Annual Report of the Director of Public Health 2010
Adroddiad Blynyddol Cyfarwyddwr Iechyd y Cyhoedd 2010

Fair Play: Children and Families
Chwarae Teg: Plant a Theuluoedd

July 2011

GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol Caerdydd a'r Fro
Cardiff and Vale University Health Board

Contents

Front Cover designed by Amnah Ali of Pendoylan Primary School

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Healthy Families

We eat healthy,
We play sports,
We do that
Every day of course!
We want to play,
We want to eat,
Only fruit and veg
Because they're our treat!
I want to play,
What do you want to do?
I like tennis,
How about you?

Morgan Ashton (St Joseph's Primary School)

Foreword

This report follows on from the Interim Annual Report (November 2010). That report described the health of the population of Cardiff and the Vale and laid out the key health challenges facing our population as a whole. It outlined the framework we have set, with partners, to enable us to improve health and tackle health inequalities.

In this report, I have chosen to concentrate on the health of children and their families. If we are to achieve a sustainable step change in the health of our population we absolutely have to invest energy and resource in the early years of life. Time and time again studies have shown that investing in early years pays dividends quickly and through out the life course at a population, community and individual level. Given our gloomy resource outlook we cannot afford to ignore this evidence and the opportunity for health gain now and into the future. Given our knowledge of the big health and wellbeing challenges faced by our population, a focus on children and their families is a necessity.

Public health is all about achieving the best possible sustainable health and wellbeing outcomes for people. To do this it takes the medium and long term view and insists on strong partnership working. The challenge for us all is to ensure that short term imperatives don't detract from our goal of better health and wellbeing.

I am indebted to Dr Sian Griffiths who as editor of the report has brought everything together very ably. My thanks also for all inputs from the wider group that Sian has worked with; in particular, the local Public Health Team, Public Health Wales Observatory and Cardiff Research Centre.

Dr Sharon Hopkins
Director of Public Health
Cardiff and Vale University Health Board

July 2011

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Sion Ward, Cardiff Research Centre

Chapter 1
Introduction

Ffion Blunsdon (Evenlode Primary School)

This year's annual report focuses on children under the age of 18 years and their families in Cardiff and the Vale of Glamorgan.

It explores the factors which influence their health, particularly the effects of inequality and poverty, and the impact of the present economic downturn. It makes recommendations on key areas for action.

Families are fundamentally important to the development of children and their status is recognised in the *United Nations Convention on the Rights of the Child*[1]. The Convention states that it is 'convinced that the family, as the fundamental group of society and the natural environment for the growth and well-being of all its members and particularly children, should be afforded the necessary protection and assistance so that it can fully assume its responsibilities within the community'.

This builds on the movement started by the International Year of the Family in 1994 which recognised the crucial role that families play in social development. They act as the 'basic and essential building blocks' for society, providing care and support to young and old 'sheltering them from hardship to the maximum possible extent' [2] (Pg3). This social protection function is becoming increasingly important in times of economic uncertainty and social vulnerability. However at this time of greater need, this function appears to be diminishing, as extended family networks are reducing because of changes in living arrangements, family size, and socio-economic factors.

There is no accepted formal definition of a family in modern society and so this report considers families in their broadest sense. This means any setting where children live and are cared for when they are not in education – this includes the traditional family structure, single parent families, families where grandparents or other extended family members are the main carers, foster families and other official care settings.

Policy context

The 1989 *United Nations Convention on the Rights of the Child* (UNCRC) is an international agreement that protects the human rights of children under the age of 18 years[3]. In 2001 the United Kingdom agreed to ensure all children had all the rights listed in the UNCRC. Wales adopted this as the basis of its policy making for children and young people in 2004.

This rights based approach has informed the development of legislation for children in Wales. In 2010, the National Assembly for Wales passed a *Children and Families (Wales) Measure*[4] to take forward its commitment to tackling child poverty. The measure covers three main subject areas: child poverty, play and participation; child minding and day care for children; integrated family support teams. The measure aims:

'…to improve the lives of vulnerable children and families in Wales and the lives of those disadvantaged by poverty. It will enable support to be provided to those families and children in the greatest need who, without additional support, would be unfairly disadvantaged within our society.'[5]

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The Measure also required the production of a child poverty strategy. The *Child poverty strategy for Wales*[6] sets out three objectives for the reduction in inequities that currently exist in the health, education and economic outcomes of children and families living in poverty:

- To reduce the number of families living in workless households
- To improve the skills of parents and young people living in low income households so they can secure well-paid employment
- To reduce inequalities that exist in health, education and economic outcomes of children and families by improving the outcomes of the poorest

The Strategy highlights the significant contribution that the NHS can make to tackling the causes, and mitigating the effects, of child poverty and calls for Local Health Boards to work closely with Children and Young People's Partnerships. The potential contribution of the NHS has been reaffirmed in the *2011/12 NHS Annual Quality Framework*[7] in which the Welsh Government (WG) requires Local Health Boards to make demonstrable progress with achieving child poverty targets relating to infant mortality, low birth weight and teenage conceptions.

In addition, the WG has recently published a health inequity action plan, *Fairer health outcomes for all*[8]. This builds on the direction for Public Health in Wales set in *Our healthy future*[9]. Based on four principles (box 1), the action plan describes a vision of 'Improved health and wellbeing for all, with the pace of improvement increasing in proportion to the level of disadvantage'.

Box 1

***Fairer Health Outcomes for All*[8] – Principles**

- A long term evidence based approach
- Action across the social gradient in health
- Action across the social determinants of health and wellbeing
- Action across the life course

It identifies seven action areas for action:

- Building health into all policies and all policies into health
- Giving every child a healthy start
- Developing health assets in communities
- Improving health literacy
- Making health and social services more equitable
- Developing a healthy working Wales
- Strengthening the evidence base.

Improving health in Cardiff and the Vale of Glamorgan

Improving population health requires effective partnership strategies and action plans in the five complementary elements outlined in the Ottawa Charter[10].

- Building on healthy public policy.
- Creating supportive environments for health.
- Strengthening community action for health.
- Developing personal skills.
- Re-orientating health (and other) services.

Chapter 1
Introduction

Overall, the health of the local population is not significantly different from the Welsh average. However, this headline conceals large variations in health status between richer and poorer areas, and Wales itself is still lagging behind the best in Europe in all cause mortality and all age male and female mortality. Of concern is the fact that these inequalities are growing.

The *Interim annual report of the Director of Public Health*[11] sets out how the settings approach is being used in Cardiff and the Vale of Glamorgan area as an evidence based way of improving population health (figure 1.1).

Figure 1.1 The settings approach to improving health

The settings approach to improving health concentrates on education for self management (the lifestyle approach) and helping people to make the healthy choice the easy choice. Four key settings have been identified, which have been chosen for their potential breadth of impact. These are Healthy Schools, Healthy City in Cardiff, Health Vale Communities and developing Cardiff and Vale University Health Board (UHB) and other partnership organisations as Practising Public Health Organisations. Specific priority is being given to improving levels of physical activity, promoting a healthy balanced diet, reducing obesity, and reducing harm from tobacco and alcohol. Mental health promotion is a component of work in each of these areas alongside the importance of self care.

Families represent a further setting for health improvement as they cross all four of the settings – and so this report focuses specifically on what influences the health of families and how to improve it. Chapter 2 outlines the influences on population health, the inequalities which exist and makes the case for prioritising the early years. Chapter 3 describes what is known of the health and well being of children in Cardiff and the Vale of Glamorgan. Chapter 4 then explores the important early years in detail. Improving capabilities and control in children and families is discussed in chapter 5. The final two chapters explore the influence environments on health and the importance of prevention.

KEY MESSAGES

- The nature of families has changed and continues to change. Services need to recognise this and adjust.
- Policy in Wales strongly supports a focus on the health of children and families, services must reflect this focus.

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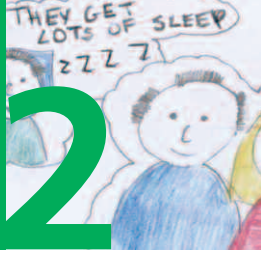
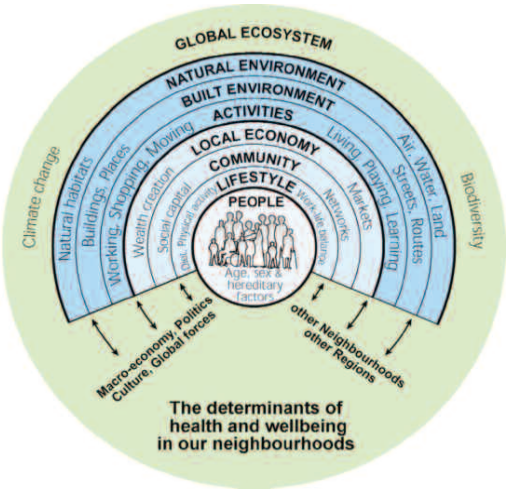
Chapter 2: The determinants of health inequalities and the importance of the early years



Nia Jenkins Welch (St Andrew's Major Church in Wales Primary School)

The factors which influence the health of a population extend beyond individual lifestyle choices and the health services it receives (figure 2.1). Such factors include the environment, employment and education and are termed the social determinants of health. Individuals often have little control over these wider determinants of health but their impact can be significant.

Figure 2.1



The Health Map, Barton and Grant 2006[1], adapted from Whitehead and Dahlgren (1991)[2]

The experience of these wider determinants is not distributed evenly across communities. Exposure is influenced by where people live and leads to distinctive patterns of deprivation.

For almost every health and social indicator examined, the experience is worse in those areas which are most deprived. Income deprivation in particular has a major effect.

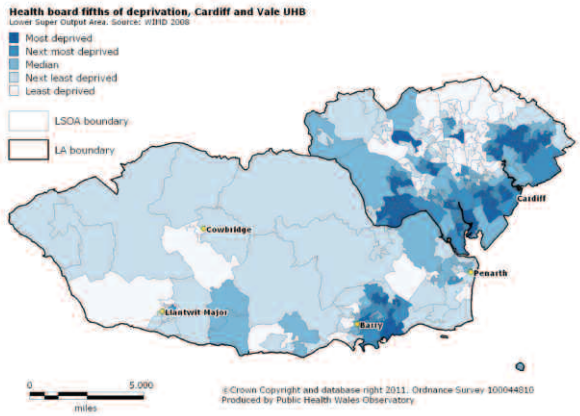
Inequalities in social determinants lead to inequalities in health. These inequalities are pervasive and affect people of all ages, from birth to death. Some inequalities are not amenable to action, for example those caused by genetic influences, gender and age. However, those that can be prevented by reasonable means are unfair and unjust and deserve specific attention[3]. These are often referred to as inequities.

Inequalities have been described in countries all over the world. However, countries vary in how big the gap is between their most and least advantaged populations. Countries where the gap is smallest are consistently shown to be more resilient and have better average outcomes for all, whether rich or poor. This observation is true in both developed and developing countries[4].

Inequalities in health in Cardiff and the Vale of Glamorgan

The *Welsh index of deprivation* uses population information about eight factors (income, housing, employment, access to services, education, health, community safety and physical environment) to see how small geographical areas are affected by deprivation[5] (figure 2.2). A clear pattern emerges in Cardiff and the Vale of Glamorgan. In Cardiff, a north west/ south east split is seen. This has been described as the 'Tale of Two Cities' , with the more deprived communities evident in the South East region[6, 7]. In the Vale of Glamorgan, deprivation has a focus around Barry and areas of Penarth and Llantwit Major[8]. The variation in health and social outcomes associated with this deprivation has been demonstrated repeatedly[9, 10], and was discussed in detail in the *Interim annual report of the Director of Public Health*[11].

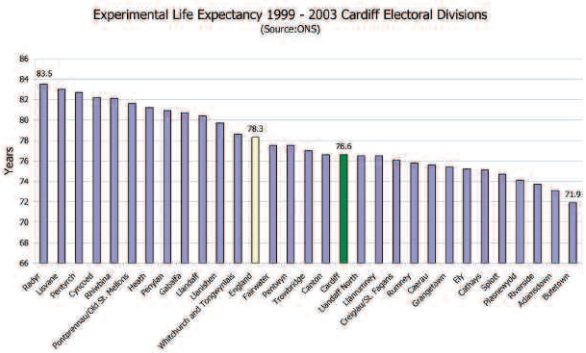
Figure 2.2



Source: Public Health Wales Observatory[9]

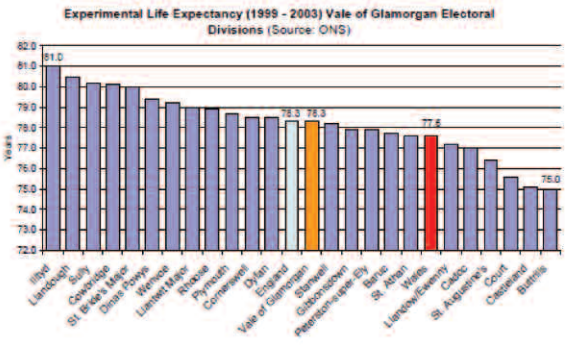
Most stark among these is the difference in experimental life expectancy, which predicts the average age a baby will reach if current area based mortality rates apply. There is an eleven year difference in life expectancy between the highest and lowest ranked electoral wards in Cardiff and a six year difference in the Vale of Glamorgan (figures 2.3 and 2.4)

Figure 2.3



Source: Cardiff Headline Health Needs Assessment[7]

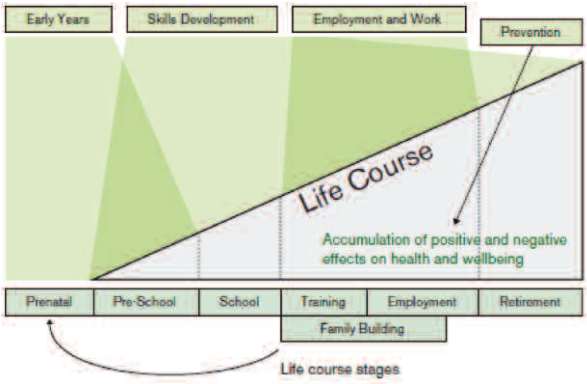
Figure 2.4



Source: The Vale of Glamorgan Headline Health Needs Assessment[8]

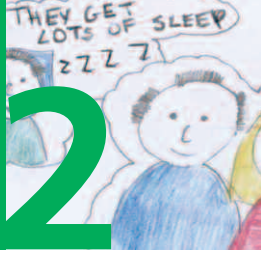
Inequalities can have a double impact on children – as individuals and also as a result of their effect on the adults who care for them. Poor experiences at all stages of life have lasting effects on people and their chances of being able to reach their full potential. However it is increasingly recognised that experience in the early years of life, both positive and negative, has a particularly profound effect[12]. Moreover, these experiences accumulate throughout the life course, with the potential to affect the next generation (figure 2.5). The importance of the early years is highlighted in each chapter of this report.

