge of the road crossing task and change observed road crossing behaviour but whether this reduces the risk of pedestrian motor vehicle collision and injury occurrence is unknown. There is evidence that changes in safety knowledge and observed behaviour decline with time, suggesting that safety education must be repeated at regular intervals. Cochrane Database 2002[57]

Interventions that are not currently recommended
There is insufficient evidence to determine whether interventions focused on modifying environmental home hazards reduce injuries. Cochrane Database 2011[58]
This systematic review found no evidence that newly licensed driver education is effective in preventing road traffic injuries or crashes. Cochrane Database 2003[59]
There is a lack of research from which practitioners can draw an evidence-base regarding the effectiveness of community-based injury prevention programmes to prevent burns and scalds in children. Cochrane Database 2004[60]

Interventions that may be harmful
The results show that school based driver education leads to early licensing. The evidence found did not show that driver education reduces road crash involvement and suggests that it may lead to a modest but potentially important increase in the percentage of teenagers involved in traffic crashes. Cochrane Database 2001[61]

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Conclusion

Children and young people make up almost a third of the population of Wales; services must recognise and respond to their needs. This is a stage of life when individuals can become full, engaged and active citizens but it is also a stage when they are vulnerable. They, and their families, need particular support and also need to be engaged in the changes that affect them. This is fundamental to the rights now enshrined within the *Rights of children and young persons (Wales) measure 2011.*[1]

The basis for every aspect of human development is laid down during pregnancy and in early childhood. There is increasing evidence that the development of children can be influenced to maximise their health, social and educational development, but this needs to be done as early as possible. Evidence of the effectiveness of interventions among children, particularly in the early years, makes a strong economic case for investment. This is one of the most effective mechanisms for tackling inequalities in health. Evidence for this is outlined in *Fairer society healthy lives: the Marmot review.*[2] The first policy recommendation from this review is to 'Increase the proportion of overall expenditure allocated to the early years and ensure expenditure on early years development is focused progressively across the social gradient'.[2 (p.16)]

The health of children and young people is shaped by the conditions and circumstances in which they and their families live. One in five children live in poverty and many provide unpaid care. Patterns of educational attainment reflect those of deprivation and poverty. These determinants negatively impact life chances, perpetuating the cycle of socio-economic inequality. Addressing these determinants is at the heart of any sustainable approach to improving the health and well-being of the children of Wales.

There are opportunities throughout childhood to support a healthy environment; this begins before birth, with good maternal nutrition and free from tobacco. These are key factors that affect low birth weight, which in turn impacts on future health outcomes. At birth, only around half of children are breastfed. Although vaccination uptake in the early years has improved, a fifth of four year olds have not had the full complement of vaccines. Many older children remain vulnerable to vaccine preventable disease such as measles.

The circumstances in which people live are very much reflected in their behaviour. By the end of the early years around one in eight children are obese, more than in any English region. Many teenagers take up the addictive use of tobacco; a product which is implicated in the death of half of its users. Alcohol misuse also remains common among young people in Wales. Rates of teenage pregnancy have been relatively high in Wales, but are falling.

Most children are in good health and report a good quality of life. However, Wales tends to fare less well than its neighbours on these measures. This report highlights the good news that children with severe conditions such as hypoplastic left heart syndrome, are now living beyond the age of five, where previously there was little possibility of survival. Although outcomes for many children with conditions improve, there are still children living on with chronic conditions or disabilities. Services need to not only consider the needs of children, but particularly their transition to adult services. In terms of death and disability, injuries have a major impact on our children and young people.

The data and evidence outlined in this report provides an opportunity to strengthen the focus on children and young people in all work undertaken in Wales, particularly within Single Integrated Plans. Key to supporting children is supporting their families and communities. Much work is underway in Wales but there is clearly more that needs to be done.

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Conclusion

Glossary of abbreviations

ADBE	Annual District Birth Extract
ADDE	Annual District Death Extract
BMI	Body mass index
BTEC	Business and Technology Education Council
CAEDS	Community Adult Eating Disorders Services
CAMHS	Child and Adolescent Mental Health Services
CARIS	Congenital Anomaly Register & Information Service for Wales
CDH	Congenital diaphragmatic hernia
CDSC	Communicable Disease Surveillance Centre
CertHE	Certificate of Higher Education
CI	Confidence interval
CMP	Child Measurement Programme
CNS	Central nervous system
COVER	Coverage of Vaccination Evaluation Rapidly
CPD	Continuing professional development
CTC	Child Tax Credit
DH	Department of Health
DipHE	Diploma of Higher Education
DMFT	Decayed, missing and filled teeth
DWP	Department of Work and Pensions
EASR	European age-standardised rate
EDDS	Emergency Department Dataset
EUROCAT	European Surveillance of Congenital Anomalies

FAS	Family Affluence Scale
GCSE	General Certificate of Secondary Education
GUM	Genito Urinary Medicine
HBSC	Health Behaviour in School-aged Children
HESA	Higher Education Statistics Agency
HLHS	Hypoplastic left heart syndrome
HMRC	Her Majesty's Revenue and Customs
HNC	Higher National Certificate
HND	Higher National Diploma
HPV	Human papillomavirus
ICD10	International Classification of Diseases 10th Revision
IS	Income Support
JSA	Jobseekers Allowance
LE	Life expectancy
LEA	Local education authority
LLTI	Limiting long term illness
LSOA	Lower super output area
MMR	Measles, mumps, rubella
MSOA	Middle super output area
MYE	Mid-year population estimate
NBHSW	Newborn Hearing Screening Wales
NCCHD	National Community Child Health Database
NEET	Not in education, employment or training
NHS	National Health Service
NICE	National Institute for Health and Health Care Excellence
NWIS	NHS Wales Informatics Service
NVQ	National Vocational Qualification
ONS	Office for National Statistics

PEDW	Patient Episode Database for Wales
PHW	Public Health Wales
PHMF	Public Health Mortality File
PLASC	Pupil Level Annual School Census
QOF	Quality and outcomes framework
SCIE	Social Care Institute of Excellence
SEN	Special educational needs
SGOs	Special Guardianship Orders
SHHAPT	Sexual Health and HIV Activity Property Type
SIDS	Sudden infant death syndrome
STATS19	STATS19 road accident dataset
STI	Sexually transmitted infection
SWS	Sexual health in Wales Surveillance scheme
TAPVC	Total anomalous pulmonary venus connection
TFR	Total fertility rate
USOA	Upper super output area
VPDP	Vaccine Preventable Disease Programme
VS	Vital statistics
WCISU	Welsh Cancer Intelligence and Surveillance Unit
WDS	Welsh Demographic Service
WG	Welsh Government
WHC	Welsh Health Circular
WHO	World Health Organization
WHS	Welsh Health Survey
WIMD	Welsh Index of Multiple Deprivation
WISR	Welsh Initiative for Stillbirth Reduction
WNDSM	Welsh National Database for Substance Misuse
WOHIU	Welsh Oral Health Information Unit
WTC	Working Tax Credits