Figure 2.5



Source: The Marmot Review[12]

Children and families are not either advantaged or disadvantaged. Rather analysis shows that there is a gradient between the most advantaged and the most disadvantaged[12]. This is termed the social gradient in health. Marmot argues that simply concentrating effort on the most deprived or disadvantaged will have minimal effect on the whole population. Those in the most advantageous position in society are a marker of what is achievable. Effort should therefore be put in to every level to bring the experience of the whole population up to that of the best. The extent of this effort should vary in relation to the degree of need. This approach is called proportionate universalism. Box 1 shows an example of how this can work.

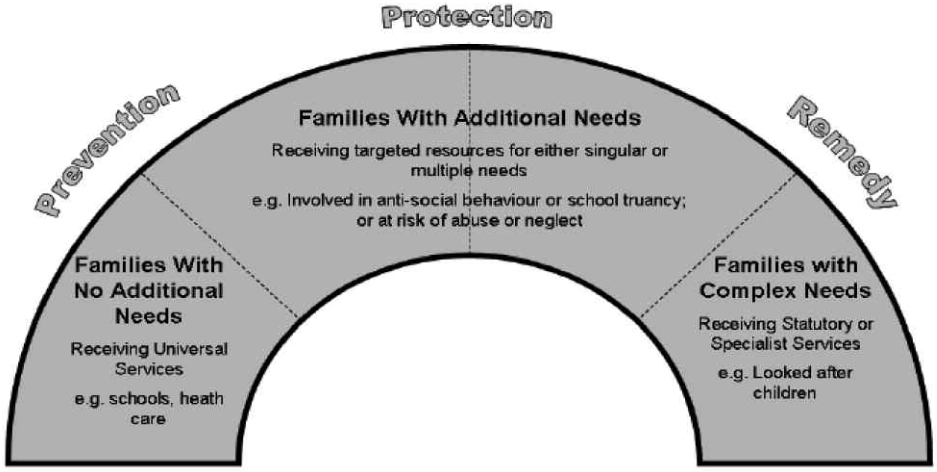


Box 1

Families First (Pioneer Guidance, Public Service Wales)[13, 14] – Proportionate Universalism in Practice

The Welsh Assembly Government is committed to eradicating child poverty by 2020. This commitment is supported by the *Child poverty strategy*. It is recognised that support of families is essential in tackling inequalities and achieving better outcomes for children. There is emerging consensus that a systematic, whole family approach to supporting families is required. A spectrum of support ranging from prevention, through protection to remedy is required.

The services providing this support must be multidisciplinary, coordinated between local partners, must be able to vary over time and in response to a family's needs. The focus will be on prevention and protection in order to reduce the numbers of families who develop the most complex problems and needs. Two pioneer sites are already in operation in Wales. Cardiff and Newport Children and Young Peoples Partnerships have also recently secured funding to become a further pioneer site.



Source[13, 14]

The factors which influence health are broad and many are outside the influence of individuals. However, figure 2.1 clearly shows that people and their lifestyles are an important consideration. The Chief Medical Officer for Wales identified in his last report that 'people live complex lives and make choices which are influenced by their experiences, opportunities and environment'[15] (pg 68). Whilst the government, local authorities, voluntary sector and the NHS must work together to make healthy choices the easy choices, individuals also need to do as much as they can to help themselves. This means not only maintaining a healthy lifestyle, but also making best use of the preventative services on offer, such as screening and immunisation.

Chapter 2: The determinants of health inequalities and the importance of the early years

The importance of the early years

The foundations of good health are laid during pregnancy and infancy and built upon in the school-age years[16]. A number of protective factors have been linked to positive outcomes for children and young people. Of particular importance is a supportive family environment, including both the relationship between children and their parents and good quality child care.

In contrast, certain risk factors are associated with poorer health outcomes in both the short and long term. These include maternal health (specifically smoking, alcohol use and poor nutrition in pregnancy), poverty in childhood and poor educational attainment[17]. Many of these risk factors increase with rising social and economic disadvantage. Tackling these risks and building a child's resilience to adversity can therefore make a significant contribution to reducing health inequities. Such action is also cost effective, as it has been shown that investment in the early years provides a greater rate of return than that for later intervention[18].

In early childhood, health and wellbeing is 'influenced by the interaction of the child with his or her carers and immediate environment, and through the broader community and culture in which they live'[19].Parents and families are therefore influential as they largely control these factors. However, as children grow and develop, other influences become important. Behaviours, lifestyles and social context all change dramatically during adolescent years as individuals become more autonomous[20]. This period is also recognised as critical in determining adult behaviours such as smoking, diet, levels of physical activity and alcohol use[19].

Recognition of the importance of a good start to life for children and young people is demonstrated locally in the two *Children and Young People's Plans* and *Health, Social Care and Wellbeing Strategies.*

KEY MESSAGES

- A complex picture of inequalities is evident across the Cardiff and Vale population. Particular focus should be paid to improving access to services.
- The early years are a critical time in child development. Services should ensure that they deliver specific support for children and families.
- No one service or sector can address all inequalities. Partnership at local, national and international level is essential. This includes local and national government, the voluntary sector, the NHS and individuals.
- Individuals need to do as much as they can to make healthy choices.

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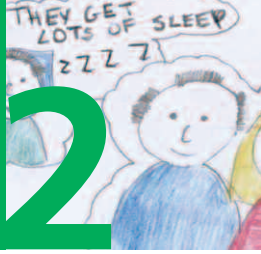

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Chapter 3: Children and young people of Cardiff and the Vale of Glamorgan

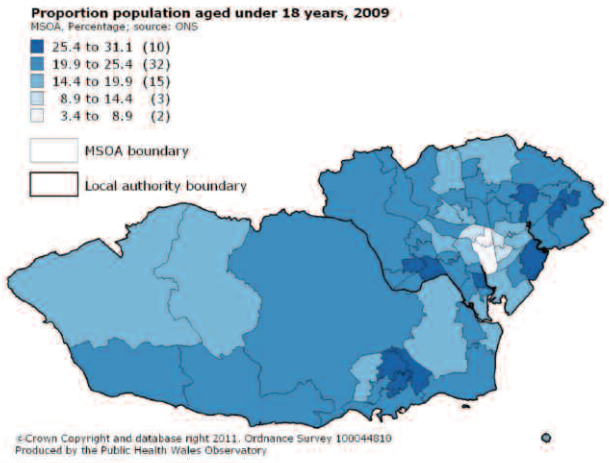
Understanding the local population is key to effectively influencing its health. This chapter describes the child population of Cardiff and the Vale of Glamorgan.

THE DEMOGRAPHICS

Population

The under 18 population for Cardiff and the Vale is just over 96,000 (21 per cent of the total population), with 51 per cent being boys and 49 per cent girls[1]. Of these, 68,300 children live in Cardiff and 27,700 in the Vale of Glamorgan. Figure 3.1 shows how the population is distributed across the area. This shows that only a relatively small proportion (under nine per cent) of children live in the central areas of the city. These locations have a high proportion of university students. It is also interesting to note that the highest proportions of children are found in more deprived areas such as Barry, Ely, Trowbridge, Splott and Grangetown.

Figure 3.1



Source: Public Health Wales Observatory[2]

Births

The *Interim report of the Director of Public Health* described how the general fertility rate in the UHB population fell until 2001/2002 and then began rising again[3]. Table 3.1 shows the number of live births in each local authority area over the last ten years.

Ben Evans. (Fairfield Primary School)

Cardiff and the Vale University Health Board (UHB) area currently has the highest birth rate in Wales at 13.2 per 1000 population[4].

Table 3.1 Live births by area of residence and year

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Cardiff	3,744	3,589	3,569	3,708	3,694	3,955	4,216	4,416	4,566	4,623
Vale of Glamorgan	1,284	1,198	1,185	1,303	1,262	1,279	1,360	1,446	1,482	1,464

Source: Health Maps Wales[4]

Population age structure

Figure 3.2 shows a more detailed picture of the age structure of the under 18 population in each of the two local authority areas. The age distribution in the Vale of Glamorgan population is very similar to Wales as a whole. In the Vale of Glamorgan the 0-4 and 5-9 year age groups make up 5.8 per cent and 5.7 per cent of the total population respectively. The 10-14 year group makes up 6.6 per cent and the 15-17 year group 4.2 per cent. The distribution in Cardiff is a little different, with the youngest group being relatively larger (6.2 per cent), but the others relatively smaller (5.1 per cent, 5.5 per cent and 3.6 per cent respectively). The size of these population groups is given in appendix 1.

Figure 3.2

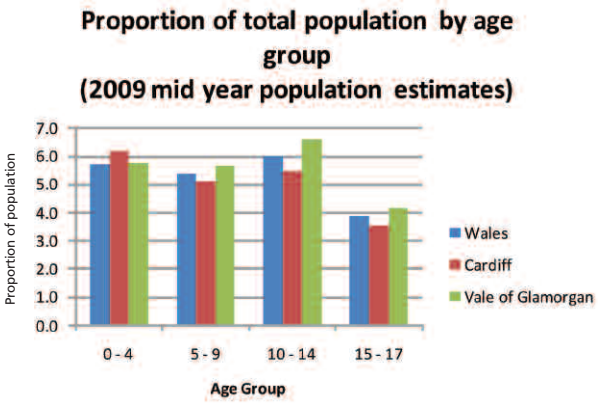
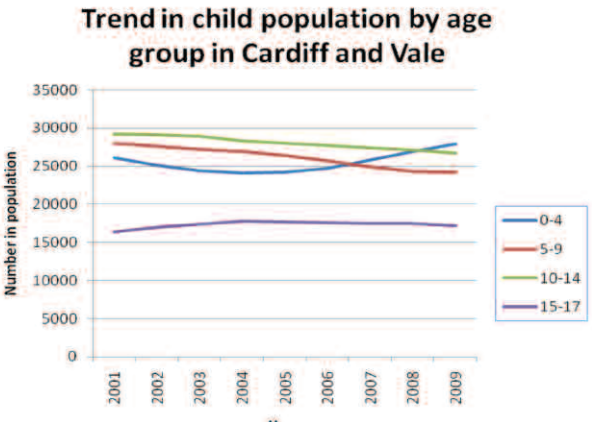


Figure 3.3 shows the estimated trends in the population of under 18 year olds in Cardiff and Vale since 2001. The older age group has remained relatively stable, whilst a falling trend in population size is seen in the 5-9 and 10-14 year age groups. As expected in light of the trend in birth rate, the 0-4 age group is again increasing in size after falling in the early part of the decade.

Figure 3.3



Source: Stats Wales[1]

Population projections

The under 16 population in Cardiff and the Vale is predicted to rise from around 84,000 in 2008 to 117,400 in 2033[1]. This represents an increase of nearly 40 per cent. Over the same time period, the 16-24 year age group is predicted to rise from 75,300 to 81,800, a rise of 8.6 per cent (see appendix 1).

Deaths

After the first year, deaths in children under the age of 18 years are infrequent and rates are not available at local level. The mortality rate in 0-19 year olds in Wales has been falling over the past decade[5]. The rate in 2009 was 40.8 per 100,000.

Ethnic Groups

Population estimates for 2009 show that higher proportions of children in Cardiff are from ethnic minority groups, compared with the Vale of Glamorgan (table 3.2)[6]. Proportions in the Vale of Glamorgan are very similar to Wales as a whole.

Table 3.2 Population estimates of ethnic group in 0-15 year olds (2009)

Ethnic Group % (number)	Asian or Asian British	Black or Black British	Mixed	Other	White
Area					
Cardiff	**6.0%** (3,600)	**1.8%** (1,100)	**4.2%** (2,500)	**1.3%** (800)	**86.5%** (52,100)
Vale of Glamorgan	**2.1%** (500)	**0.8%** (200)	**2.9%** (700)	**0.8%** (200)	**93.8%** (22,700)
Wales	**2.1%** (11,300)	**0.7%** (3,600)	**2.4%** (13,000)	**0.5%** (2,900)	**94.4%** (519,300)

Source: Statistical Directorate, Welsh Assembly Government[6]

HEALTH STATUS

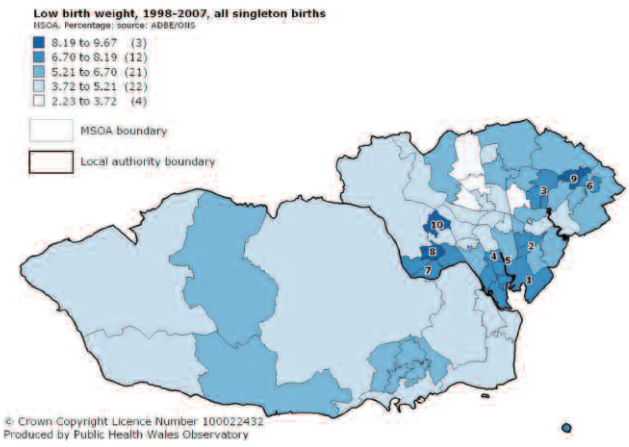
Experience in early life, including health, has a profound influence on an individual's ability to reach their full potential[7]. The most recent results of the Welsh Health Survey (2009) show that in Wales, 94 per cent of the under 16 year olds surveyed reported that they had good or very good health[8]. However, 20 per cent reported they had a long standing illness and seven per cent that they had a limiting long standing illness. Five per cent reported they had asthma and two per cent reported mental illness.

There is no detailed information about the levels of specific diseases at a local level. However, information is available which can tell us about the health of the children who live in Cardiff and the Vale of Glamorgan. The recently published *Child poverty strategy* has identified three population indicators which are relevant to the health of children[9]. These are low birth rate, infant mortality and teenage conceptions. It also identifies oral health as an important marker of population health, setting specific targets for children living in low income households.

Low birth weight

Low birth weight is an important cause of infant mortality in developed countries[10] and is linked with adverse health outcomes into adulthood. It is linked with maternal factors such as poor general health, poor education, poor nutrition, lower maternal age, smoking and alcohol consumption before and during pregnancy[11]. Low birth weight is also linked with deprivation. This association is evident within the UHB population (figure 3.4). Babies who weigh less than 2.5kg at birth are more at risk of developmental and respiratory problems as well as heart disease and diabetes[12,13].

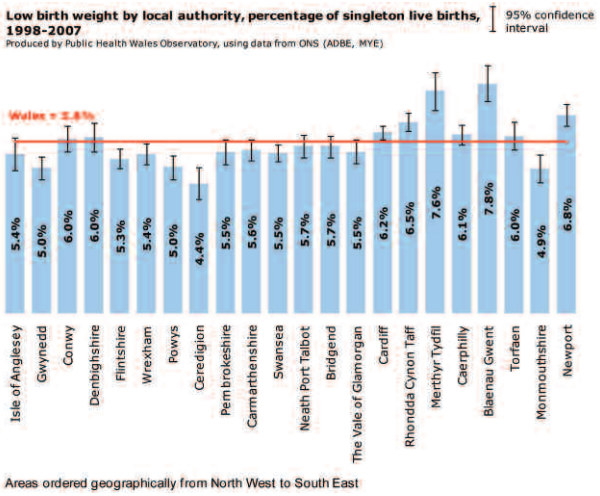
Figure 3.4



Source: Public Health Wales Observatory[14]

Figure 3.5 compares low birth weight across Wales[14]. This shows that between 1998 and 2007, 6.2 per cent of babies born in Cardiff and 5.5 per cent of babies born in the Vale of Glamorgan had a low birth weight. This compares with a rate of 5.8 per cent in Wales as a whole. However, there is a four fold difference across Cardiff and the Vale of Glamorgan between areas with the highest and lowest rates. Rates vary from 2.2 per cent in Cyncoed to 9.7 per cent in Fairwater.

Figure 3.5



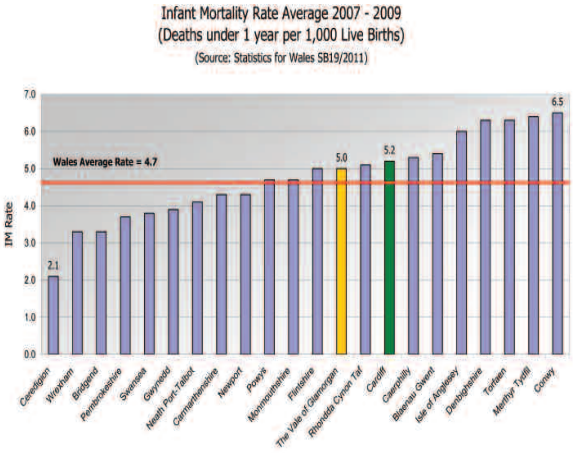
Source: Public Health Wales Observatory[14]

Infant mortality

Infant mortality rate measures the number of deaths in children under one year of age[15]. The denominator is the number of live births in the population. It is most commonly measured over the period of a year. Whilst deaths in the first month of life are often linked to specific conditions associated with the infant, such as immaturity or malformation, deaths after this time are more strongly related to social and economic factors[16]. It is for this reason that deaths in the first year are accepted as a fair reflection of population health. Infant mortality rates declined rapidly in the UK over the last century, most probably linked to better nutrition, education and environmental conditions as well as improvements in medical care and immunisation.

Improvement in infant mortality rates has continued in all nations of the United Kingdom over the last ten years, with Wales being the most improved[17].

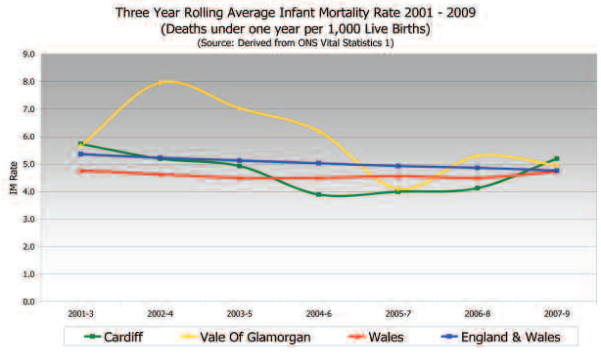
Figure 3.6



Produced by Cardiff Research Centre

Figure 3.6 shows that, in 2007-2009, the infant mortality rate in both Cardiff and the Vale of Glamorgan are slightly above the Welsh average. It is important to treat these rates with some caution as the number of deaths in this age group is very small (less than 20 in a year in some cases). Therefore, even when numbers are added over a few years, there can be marked fluctuations due to random variation alone. Figure 3.7 compares the trend in three year rolling average annual infant mortality in Cardiff and the Vale of Glamorgan with Wales and England and Wales combined. As expected, the fluctuation of rates caused by random variation in the smaller areas is clearly evident.

Figure 3.7



Produced by Cardiff Research Centre

Teenage conceptions and pregnancies

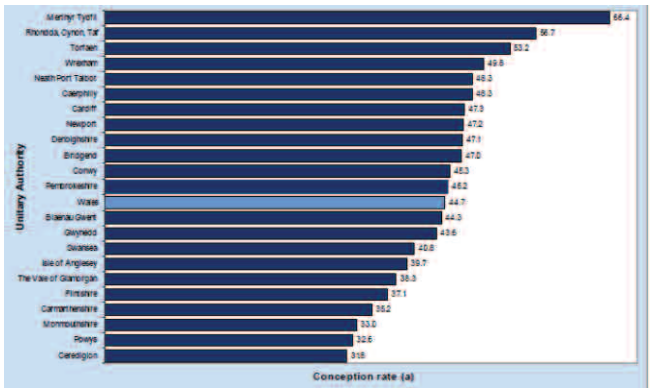
Teenage pregnancy can have an adverse impact on both mother and child[18]. Women from poorer backgrounds and from areas with higher unemployment rates are more likely to become mothers as a teenager. In turn, their partners are more likely to be poorly qualified and experience unemployment.

Teenage mothers experience poorer mental health in the three years after the birth compared with other mothers[18].

Studies demonstrate that children of teenage mothers can also be at a disadvantage as young adults in terms of lower educational attainment, a higher risk of economic inactivity and of becoming teenage mothers themselves[18].

Figure 3.8 shows that the average conception rates for under 18 year olds in Cardiff and the Vale of Glamorgan between 2006-08 were 47.3 and 38.3 respectively, compared to the Wales rate of 44.7.

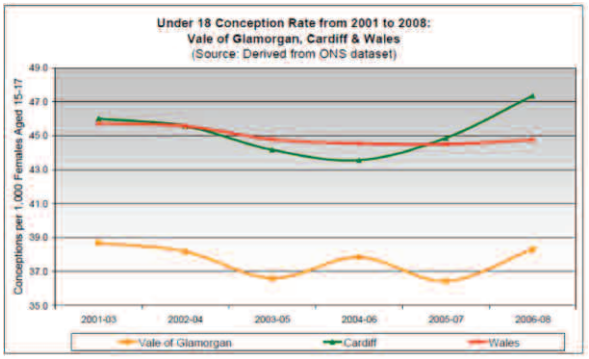
Figure 3.8: Conception rates for under 18 year olds by unitary authority, Wales, 2006-2008 average.



Source: Welsh Assembly Government Statistical Bulletin[19]
Rate per 1,000 female residents aged 15-17.

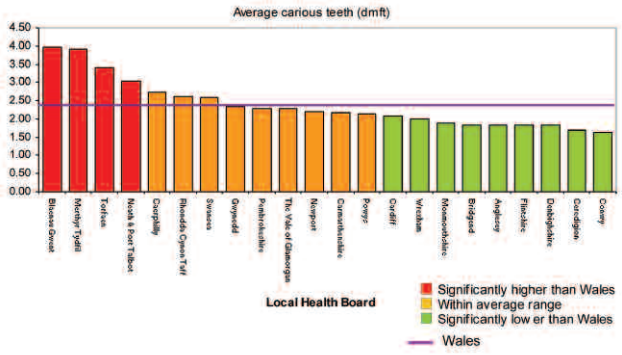
Conception rates in both counties fluctuated between 2001-2008. This fluctuation would be expected as numbers each year are small (figure 3.9). However, rates in the Vale of Glamorgan are consistently lower than rates in Cardiff. Overall Welsh rates show a downward trend.

Figure 3.9



Produced by Cardiff Research Centre

Figure 3.10



Source: Welsh Oral Health Information Unit, Cardiff University[22]

Oral health

Dental caries (tooth decay) is used as one of the proxy measures for the health of children. Its importance has been recognised by having specific child poverty targets for improving the oral health of children living in low income households[9]. The key issue is that although one of the most common diseases in children, it is preventable.

Tooth decay is measured using the decayed, missing or filled tooth index, which for primary teeth is denoted by (*dmft*) and for permanent teeth is denoted by (*DMFT*). Levels of tooth decay in children have improved steadily since the early 1980s, with levels in Wales now ranked as one of the best in Europe[20]. However within the UK, Wales continues to experience poorer child dental health than England and Scotland. Surveys have shown that the dental health of children in both Cardiff and the Vale of Glamorgan compares well to Wales (figure 3.10)[21].

Average scores can disguise inequalities which are linked with deprivation. For example, in the 2005/6 survey of five year olds, the *dmft* score ranged from 0.99 in Radyr & St Fagan's dental planning area to 3.57 in Splott[23].

Communicable disease

Serious infectious disease is relatively rare in children, but has the potential to cause significant illness and even death. Table 3.3 shows the most frequently reported cases of infectious diseases notified 2010.

Table 3.3 Number of cases of selected communicable diseases notified in 2010 in children under the age of 18 years (Cardiff and the Vale of Glamorgan).

Disease	Number of notified cases
Mumps	25
Measles	20
Rubella	5
Meningococcal disease	15
Invasive Group A Streptococcus	8
E coli O157	6

Source: Public Health Wales, Health Protection Team

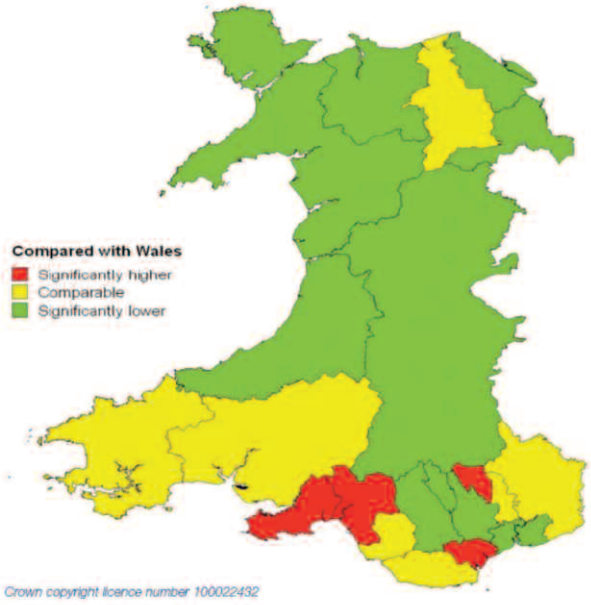
Vaccine preventable diseases are the most frequently reported i.e. measles, mumps and rubella. It is important to recognise that notifications are made by doctors based on their clinical diagnosis. Although laboratory confirmation is usually available for meningococcal disease, invasive Group A streptococcal disease and E coli O157, it is often not available for measles, mumps and rubella. It is therefore possible that some of the reported cases may have been due to other causes. However, it is recognised that many cases of notifiable diseases go unreported[16], and so these figures are likely to underestimate the true burden of vaccine preventable disease. Vaccination is discussed further in chapter 7.

Congenital anomalies

Congenital anomalies are defined as anomalies 'involving a structural, metabolic, endocrine or genetic defect, present in the child / fetus at the end of pregnancy'[24]. The factors associated with congenital anomalies include maternal risk factors such as age and smoking[25]. There is also an association with socioeconomic deprivation, particularly for non chromosomal anomalies. Heart and circulatory defects are the most commonly reported, followed by anomalies of the urinary tract, limbs and musculoskeletal system. Survival reduces with increasing complexity of the congenital anomaly.

The gross rate of congenital anomalies in Wales is five per cent of births[25]. The rate of congenital anomalies in live births is 4.3 per cent. Eighty six per cent of cases are live born and 96 per cent of these survive to the end of their first year. Reported rates are generally higher in Wales than Britain and Europe. Rates also vary across Wales (figure 3.11). Both of these observations are thought to be due in part to better reporting, but this remains under review. Some anomalies have high levels in Wales. Specific investigations focus on gastroschisis and isolated cleft palate.

Figure 3.11 Congenital anomalies, gross case rate per 10,000 total births, ranked Wales local authorities, 1998-2009



Source: CARIS review 2010[25]

The local reported rates of congenital anomalies between 1998 and 2009 were 542.7 per 10,000 births in Cardiff and 523.9 per 10,000 births in the Vale of Glamorgan[26].

LIFESTYLE

The annual Welsh Health Survey provides some information about the lifestyle behaviours of children in Wales. The most recent results available were collected in 2009[8]. Sixty per cent of the 4-15 year old children interviewed reported that they ate fruit daily and 49 per cent reported they ate vegetables daily. However, seven per cent reported that they ate fruit and vegetables less than once per week. Fifty four per cent reported that they had more than five hours of physical activity per week. Thirty four per cent of the 2-15 year olds surveyed were calculated to be overweight or obese (NB height and weight reported by survey respondents).

USE OF HEALTH SERVICES

Table 3.3 shows that children under the age of 16 are frequent users of health services in Wales. Health services therefore have significant contact with the child population and have real opportunities to influence and improve health and well being. Opportunities afforded by dental service contact are particularly evident.

Table 3.3: Reported use of health services by children under 16 years in Wales (2009)

Health service	Proportion (%)
Family doctor (GP) in the past **two weeks**	12
Accident needing hospital treatment in the past **three months**	7
In the past **twelve months:**	
Accident & Emergency (casualty)	21
Outpatient	22
Day patient	6
Inpatient	7
Dentist	77
Health visitor, district nurse or other community nurse	26
Practice nurse	23
Optician	33
Speech therapist	5
GP out of hours	13
NHS Direct helpline	13
Pharmacist	50

Source: Welsh Health Survey, 2009[8]

SAFEGUARDING CHILDREN

Safeguarding is defined as:

- Protecting children from abuse and neglect
- Preventing impairment of their health or development
- Ensuring that they receive safe and effective care

so as to enable them to have optimum life chances[27,28,29]. It aims to ensure that all children are able to reach their full potential and is a fundamental obligation for all partner organisations. The local partnership approach to safeguarding is overseen by the two Local Safeguarding Children Boards (LSCBs) across Cardiff and the Vale of Glamorgan.

A range of circumstances may result in some children requiring specific support from local partner organisations. Reasons might include ill health, disability, additional learning needs and adverse social situations. In some instances, circumstances may lead to a child being classified as in need (see glossary). Children referred to local authorities are assessed using *The national framework for the assessment of children in need and their families*[30]. This ensures a full assessment is made and other agencies involved as necessary. 2,330 children in Cardiff and 655 in the Vale of Glamorgan were classified as in need on 31st March 2010.

Looked after children

Looked after children (LAC) describes the group of children who have been placed into the care of the Local Authority. This can take place for a number of reasons, including parental illness, behaviour problems or following child protection concerns. LAC are of particular importance because they tend to have greater health needs than their peers, including physical, mental and behavioural problems, and a higher prevalence of health related risk behaviours[31]. They are also less likely to receive adequate care, including routine dental care, immunisation and health surveillance checks. Local Health Boards have specific statutory responsibilities for LAC and share a corporate parenting role with Local Government. Tables 3.4 and 3.5 show how many children in Cardiff and the Vale of Glamorgan were classed as looked after on 31st March 2010. (N.B. numbers are rounded to the nearest 5).

Table 3.4 Children looked after by the age of the child at 31 March 2010

Cardiff Council

Age group	Under 1	1 - 4	5 - 9	10 - 15	16 - 17	18 and over	Total
Boys	15	25	45	140	45	0	275
Girls	20	35	50	105	45	-	255
Total	35	65	90	245	95	-	530

Source: Stats Wales[32]

"-" Number suppressed due to reasons of disclosure, or not sufficiently robust for publication

Table 3.5 Children looked after by the age of the child at 31 March 2010

Vale of Glamorgan Council

Age group	Under 1	1 - 4	5 - 9	10 - 15	16 - 17	18 and over	Total
Boys	-	25	15	40	10	-	95
Girls	10	15	15	45	5	0	90
Total	10	40	30	85	20	-	185

Source: Stats Wales[32]

"-" Number suppressed due to reasons of disclosure, or not sufficiently robust for publication

Child protection

If there is concern that a child may have been harmed, child protection procedures are followed[27]. Depending on the specific circumstances, a case conference may be held with the option of placing children on the Child Protection Register. In some cases, the decision is made to place children into the care of the local authority. On 31st March 2010, 285 children and young people were on the Child Protection Register in Cardiff and 95 in the Vale of Glamorgan[32].

Children with disabilities

The term disability is usually used to mean 'a physical or mental impairment which has a substantial and long-term adverse effect on a person's ability to carry out normal day-to-day activities' [33].

The underlying impairment may be present at birth (congenital anomaly) or arise during childhood through injury, or physical and/or mental ill health[28]. The impact of the disability on the child is dependent not only on the nature of the disability itself but also on the social context and broader environment in which the child lives.

Families or carers of children with disabilities or complex needs often face greater physical and emotional demands in caring for their children and so require a greater level of support to maintain the necessary care[29].

KEY MESSAGES

- Births are increasing leading to increased numbers of children under the age of five years. Services need to plan with this in mind.
- A focus on action to ensure continued improvement in the health of children and young people is required.
- Services offered by partners have considerable contact with children and families and so are ideally placed to influence and improve health and well being.
- Actions and attention should be focused on the most deprived communities.

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Chapter 4:
Giving every child the best start in life

This chapter explores aspects of behaviour during the first year of life which fundamentally affect the health of children and young people. It focuses on maternal smoking, breastfeeding, nutrition and parenting.

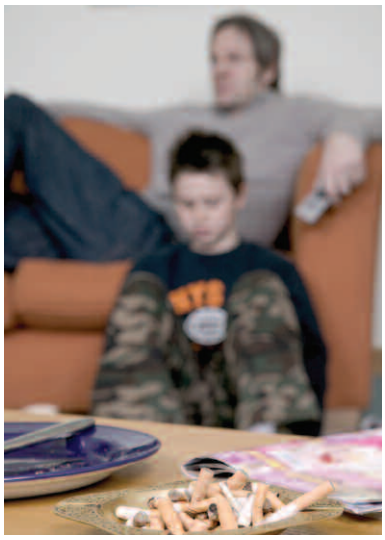
MATERNAL SMOKING

Why this matters

Smoking is one of the most important preventable causes of ill health associated with pregnancy and early life. It is linked to spontaneous abortion, preterm birth, low birth weight (LBW), stillbirth[1,2,3] and sudden infant death syndrome[4]. Smoking during pregnancy also increases the risk of infant mortality by an estimated 40 per cent[5]. Maternal smoking also influences health in later childhood, specifically in terms of an increased risk of asthma[6] and an association with overweight and obesity[7].

Evidence suggests that those with lower educational attainment, income and employment status, and those aged under the age of 20 are far more likely to continue to smoke during pregnancy[8].

Although maternal smoking is critical, it is important to remember that exposure of children to second hand smoke from any source is of concern.



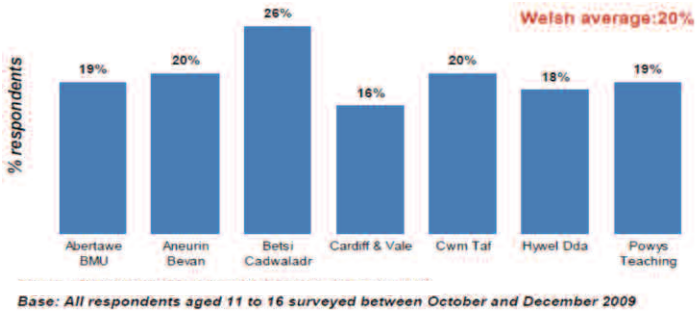
Bronwyn Morgan (Fairfield Primary School)

The situation in Cardiff and the Vale of Glamorgan

Estimates suggest that 23 per cent of adults in Cardiff and the Vale of Glamorgan are current smokers[9]. There is no local data on the number of pregnant women who smoke. However, the 2008 Children and young people's wellbeing monitor for Wales showed that over a third (37 per cent) of Welsh mothers smoked before or during their pregnancy[10].

Recent survey data shows how often older children report being exposed to environmental tobacco smoke[11]. Sixteen per cent of children interviewed from Cardiff and the Vale of Glamorgan said they were exposed to cigarette smoke on their most recent car journey (figure 4.1). This compares to 20 per cent in Wales as a whole.

Figure 4.1 Percentage exposed to smoke in car by LHB



Source : Health behaviour in school-aged children (HBSC) survey 2009/10[11]

How improvement will happen

Motivations for health-related behaviour are complex and include beliefs around perceptions of personal vulnerability, social norms and perceived importance of what will and what will not help or hinder behaviour. Action to target health-related behaviour must address these beliefs in a variety of different ways, depending on the sub group of the population concerned.

Supporting young women to stop smoking during pregnancy is vital. Better still is to prevent young women from starting to smoke in the first place. Stop Smoking Wales has launched a maternity smoking cessation programme based on maternity smoking cessation guidelines produced by the National Institute for Health and Clinical Excellence (NICE)[12]. All pregnant women in Cardiff and the Vale of Glamorgan are now routinely asked at their booking appointment whether she or anyone else in the household smokes. All women who smoke are automatically referred to Stop Smoking Wales unless they choose to opt out.

Cardiff and Vale UHB and partners are also participating in a Smoke Free Homes pilot (see box 1)

Among the proposals outlined in the Welsh Government's consultation document on the *Tobacco control action plan for Wales* is the introduction of smoke-free policies for playgrounds and the development of a debate on banning smoking in cars carrying children[13]. The Welsh Government will consider the consultation comments before taking work forward on reducing children's exposure to second hand tobacco smoke.

Box 1

Smoke Free Homes

Smoke Free Homes is a pilot project that aims to reduce the number of children in Cardiff and the Vale of Glamorgan who are exposed to second hand smoke in the home. It is delivered by health visitors in Cardiff and Vale of Glamorgan Flying Start areas, in partnership with Stop Smoking Wales, ASH Wales and Cardiff and Vale Public Health Team. The project is in the early stages and aims to build on the good practice of health visitors, by encouraging smoke free homes and smoking cessation. The health visitors have received additional Brief Intervention Training and Smoke Free Homes information. Pregnant woman are asked whether they smoke and are referred to Stop Smoking Wales if they do. Questions are also asked about other smokers in the house. Information and encouragement on creating a smoke free home is given if appropriate. Follow up visits continue this support. The pilot will be used to evaluate whether this approach should be rolled out across Cardiff and the Vale of Glamorgan.

BREASTFEEDING

Why this matters

Breast milk is the optimal diet for infants with extensive evidence supporting its benefit in reducing the risk of illness in both mothers and infants[14]. The World Health Organisation (WHO) and UNICEF now recommend exclusive breastfeeding for the first six months of life. UK Government policy supports this recommendation.

Breastfeeding reduces rates of illness from infectious diseases in infants[14]. In later life, high blood pressure, total cholesterol, the prevalence of overweight/obesity and type-2 diabetes is lower among individuals who were breastfed[14, 15]. They also exhibit higher performance on intelligence testing.

Breastfeeding rates are known to be influenced by social class, physical and mental health status, and the age of the mother[16]. Surveys show that younger mothers, mothers from lower socioeconomic groups and mothers with lower educational levels are less likely to initiate and continue breastfeeding[8]. Mothers from lower socioeconomic groups are also more likely to introduce solids, follow-on formula and additional drinks at an earlier age.

The situation in Cardiff and the Vale of Glamorgan

Breastfeeding rates in Wales at birth are about 46 per cent, which is lower than those in the rest of the United Kingdom, where average rates are around 66 per cent[16]. This in turn is amongst the lowest levels in Europe.

Overall in 2010, data from Cardiff and the Vale of Glamorgan show that 68 per cent of mothers were recorded to be breastfeeding at birth. However, this drops to 23 per cent at six weeks of age.

How improvement will happen

Informal, small-group health education sessions delivered during the ante-natal period are effective in increasing initiation and duration among women of all income groups and women from minority ethnic backgrounds[17]. Specifically, peer-support programmes delivered in the ante- and post-natal periods have been shown to be effective in increasing breastfeeding initiation and duration rates among women on low incomes.

Evidence also suggests that one-to-one health education can be effective for this group and may be more effective than group sessions in increasing initiation among women who have made a decision to bottle-feed.

Changes in maternity ward practices to promote mother–infant contact and autonomy, such as 'rooming in' and breastfeeding support, increase the initiation and duration of breastfeeding.

In Cardiff and the Vale of Glamorgan, health visitors and midwives are receiving UNICEF Baby Friendly Initiative training to support women in their decision to breastfeed. In addition to the two Infant Feeding Co-ordinators in maternity, a Breastfeeding Co-ordinator is in place to support women living in Flying Start areas. Further support for women is available from a specialist neonatal nurse and health visitor. A Breastfeeding Peer Support Co-ordinator is supporting breastfeeding groups, training new mothers to become peer supporters, and developing the premises Breastfeeding Welcome Scheme.

NUTRITION AND OBESITY

Why this matters

Obesity is a complex issue, influenced by[18]:

- Biology
- Impact of early life and growth patterns
- Behaviour (food intake and activity behaviours)

- The living environment ('obesogenic' environments) due to technology, lack of opportunities for physical activity, food and drink access and availability, and food and drink access and availability
- Economic drivers of food and drink consumption

Being overweight or obese in childhood has consequences for health. Not only is it a risk factor for a number of chronic diseases in adult life including heart disease, stroke, some cancers and osteoarthritis, but also for some diseases in childhood, most notably type 2 diabetes[19]. Adverse health, social and psychological effects of obesity are now being seen among children as well as adults[20] and current trends suggest that obese children may have a shorter life expectancy than their parents[21]. Indeed, ten percent of cancer deaths among non-smokers are related to obesity[18], which is overtaking smoking as the most important preventable cause of disease and premature death[21].

Parental obesity is the most significant predictor of childhood obesity, increasing the risk by 10 per cent[18]. Overweight and obesity also demonstrate inequality, with families from the lowest socio-economic groups most at risk.

The situation in Cardiff and the Vale of Glamorgan

Prevalence rates of obesity in the UK have trebled in the last 20 years[18]. At local authority level, the prevalence of adult obesity is higher in disadvantaged areas[9]. Fifty-three per cent of adults in Cardiff and the Vale of Glamorgan are overweight or obese[9].

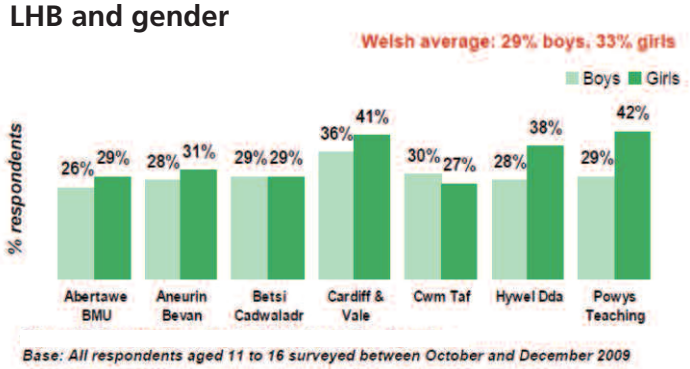
Rates of childhood obesity in Wales have been rising and compare poorly to many other areas in Europe[21]. However the geographical and social distribution is not known. Neither is it clear whether overweight or obese children remain so throughout childhood.

Wales also has a higher level of 'pre-obese' (overweight) children than Scotland or England. Indeed, Wales has the third highest rate out of thirty-two European countries[22].

The 2006 Health Behaviour of School Age Children (HBSC) survey reported that, for all three age groups studied (11-, 13- and 15-year olds), the percentage that reported being overweight was significantly higher in Wales than in England, Scotland or Ireland[23]. Early results of the HBSC survey conducted in 2009/10 suggest that among the 11 to 16 year olds studied, 19 per cent are either overweight or obese, based on self reported height and weight[11]. (N.B. This figure may not be accurate as approximately half of the children surveyed did not give a valid answer to the question.)

No rates of overweight and obesity are available for children living in Cardiff and the Vale of Glamorgan. However, the most recent HBSC survey does present data on the percentage of children eating fruit daily (figure 4.2)[11]. Secondary school children of both genders in Cardiff and the Vale of Glamorgan were more likely than average to report that they eat fruit every day – rates in Cardiff are especially high.

Figure 4.2 Percentage eating fruit daily by LHB and gender



Source : Health behaviour in school-aged children (HBSC) survey 2009/1011

How improvement will happen

The best long term approach to tackling overweight and obesity is prevention from childhood, ideally beginning in the preconception and antenatal period[24]. This requires a change in the attitudes and behaviours of children and families, with action centred around supporting children and families who are in need of weight management. Multi-faceted, family-based behaviour modification programmes, where parents take primary responsibility for behaviour change, are effective in treating obese and overweight children. Such programmes combine diet, exercise, reducing sedentary behaviour and lifestyle counselling with training in child management, parenting and communication skills (box 2).

In Cardiff and the Vale of Glamorgan, the Flying Start programme delivers interventions with families with children under 4 years around changing eating habits, cooking skills, increasing knowledge and skills around choosing healthier options.

The school setting also provides an opportunity to address food and physical activity by looking at the whole school environment. *Appetite for life*[25] sets out nutritional standards for food in schools and the promotion of healthy active lifestyles is integral to the Cardiff and Vale Network of Healthy Schools Scheme (part of the Welsh Network of Healthy Schools Scheme)[26]. Healthy lifestyles are also promoted in the early years educational setting via the Healthy and Sustainable Pre-School Scheme.

In recognition of the importance of monitoring levels of obesity in our children, the Minister for Health and Social Services has directed Public Health Wales to establish a Child Measurement Programme for Wales[27]. This will take place in primary schools and will allow monitoring of population trends in childhood growth (including obesity) in

Box 2

Mind, Exercise, Nutrition, Do-it (MEND) - Meryam's Story

Meryam, aged 9, her Mum and grandparents joined the local MEND group at the STAR Centre in Splott after seeing an advert on the television. The MEND programme addresses the problem of overweight and obesity in children, by educating children, parents and carers about nutrition and exercise and by helping them to develop the self esteem and skills necessary to maintain a healthy lifestyle.

Meryam's Mum said, "The opportunity came up for us to do this programme and we thought it was a brilliant idea because I felt that, as a family, we needed to be fitter".

Following the 10 week MEND programme, Meryam was spending less time in front of the screen watching TV and playing computer and video games and more time being physically active.

She had also increased her fruit and vegetable consumption. Consequently, both her Body Mass Index and her waist circumference reduced. Her weight no longer made her unhappy.

Meryam's Mum commented "MEND makes shopping for healthy food so much simpler- you just have to look at the label....There were things we were eating that were really bad and I hadn't known"

The family has now progressed from MEND to participate in a Food and Fitness for Families project where they are learning to cook new healthy recipes.

order to inform strategies and service developments and assess the effectiveness of population-based interventions.

PARENTING

Why this matters

Parenting and parenting skills are key issues for developing a best start for children. Good parenting goes beyond the practical provision for a child[28]. The quality of the relationships parents form with their children is of paramount importance in ensuring optimal emotional and social development. Poor quality relationships predict poor mental and physical health regardless of socioeconomic circumstances. Unsatisfactory relationships with parents have been shown to be associated with a wide range of health problems including cardiovascular disease, cancer, musculoskeletal problems, depression and attempted suicide. Studies indicate that help and support for parents could have a beneficial impact on the future mental and physical health of adults[29].

Children experiencing good relationships at home are protected, to some extent, from both the more negative effects of poverty and any genetic predisposition to mental health problems[29]. Interventions to support parenting are therefore an important component of programmes combating social inequalities in health.

Parenting has an important role to play in programmes promoting child and adult mental health, and preventing suicide. It is one of a number of life-course factors with an impact on physical health in adulthood. It also plays a role in the adoption of healthy lifestyles. Because of parenting's impact on educational achievement, employability, anti-social behaviour, crime and violence, interventions to improve parenting play a key role in initiatives to reduce inequalities in health.

Improving parenting in Cardiff and the Vale of Glamorgan

The *Cardiff parenting framework* outlines a structure for the development of parenting programmes in the City and forms part of the wider strategy for family support in Cardiff[30]. A range of evidence based parenting programmes to suit different needs are provided through Flying Start centres, the generic health visiting service, Child and Family Mental Health Service, local authority Children's Services, Cardiff Alcohol and Drug Team, Barnardos, Action for Children and Women's Aid.

Specific examples of parenting or family support programmes include:

- The **Strengthening families programme** which helps parents to discuss issues of substance misuse with their child.
- The **Gladstone project for young parents** is a joint project with Barry College that works with young mums to improve their educational attainment and develop their parenting skills through the Flying Start Programme.

Nevertheless, a number of gaps have been identified and are being addressed through the *Cardiff parenting framework and action plan, and Vale of Glamorgan Family support strategy and action plan 2010-2013*[31].

These plans identify that ante-natal support needs to be expanded, with particular emphasis on the social and emotional needs of the new baby, and expectant and new parents. Providing parenting programmes for teenage parents is also recognised as important, as is providing accessible support for ethnic minority families and for parents who have children with disabilities. Finally, recognising need and providing support for parents living outside areas identified as deprived is important.

To address these needs, a partnership approach is essential. Increasingly the approaches being adopted involve multi-agency teams working around the child and family with schemes such as:

- Flying Start for the most vulnerable 0-3 year olds.
- Families First, which is a new model for integrated working to better support children and families living in poverty.
- Integrated Family Support Services (IFSS) to support vulnerable families with complex needs arising from substance use, domestic violence or learning disabilities issues.
- Strengthening Families Programme (SFP) which addresses substance misuse within the broad context of family functioning, parenting and young peoples' skill development.

KEY MESSAGES

- Maternal health, nutrition and parenting exert considerable influence on the health of children, particularly in the first years of life.
- Given the potential for health gain associated with intervention in the early years, further attention from all local partnership members is warranted. In particular:
    - All partners should actively support smoking cessation, focussing on pregnant mothers.
    - Smoke free environments should be supported, particularly where children can be exposed.
    - Breastfeeding should be supported and encouraged. Peer-support programmes should be targeted at women on low incomes who have expressed a wish to breastfeed.
    - All partners should actively encourage healthy eating and more physical activity within the family and raise awareness about maintaining a healthy weight. Access to healthy, affordable food and opportunities for physical activity should be a priority for all communities.
    - The fundamental role of parenting should continue to be highlighted. Initiatives to support parenting should be further developed for families living in Cardiff and the Vale of Glamorgan.

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Chapter 5: Enabling children and families to maximise their capabilities and have control over their lives

Research clearly demonstrates the graded relationship between socioeconomic position and educational outcomes. Marmot (2010)[1] argues that if the conditions in which children and their families are born, grow, live, work, and age are more equitably distributed then they will have more control over their lives in ways that will influence their own health and health behaviours.

Ensuring that children and young people develop skills for life, attain educational qualifications and are ready to enter the world of work, all help to ensure future employment, income, living standards and good mental and physical health. Similarly the educational attainment, employment status and income of those caring for children within families is critical in ensuring the health and social well being of that family. This chapter focuses on education and employment as two of the fundamental factors influencing both capability and control.

Lowri Ffion Price (Llangan Primary School)

EDUCATION

Why this matters

Early years child care settings, primary, secondary, further education and higher educational institutions all have an important role to play in enabling children and young people to reach their full potential. This section focuses upon school aged children and young people and their families.

Young people with poor educational outcomes are at higher risk of future poverty and subsequently poorer health outcomes. Young adults without minimum qualifications have a greater likelihood of falling into the unemployment and no work/low wage cycle and will lack the experience, qualifications and self belief to provide for themselves and their families[2].

Understanding the interaction between the social determinants of educational outcomes, which include family background, neighbourhood, relationships with peers and the influence of the school, is key to reducing educational inequalities.

Families have the greatest influence upon educational outcomes. The social position of parents accounts for the largest proportion of difference between higher and lower achievers. These differences emerge in childhood and tend to increase as children get older. Inequalities in educational achievement are evident from an early age. It appears that parents' transmission of skill across the generations is crucially important[3]. For example, a mother's cognitive ability is a good predictor of a child's cognitive ability at ages three and five[4].

Chapter 5: Enabling children and families to maximise their capabilities and have control over their lives

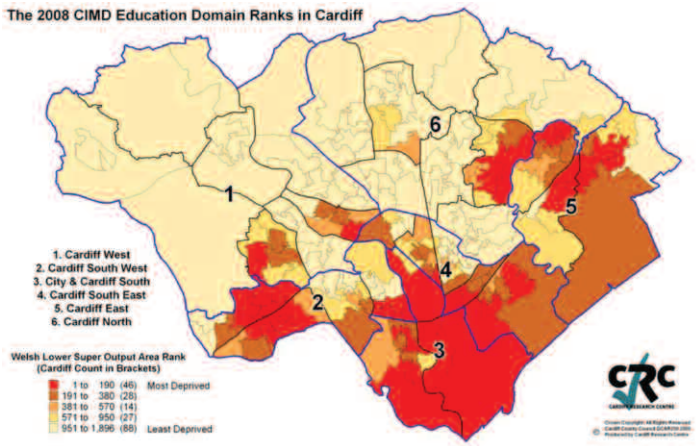
The situation in Cardiff and the Vale of Glamorgan

The Programme for International Student Assessment (PISA)[5] provides a robust survey to consider the performance and progress of schools within an international context. In both reading and mathematics, the Welsh mean score was significantly lower than the OECD average and those of our UK counterparts. In 2009, both the mean score for Wales and its international ranking were lower than in 2006.

In 2009 the percentage of pupils gaining qualifications equivalent to five or more GCSE's grades A*-C (which includes all qualifications approved for pre-16 use in Wales) in Cardiff was 54.8 per cent compared with the Welsh average of 57 per cent. In the Vale of Glamorgan the figure was 73 per cent. Despite improvements in recent years in Cardiff, there remains a significant gap in performance between the educational outcomes of pupils entitled to Free School Meals (FSM) and that of their peers. This is also the case for Looked After Children (LAC). Indeed, the data shows that the gaps in performance widen as these pupils get older[6]. Further challenges relate to reducing the numbers of young people not in education, employment or training (NEETs) and increasing the numbers of the Year 11 cohort remaining in full-time education.

Figure 5.1 illustrates that in Cardiff there is a highly significant correlation between income deprivation and educational attainment. Analysis of the relationship between educational attainment and income deprivation has shown an increasingly significant correlation as children age through the Key Stages. This suggests that the longer children live in areas with high rates of income deprivation, the poorer their educational achievement, which impacts on later life chances[7].

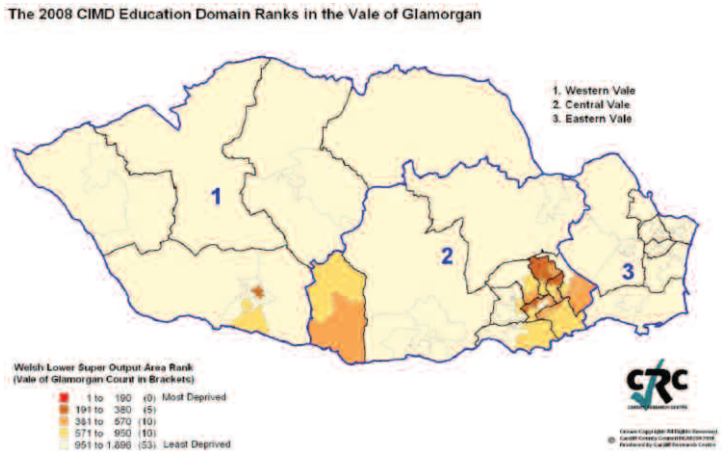
Figure 5.1



Source: Cardiff What Matters 2010-2020 – The Ten Year Strategy: Headline Health Needs Assessment 2010[8]

Figure 5.2 of the Vale of Glamorgan shows a similar relationship between areas of high income deprivation and lower levels of educational attainment.

Figure 5.2



Source: The Vale of Glamorgan Integrated Community Ten-Year Strategy: Headline Health Needs Assessment 2010/11[9]

The strategic approach to education in the early years is founded on the Flying start programme which addresses the 0-3 age group and the Foundation phase for 3-7 year olds.

These are supported by the Families First programme, the *Basic skills strategy*, the *Parenting action plan* and the *Childcare strategy.*

The Welsh Government *Schools Effectiveness framework* sets out the key characteristics required to build on existing good practice and improve children's and young people's learning and wellbeing throughout Wales, and each partner's contribution to securing that.

Extending Entitlement: support for 11-25 year olds in Wales and the *Learning and Skills (Wales) Measure 2009* set the vision for transforming education provision in Wales to prepare young people for high skilled employment and higher education.

How improvement will happen

Evidence shows that schools with high levels of educational achievement and low dropout rates not only have good academic teaching but a caring school ethos and high student participation and engagement rates. Schools which implement policies to improve school ethos also improve academic outcomes and children's mental health and health related outcomes[10]. The characteristics of health-promoting schools are similar to those that make schools educationally effective[11, 12].

Integral to involving the whole family in a child's education is the need to work across home –school boundaries. Well designed, broad based, whole school approaches to promoting health can have a positive impact on health as well as education related outcomes among children and young people. The Healthy Schools Programme in Cardiff and the Vale of Glamorgan adopts this approach.

However, schools alone cannot address educational inequalities, schools and families must work together to promote the development of children.

The evidence supports school based interventions which focus upon work with parents, the family and the community, with an emphasis on enabling parents to support their child's cognitive development and life skills. Children from disadvantaged backgrounds may require support with the transition to school, and a more formal approach to learning (Box 1).

Box 1

The Families Learning Together Project

The Families Learning Together (FLT) project aims to break the cycle of underachievement in families and raise literacy and numeracy standards via a team of dedicated teachers who work with parents and children in small groups. In 2009-10 the project worked with 898 adults and 1122 children, with 96 per cent of the parents making progress in literacy /numeracy, 79 per cent continuing to study after completing the core course and 100 per cent of children made progress in literacy and numeracy. One such success story is Connor aged four who went along to the local FLT project at Stacey Road Primary School with his mum Mandy. The FLT project develops parent self confidence and enables schools to develop stronger partnerships with parents. Mandy said, "It feels good to be able to help my son with reading, I just didn't really know what to do before and now I am more interested in his learning". Connor has made significant progress with his literacy and numeracy and his Mum Mandy has progressed to do voluntary work in the school and secured a place at college to undertake a teaching assistant course.

Chapter 5: Enabling children and families to maximise their capabilities and have control over their lives

EMPLOYMENT

Why this matters

This section focuses on the influence of employment, unemployment and poverty on health and well-being in children. Being in good employment can have positive health benefits, providing an income, a sense of self-worth, and social networks[13]. However, health benefits depend on the job being satisfactory. Unsatisfactory jobs may be little better than unemployment. Low paid, insecure, poor quality jobs and jobs that fail to protect employees from stress and danger can make people ill.

Good work is characterised by a living wage. A living wage means that salary adequately covers living costs. Other features of good work include having control over work, in-work development and opportunities, flexibility, protection from adverse working conditions, ill health prevention and stress management strategies and support for people experiencing sickness and disability that facilitate a return to work[3].

Unemployment is associated with poorer physical and mental health and well-being[1, 14]. It is also associated with higher mortality, long-term illness and hospital admission rates[15]. The social consequences of unemployment for families include higher levels of poverty, increases in stress and tension and friction between spouses. In some cases homelessness, family instability, detrimental effect on children's education and adverse public attitudes are experienced[16]. This considerable strain on family relationships can affect parenting and ultimately the health and well being of children[17].

People in lower socio-economic groups are at higher risk of unemployment. Other groups at higher risk include disabled people, people with mental health problems, lone parents, people with caring responsibilities and young people[1]. Having a limiting long term illness or a chronic condition can affect people's ability to work and have a significant impact upon their mental health and well-being.

The current economic recession has implications for unemployment levels in Cardiff and the Vale of Glamorgan which are likely to impact on the mental and physical health of the population[17] and specifically on families and children.

Poverty

Although being in paid work reduces the risk of poverty, it is not in itself enough to eliminate the risk altogether. So called in work poverty has been rising steadily for the past three decades. In 2009/10, 33 per cent of children in Wales lived in households in relative income poverty (an income less that 60 per cent of the national average)[18]. This is a rise of one per cent from 2008/09. Children in working families account for more than half the children living in poverty, and have done so for the past five years.

In contrast, considerable progress has been made with respect to out of work child poverty since the 1990's. The number of children living in workless households is now at its lowest level since 1984. However, there is concern that this progress will not be maintained without the reliance on substantial increases in child benefit and tax credits. The proposal to limit benefit payments to a maximum of £500 per week is therefore of concern, particularly for households with high housing costs and large families.

A growing proportion of households have very low incomes. Deep poverty, classed as income 40 per cent below the median personal income, now accounts for 44 per cent of total poverty. This compares to 35 per cent in 1996/1997.

These data have significant implications for the statutory and third sector agencies providing services to families. It is likely that demands on health and social care services, particularly primary care, will increase as levels of unemployment increase[19]. Concurrent public sector cuts may hamper the ability to respond to this demand and thus augment health and social inequalities.

The situation in Cardiff and the Vale of Glamorgan

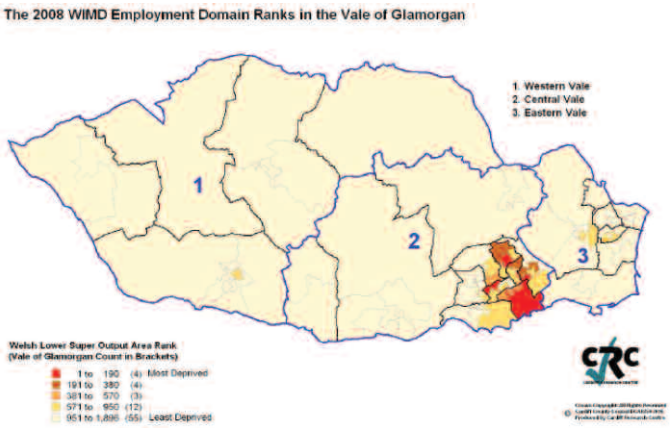
The Cardiff Needs Assessment report (2010) compares income deprivation in Cardiff between 2005 and 2008 and warns that even prior to the onset of the worst economic depression since the 1930s, the number of Cardiff residents living in the most deprived communities in Wales was increasing rapidly[8]. Equivalent analysis in the Vale of Glamorgan also suggests an increase in the number of people living in communities which are classed as the most deprived[9].

Cardiff and the Vale of Glamorgan generated 21 per cent of the Welsh Gross Value Added (GVA) in 2007[20]. As of 2007, GVA per head in Cardiff and the Vale of Glamorgan was £21,195. This is higher than the comparable UK figure and significantly greater than the Welsh average.

Cardiff is the main economic hub in South East Wales, focused primarily around public sector, service industries and banking. However, economic output per head in Cardiff now lags behind many other UK cities including Edinburgh, Belfast, Bristol and Nottingham[20].

Figures 5.3 and 5.4 show how employment varies locally with deprivation. In both Cardiff and the Vale of Glamorgan there is a close link between the pattern of employment deprivation and the overall index of multiple deprivation. Unemployment is generally highest in the most deprived wards.

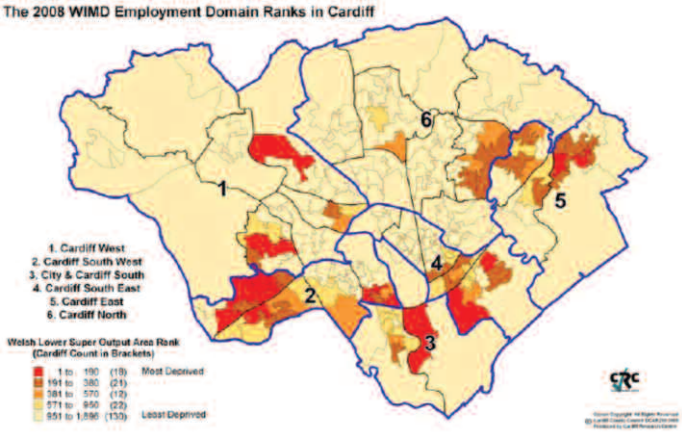
Figure 5.3



Source: The Vale of Glamorgan Integrated Community Ten-Year Strategy: Headline Health Needs Assessment 2010/11[9]

Vale of Glamorgan rates of economic inactivity and unemployment are lower than those in Wales but there is concern that rates in some wards in Barry and Llantwit Major are well above the national and local averages.

Figure 5.4



Source: Cardiff What Matters 2010-2020 – The Ten Year Strategy: Headline Health Needs Assessment 2010[8]

There is a heavy concentration of unemployment in the southern areas of Cardiff. Levels of business density in Cardiff are significantly lower than the UK average, and the number of business start-ups also lags behind the national average[20].

Chapter 5: Enabling children and families to maximise their capabilities and have control over their lives

The effects of the economic downturn in both Cardiff and the Vale of Glamorgan have included a rise in unemployment, particularly amongst 16-24 year olds. The number of 16-24 year olds claiming unemployment benefit has increased rapidly since 2008 in Cardiff from 1,870 to 3,005[20]. The number of young people aged 16-24 years in the Vale of Glamorgan claiming unemployment benefit has increased from 640 in 2008 to 1,000 in 2010[21]. In 2009, 8.9 per cent of Cardiff's year 11 leavers were classified as NEET, the 2nd highest proportion in Wales.

The Welsh Government (WG) is committed to tackling poverty by increasing employment through its economic and social strategies. Several UK Government programmes aimed at increasing employment are delivered in Wales, including Welfare to Work and New Deal. *Economic renewal: a new direction* outlines the Welsh Government's approach to delivering economic development in Wales[22].

The WG is working towards reducing the number of NEETs through its *Youth engagement and employment action Plan 2011-2015*[23]. The action plan outlines their approach to preventing children and young people from disengaging from learning and supporting them with entry to the labour market. Support for young people includes funding from the WG for further education, the Pathways to Apprenticeships, the Young Recruits Programme and Skill Build and ReAct (Redundancy Action Fund) in Wales. ReAct supports people at risk of redundancy, or who have been made redundant, by offering training to help them get back into work.

How improvement will happen

Access to quality, lifelong learning across the social gradient is a key factor. Individuals, in particular young people, need to take full advantage of all the opportunities for education, training and voluntary work in order to ensure their best chance of gaining employment. Provision of readily accessible support and advice for 16-25 year olds on life skills, training and employment opportunities, as well as providing work based training opportunities for young people and those changing jobs/careers, will also support future employment.

Participation in adult learning impacts positively on health behaviours and outcomes. Adult learning increases confidence and self efficacy and leads to positive and substantial behaviours in health behaviours.

People who are unwell and/or have a disability should remain in, enter or re-enter work as soon as possible[15]. Employment has many positive impacts for these groups of people. It helps to promote recovery and rehabilitation, leads to better health outcomes, reduces the risk of long-term incapacity, promotes full participation in society, reduces poverty and improves quality and life and well-being.

Being in good work includes having the opportunity to remain healthy in work, and to have support from employers when returning to work after a period of absence[1]. Workplaces are key settings in which health-promoting programmes can have a positive impact on the workforce. People who have been economically inactive for a period of time due to illness should be supported to enter, or re-enter work as gaining employment can have a positive effect on their mental and physical health[15] (box 2). Implementing the Corporate Health Standard[24], including utilising programmes such as the Welsh Backs programme[25], Healthy Working Wales[26] and Workboost Wales[27] (for small businesses) all contribute.

Box 2

Volunteering in Cardiff and Vale University Health Board – Adrian's Story

Adrian, aged 36 from Blackwood, received treatment for leukaemia as an in and an outpatient with Cardiff and Vale University Health Board (UHB). He was so impressed with the treatment that he received during this traumatic period in his life that he felt he would like to give something back. For a period of time Adrian had been unable to work due to his illness, but once he was feeling well again he decided to pursue a career change and became interested in working in health.

The UHB has been developing a volunteering scheme through the Patient Experience Team which enables people to carry out various voluntary roles within the organisation.

Adrian heard about volunteering whilst working with Quest, a supported employment agency in Cardiff. Quest support people with disabilities who seek paid employment and at the same time support potential employers and their existing employees to adopt and adapt practices to integrate clients with disabilities into their workforce on equal terms. Through Quest he was able to get in contact with the volunteer manager at Cardiff and Vale UHB.

Volunteering was an ideal way to begin to work towards a career change. Adrian says "by volunteering I can give my time freely and also be involved in an organisation I would really like to work for".

Adrian has been volunteering as a "welcomer" as part of the Meet and Greet Volunteer Team. This role involves assisting people as they come to the hospital, offering friendly face to face support with directions or just general enquiries. Invariably each volunteering sessions brings something completely different. As Adrian says, this role can be extremely rewarding, "I have thoroughly enjoyed every moment I have
been there".

Since volunteering with the UHB, Adrian has started working with Age Concern and believes that the valuable experience he has gained from both his volunteering role and new job have been extremely beneficial to his ongoing development.

Chapter 5: Enabling children and families to maximise their capabilities and have control over their lives

KEY MESSAGES

- Reducing inequalities in educational outcomes is fundamental to tackling health inequalities. Without action there is a risk that the health outcomes and life expectancy gap between the most affluent and most deprived areas in Cardiff and the Vale of Glamorgan will continue to increase. School based programmes which work with children and families are key in the early years.
- The effects of the economic recession are likely to impact on the mental and physical health of the population of Cardiff and the Vale of Glamorgan, largely due to the effects on employment and income.
    - Partners should work with schools, the Lifelong Learning Service and Careers Wales to explore opportunities for increasing the uptake of education and training opportunities in areas of socio-economic disadvantage.
- Economic pressures risk increasing health and social inequalities. Children and families are particularly vulnerable.
- As employers, local partners have influence and can mitigate against these negative effects.
    - Employers should support people to stay healthy in work.
    - Employers should support people to re-enter the workplace after a period of economic inactivity. This could be achieved in part through offering voluntary placements, particularly in the public sector.

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Chapter 6: **The role of healthy and sustainable places and communities**

Ally Mills (Gladstone Primary School)

'Environments need to be shaped in such a way that they facilitate health and health-related behaviour - we need to place more attention on this'[1] (Pg 189)

The built and natural environments form an important influence on health outcomes of children, families and local communities. These include both the direct and indirect effects of chemical, physical and biological hazards on health and well-being, and encompass some aspects of the physical and social environment, such as housing, urban development, land use and transport[2].

In the UK there has been a geographical split in poverty and wealth since the 1970s[3], with a concentration of poorer people living in disadvantaged areas. Such areas generally have poorer conditions and fewer opportunities for residents living in them[4]. People living in disadvantaged areas have poorer physical and mental health – place in geographical terms acts as a mediating factor for such health outcomes[5].

This chapter will focus on some of the key determinants relating to the physical environment that influence the health of children and families, in particular where there are inequalities in health, and where there is ongoing potential to influence local delivery in Cardiff and the Vale of Glamorgan. The focus will be on housing, green, open spaces and play, accidents and injuries and active travel. Box 1 outlines some of the strategic mechanisms for influencing local delivery.

Box 1

Local Development Plans and Community Regeneration form two of the mechanisms to plan for and improve housing and to provide opportunities in a spatial and community sense to protect, improve and create green spaces, play areas and recreational facilities. Accident prevention and active travel can also be supported through these mechanisms.

LOCAL DEVELOPMENT PLAN

Local government has a responsibility to produce a Local Development Plan (LDP), the required statutory development plan for each local planning authority area in Wales[6]. These plans set the local policy context for use and re-use of land to meet the needs of residents in a sustainable manner. LDPs will include policy to support a quality landscape such as accessible green spaces, and sustainability, such as Cardiff's development of a low carbon city, and promoting walking and cycling.

COMMUNITY REGENERATION

Community 'regeneration aims to make sustainable places over the long term in order to improve the quality of life of the people who live and work in and around those places'[7] (Pg1). Regeneration can include a range of approaches including housing renewal areas and programmes such as Flying Start. It is one key way of tackling geographical inequalities. Improving life chances for children and young people is one of the intended outcomes of the Welsh Government (WG)

regeneration approach. Involving communities in regeneration programmes is seen as a key element of their success.

HEALTHY URBAN PLANNING

Healthy urban planning (World Health Organisation) is about using planning to improve health[8]. It promotes the idea that towns and urban areas are more than simply buildings, streets and open spaces. Planning measures can improve health in a range of ways, from creating parks and footpaths to encourage physical activity, to increasing opportunities for food growing and increasing access to recreational opportunities.

A healthy urban planning approach is a tool that can be used at the level of the LDP and for particular schemes such as housing developments and neighbourhood renewal to maximise the potential for health improvement in part by considering the interconnectivity between, for example, transport, housing and access to green and open spaces.

This approach forms an important part of Cardiff Healthy City and Vale Healthy Communities. Actions to date have included impact assessment of draft LDPs and providing training to planners and other disciplines in order to adopt a healthy urban planning approach.

HOUSING

Why this matters

There is a clear association between housing conditions and physical and mental health. A range of elements can affect health including indoor pollutants, cold, damp and noise, overcrowding, neighbourhood quality and infrastructure deprivation (lack of availability and access to services), neighbourhood safety and social cohesion, as well as housing allocation, housing investment, homelessness and urban planning[9].

Social housing is particularly important for families living in poverty. Sixteen per cent of homes in Wales are currently managed by local authorities or housing associations. Around 40 per cent of workless families live in housing managed by local authorities or housing associations[10]. A small percentage of households currently live in crowded conditions, which is closely linked with the number of children in the household[10]. There are higher levels of social housing in disadvantaged areas[5].

Youth homelessness in 16–17 year olds is an issue across the UK. Homeless young people from lower socio-economic groups and/or with a history of childhood trauma are more at risk[11]. Homeless young people have poorer health outcomes[11].

The situation in Cardiff and the Vale of Glamorgan

The WG policy direction for housing[12] over the past ten years has included improving the quality of housing including social housing and private rented stock, meeting need for additional social housing and effective social housing management, providing affordable housing and tackling homelessness. The WG housing strategy 2001 set targets for all social housing to meet the Welsh Housing Quality Standard (WHQS) by 2012. Component parts of the WHQS can be found in the appendix 2.

Improvement of the social housing stock, through meeting the requirements of the WHQS, is included within both Cardiff and Vale of Glamorgan local housing strategies 2007–2012. Details of social housing stock in Cardiff and the Vale of Glamorgan, and the proportion of local authority owned stock occupied by families, can be found in table 6.1.

Table 6.1: Social housing stock in Cardiff and the Vale of Glamorgan

	% social housing stock (and number of households), as % of all housing tenures	% (and number) of social housing that is local-authority owned (public sector housing)	% of public sector housing occupied by families***
Cardiff	16.89% (23,757/140,649*)	57.78% (13,727)	59%
Vale of Glamorgan	11.01% (5955/54050)**	65% (3871)	22%

*Welsh Assembly Government – 2008/2009

**Vale of Glamorgan data – September 2010

***Only includes applicants who had children at time of taking tenancy

Improving the quality of social housing will support children and families in particular need. A recent national monitoring exercise[13] highlights that 78 per cent of housing association homes (including the recent stock transfers) and 87 per cent of local authority homes can meet the WHQS standard by 2012/13 in terms of overall compliance. However, the latter figure excludes those local authority homes undergoing a tenant voting process to decide whether to transfer to a registered social landlord. When this group is included, the percentage of local authority homes achieving WHQS falls to 39 per cent.

How improvement will happen

Improvement in housing conditions, such as energy efficiency measures, have a number of positive impacts on health, for example respiratory symptoms, social functioning and physical and emotional well-being [4,9,14].

However the relationship between housing issues and health outcomes is complex and further research is required to identify the most effective interventions[9]. Social housing is a key type of housing required for disadvantaged families – achieving the WQHS will ensure that this housing stock and its immediate environment are of good quality in the future.

Projected achievement of the WHQS for Cardiff Council is 75 per cent of Council stock by 2011-12. Following the recent decision of Vale of Glamorgan tenants to retain the Council as their landlord, the Council has committed to undertake those aspects of the WHQS that it can achieve by the end of the 2016/17 financial year. This includes bringing properties up to a good internal standard and ensuring that dwellings are wind and waterproof and structurally sound. However, it will not include certain key aspects of the WHQS, such as ensuring that estates are safe and attractive places to live, external improvements such as security lighting and improved boundary fencing and the major regeneration of poorly designed estates. The revised timescale takes account of the time taken to undertake the ballot and has been agreed by the WG.

Tackling youth homelessness forms part of both Cardiff and the Vale of Glamorgan's housing strategies. There were 109 16-17 year olds in Cardiff between October 2009 and September 2010 accepted as being 'eligible, unintentionally homeless and in priority need'. The figure for the Vale of Glamorgan was 40 for the year from 1st April 2010 to 31st March 2011. Action to support such young people includes a single gateway approach in the Vale to find suitable accommodation, with support if required. In Cardiff, action includes the development of a partnership operated one-stop-shop for 16-17 year olds to access housing advice, accommodation, care and support. Additionally, work is underway to redevelop a 26-bed hostel to provide a dedicated young person's supported housing scheme.

GREEN, OPEN SPACES AND PLAY

Why this matters

The physical environment contributes to keeping people active and therefore healthier. An '*obesogenic* environment refers to the role environmental factors may play in determining both nutrition and physical activity'[15] (Pg 1). Developing and promoting usable green open spaces and encouraging active transport are two ways of counteracting an obesogenic environment, by using the physical environment to improve health outcomes. Play also forms an important part of a healthy childhood.

The situation in Cardiff and the Vale of Glamorgan

In Wales, children and young people's partnership guidance includes the core aim that all children and young people should have access to play, leisure, sporting and cultural activities (core aim 4). It highlights children's recreation as a statutory duty for local government – in its implementation plan[16] it set out a range of governmental actions to embed play standards and opportunities across the system.

At the local level overarching actions on play, leisure, sporting and cultural activities are embedded within core aim 4 of each children and young people's partnership plan. Specific strategies include Cardiff parks and green spaces strategy and Cardiff and Vale of Glamorgan physical activity strategies.

Both Cardiff and Vale of Glamorgan Councils have play strategies in place with a range of actions across the WG implementation plan themes, including encouraging more play provision and developing play opportunities in the community.

As part of LDP development (box 1) both Cardiff and Vale of Glamorgan Councils have produced, or are in the process of producing, open space audits which include children's play space as well as formal and informal recreational space. These audits will be used to monitor delivery of environmental actions within the two Community strategies.

In Cardiff, the Council delivers a range of schemes and projects over differing time periods under the umbrella of neighbourhood regeneration, in order to improve the environmental quality of local neighbourhoods[17]. These include environmental improvement projects, investment in community facilities and area improvement strategies. Box 2 highlights how regeneration can improve open spaces and provide recreational activity for children and young people.

In March 2010 the WG announced Barry Regeneration Area as the seventh 'strategic regeneration area' (SRA) for Wales. SRAs are led by the WG and encompass the development of social and economic programmes of work to link community and physical regeneration opportunities with public and private funding. In Barry, several action areas have already been progressed including improvement of leisure and play facilities such as the creation of a playground at Porthkerry Country Park and developing a multi-purpose games/activities area in Iolo park.

Box 2

West Adamsdown

Photos courtesy of Cardiff Council

West Adamsdown has been upgraded as one of two housing renewal areas in Cardiff over recent years. The area includes a substantial population of families with children. To complement investment in private sector housing stock in the area Cardiff Council has delivered a series of environmental improvements in partnership with the local community and local partners such as the Adamsdown Community Project. In response to the need for outdoor recreational activities for young people, a major open space improvement project has been delivered at Anderson Fields, including artist-designed play structures (the 'spending time' machine), an informal games area, a youth shelter, new park infrastructure and landscaping. This area is now well used by children and families.

Passive green space has also been created in the adjoining System Street, which by connecting several community areas has both encouraged walking and improved the aesthetics of the area. A local sustainable solution was found to the need to light the area when Adamsdown primary school installed a rooftop solar panel to provide electricity to the star-like under floor lighting system.

How improvement will happen

There is a direct link between the presence of green spaces and levels of physical activity. The more green space accessible to children, the less likely they are to be overweight[18]. Children need safe access to such green spaces, play areas and recreational facilities[18]. Action to improve and create green, open space, and play and recreational facilities can help improve health outcomes.

The evidence highlights that regeneration can have small improvements in socio-economic determinants of health but this forms part of wider socio-economic trends[19]. There is also a need:

- To watch out for potential adverse impacts
- For further research to improve understanding of the impacts of economic and neighbourhood regeneration on health and the socio-economic determinants of health [19]

Nevertheless 'physical improvements and stronger, more effective place management approaches can help stabilise and sometimes turn around unpopular areas, especially when carried out with positive resident involvement'[5].

ACCIDENTS AND INJURIES

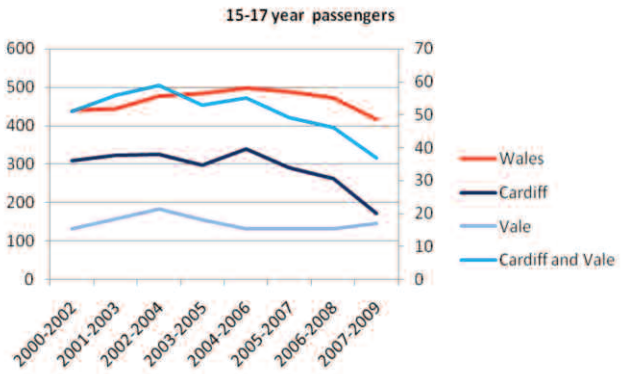
Why this matters

Injury is the leading cause of death in children and adolescents aged 0–19 in Wales. In 2003–05 the highest unintentional injury-related death rates in Wales were for 15–19 year olds males at 6.45 per 100,000 for motor vehicle drivers and passenger accidents (and 4.00 per 100,000 for females) and 3.63 per 100,000 for male pedestrians aged 15–19[20]. Road traffic accidents (RTAs) are more likely to occur in disadvantaged neighbourhoods[21]. Whilst the reduction in childhood mortality rates from RTAs is a key success story over the past 20 years, studies in England highlight that this is not the case for families where no adult is in paid employment [4] – childhood RTAs are therefore an issue of health inequity.

The situation in Cardiff and the Vale of Glamorgan

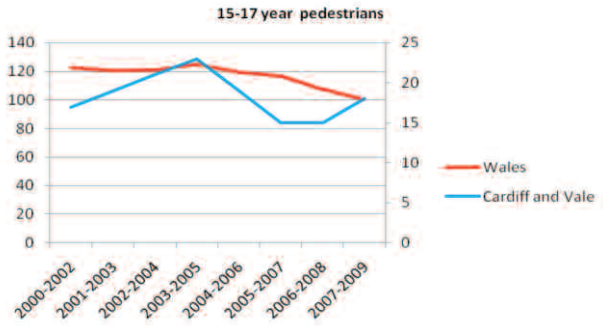
Police crash data for Cardiff and Vale of Glamorgan highlight a decrease in total numbers between 2000 and 2009 of fatal, serious and slight injuries for 0–4 and 4–15 year old passengers and for 5–14 year old drivers/riders and pedestrians. Trends for 15–17 year old passengers and pedestrians (figures 6.2 and 6.3) show a less steep decline than other age groups. These data must be interpreted with caution due to small numbers, under reporting and lack of exposure data to calculate rates.

Figure 6.2: Numbers of fatal, serious and slight injuries (passengers) 15–17 year olds Cardiff and Vale of Glamorgan 2000-2009



Source: STATS19 (2011)

Figure 6.3: Numbers of fatal, serious and slight injuries (pedestrians) 15–17 year olds Cardiff and Vale of Glamorgan 2000-2009



Source: STATS19 (2011)

How improvement will happen

The WG *Road safety strategy for Wales* [22] includes the road safety objectives of improving safety for children, especially of pedestrians and cyclists; promoting safe use of vulnerable transport modes including walking and cycling and reducing excessive and inappropriate speed of motor vehicles. The strategy charged local government with delivering safety schemes on local roads and local road safety education, training and publicity.

There is good evidence that introducing 20 mph zones in residential areas reduces traffic speed and child pedestrian injuries[23]. There is also evidence that introduction of traffic calming measures can narrow the inequality gap in child pedestrian injuries [24].

Both Vale of Glamorgan and Cardiff Councils have introduced a range of safety schemes over the past eight years in line with the WG strategy including the introduction of traffic calming measures and 20 mph zones, with the latter particularly around primary schools. These safety schemes are often linked with action to increase active travel. This work continues to be developed.

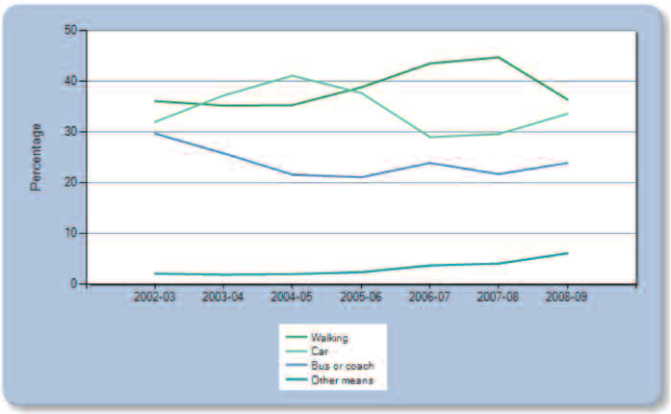
ACTIVE TRAVEL

Why this matters

There has been a long term decline in the numbers of children walking and cycling to school[22]. The reduction in road traffic accidents in children and young people is partly the result of a decline in walking and cycling[22]. Nevertheless, figure 6.4 highlights that the percentage of 5–16 year old children walking to school has at times increased in recent years, at the same time as travel to school by car has decreased.

Safe transport schemes can help address parental road safety fears[22] as well as levels of physical inactivity in children[4].

Figure 6.4: Percentage of children aged 5 to 16 using different main modes of travel to school in Wales, 2002-03 to 2008-09



Source: Stats Wales 2011

The situation in Cardiff and the Vale of Glamorgan

The WG Safe Routes in Communities scheme aims to encourage walking and cycling, and to improve safety and accessibility, within communities. It replaced the safe routes to school initiative in 2008 – schools now form a part of the community scheme. Local authorities can bid for grant funding to complete capital works such as traffic calming, crossings, cycle paths and footpaths.

To benefit from safe routes to communities locally, schools must generally provide their local authority road safety team with evidence that they have prepared a school travel plan, which includes proposed safety measures that would provide a safer route for children to travel to school. Some schools work in partnership with Sustrans to develop their travel plans[25].

Forty-six schools in Cardiff currently have school travel plans in place and a further five have action in place around either road safety or safe routes to schools. In some schools these actions form part of their Healthy Schools approach. Developments in the Vale of Glamorgan are highlighted in box 3.

How improvement will happen

Increasing the levels of active travel requires a mixture of approaches including reducing car speed, improving the quality of walking and cycling routes and improving public transport[4]. Ways of increasing active travel in Cardiff and Vale are included elsewhere in this chapter.

Ongoing development of Cardiff as a Sustainable Travel City is a key way that Cardiff Council will strengthen the strategic basis of road safety interventions, including closer integration with action to increase walking and cycling. Measures to reduce car travel, traffic speed and safety, including Safe Routes in Communities will be linked with the strategic cycle network plan.

Box 3

20mph zones in the Vale of Glamorgan

Vale of Glamorgan was one of the first Councils in Wales to introduce 20 mph zones. Since 2000, local schools have had the opportunity to ask for 20 mph zones and other safety engineering features around their school. The Council supports this scheme by applying to the WG Safe Routes in Communities grant scheme. A prerequisite for introduction of such features has been the requirement that the local school prepares a travel plan, including encouraging parents and pupils in active travel. More than fifteen primary and secondary schools have benefitted from this scheme since then. The following photos show the 20 mph zone and traffic calming measures around Maes-y-Dyfan special school in Gibbonsdown.

Photos courtesy of Vale of Glamorgan Council

Chapter 6: **The role of healthy and sustainable places and communities**

KEY MESSAGES

- Improving the physical environment can improve the health and well being of children and young people and decrease some of the health inequalities which affect children and families. Local development plans and community regeneration are key mechanisms to achieve this.
  - There should be further development of a healthy urban planning approach within Cardiff Healthy City and Vale Healthy Communities.
- Local housing and transport strategies are key to enabling healthy environments.
  - A targeted approach to the roll out of safety measures such as traffic calming, speed restrictions and school travel plans should be developed which is proportionate to socio-economic need.
- Social housing is required for disadvantaged families – achieving the Welsh Quality Housing Standard will ensure that this housing stock is of good quality in the future.
- Tackling youth homelessness remains an important issue.
- Green, open spaces and quality play areas are important to the health of children. There is also a need to encourage increased walking and cycling.
  - Local Development Plans, community and neighbourhood regeneration approaches and neighbourhood management should be used to identify ways of protecting and improving green and open spaces, and informal and formal play areas.
- Targeting disadvantaged areas with such a mixture of effective approaches to protect and improve the health of children and young people are a key development area for neighbourhood and locality partnership approaches in Cardiff and Vale of Glamorgan.

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Chapter 7:
Preventing ill health in children and families

Chapter 4 explored the importance of a child's early years and specifically the influences of maternal health, nutrition and parenting. This chapter focuses on parents, looking more closely at the impact of parental actions on the developing child. It deals with the subjects of domestic abuse and alcohol use, as well as the decisions parents make about childhood immunisations.

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DOMESTIC ABUSE

Why this matters

Adverse childhood experiences, (ACEs) such as neglect, recurrent physical or emotional abuse, living in a household where the mother is treated violently, or one or both parents misuse alcohol or drugs, have a strong influence on the child's own behaviour and health in later life[1]. ACEs can influence adolescent mental health, smoking, alcohol and drug misuse, sexual behaviour and teenage pregnancy, with serious consequences for adult life. For example, in the UK prison population around half of female prisoners and a quarter of male prisoners have experienced violence at home, and around one in three female and one in ten male prisoners have been sexually abused. Around one in three of all prisoners have been in care as a child[2]. Moreover, ACEs and insecure attachment can affect physical health, increasing the risk of heart, lung and liver diseases, injuries, sexually transmitted infections and HIV[1,3]. It is clear that adverse childhood experiences have enormous consequences both for the child, their family and social contacts, and for health, social care and criminal justice systems.

The situation in Cardiff and the Vale of Glamorgan

In Cardiff, a Home Office tool has been used to estimate that around 8,910 women and girls aged 16-59 will have been the victim of domestic abuse in the last year[4]. In the Vale of Glamorgan domestic abuse accounts for over 33 per cent of all violent crime[5]. In 90 per cent of domestic abuse incidents, a child is present or in an adjacent room, and data from Welsh Women's Aid suggest that in 40-70 per cent of cases where women are being abused, children are also being abused[4].

How improvement will happen

International best practice[6] suggests the following key approaches together constitute an effective response to domestic abuse:

- Responses to domestic violence must be victim-centred, tailored to the particular needs of the victim
- The effectiveness of a victim-centred system depends on a multi-agency approach
- Preventative actions must be taken to address the root causes of abuse:
  - Risk assessment systems must be put in place by and between a range of services.
  - Training for a wide variety of professionals is key to improving both the identification of those at risk and the response victims receive.
  - Awareness raising measures are needed to educate the whole of society about the nature of domestic abuse.
  - Working with men around domestic *violence* is essential to address the root causes of abuse and challenge the behaviour of perpetrators.
- Better data collection and evaluation of interventions is required to ensure that policy is evidence based.

These form elements of both the Cardiff and Vale of Glamorgan plans to address domestic abuse within their new 10-year partnership strategies *What Matters* (Cardiff) and *Community Strategy* (Vale of Glamorgan), including the probation service Integrated Domestic Violence Programme.

ALCOHOL

Why this matters

Unlike smoking, obesity and drug use, alcohol consumption has an inverse social gradient. As the level of gross weekly household income rises, so does alcohol consumption, together with the proportions exceeding guidelines and drinking heavily. In contrast, people with lower socioeconomic status are more likely to abstain altogether. However if they do drink alcohol, they are more likely to have problematic drinking patterns and dependence. Hospital admission for alcohol-specific conditions for both males and females is associated with increased levels of deprivation[7].

As with smoking (Chapter 4), alcohol can cause harm during pregnancy. The damage depends on the level of consumption, the pattern of exposure and the stage of pregnancy during which it is consumed[8]. In the most extreme cases, alcohol consumption causes foetal alcohol syndrome, (FAS) characterised by restricted growth, facial abnormalities and learning and behavioural disorders. More subtle harm is more common and leads to problems such as behavioural difficulties[9].

Problematic alcohol use can result in a parent being emotionally unavailable, inconsistent and unpredictable. Studies have shown that children of problem drinking parents have higher levels of a range of problems than children of non-problem drinkers. These can include anti-social behaviour, emotional problems, and problems with school performance. Sometimes children can become young carers for the problem drinking parent, which can affect their education, peer relationships and family life, with many young carers dropping out of school altogether[10]. More than 100 children, including children as young as five, contact ChildLine every week with worries about their parent's drinking or drug use[11]. Adults who regularly drink above the guidelines significantly increase their risk of developing alcohol related diseases such as liver disease, and mouth, oesophageal, bowel and breast cancer[12].

For young children, the role of parents and family are the most important influences on their expectations, attitudes and behaviour relating to alcohol. Even at an early age children have a fairly sophisticated understanding of alcohol and its effects, mostly gained from observing their parents or other adult relatives[13]. Among 9-11 year olds, over half think people drink to forget their problems. Over a quarter think that people who drink beer would normally drink four pints or six bottles in an evening, and around a third think that for adults who drink wine, five or more glasses in one night is normal drinking behaviour[14]. Many children therefore grow up believing that heavy drinking is normal adult behaviour, which they seek to adopt as they get older. Indeed, binge drinking among young people in the UK is a matter of concern, with a recent study finding that one in ten young people going for a night out intend to drink more than 40 units[15].

Children under the age of 15 should not drink alcohol at all, as there is clear evidence that alcohol can harm the developing brain, bones and hormones. The potential harms of drinking in adolescence include developmental problems, risky behaviours, and an increased risk of binge drinking and alcohol dependence in young adulthood. In keeping with the adult picture, young people from more affluent backgrounds were more likely to report weekly drinking. For drunkenness, there was no overall difference by level of affluence[8].

The situation in Cardiff and the Vale of Glamorgan

The data on the number of babies born with FAS in Wales is unreliable, but numbers are thought to be low[8].

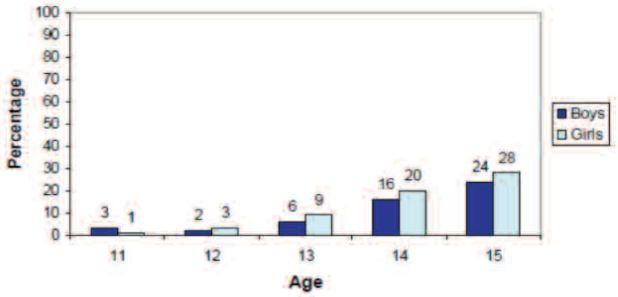
Overall in Wales, an estimated 64,000 children may be affected by parental alcohol problems[12]. There are no local data on the number of children living with parents with an alcohol problem in Cardiff and the Vale. The rate of individuals referred to treatment for alcohol misuse in both counties in 2009-10 was around 300 per 100,000 population, compared to the Wales average of around 350[16]. However, these data may reflect low identification and referral rates, as around half of adults in Cardiff and the Vale drink more than the recommended guidelines, and hospital admission rates due to alcohol in males and females in both counties are significantly worse that the all Wales average[17]. It is notable that whilst death rates from other diseases have declined, hospital admissions for liver disease in people aged under 65 increased fivefold across the UK between 1970-2000[18].

In young people, drinking weekly is often used as an indicator of regular alcohol consumption. Data from the recent survey *Health behaviour in school-aged children* (HBSC)[19] showed that significant numbers of young people in Wales drink this frequently. However, the proportion of 15-year-olds drinking weekly has fallen in recent years. In 2009/10, 36 per cent of boys and 30 per cent of girls reported drinking this often, compared with around 60 per cent of boys and 40 per cent of girls in 1998.

There are no data on the volume of alcohol consumed by adolescents in Wales, but it is possible to use drunkenness as a proxy measure for large amounts being consumed on a single occasion.

Figure 7.1 shows the proportions of children and young people reporting drunkenness on four or more occasions in Wales.

Figure 7.1: Percentage of children aged 11-15 in Wales reporting having been drunk on four or more occasions.

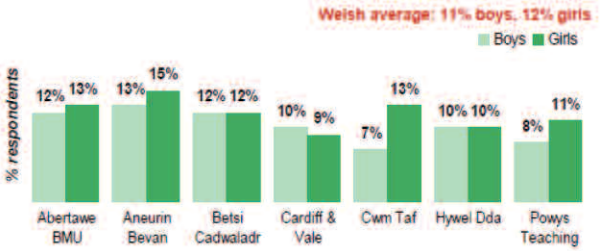


Source: Health behaviour of school-aged children: initial findings from the 2009-2010 survey in Wales[19]

By age 15, 24 per cent of boys and 28 per cent of girls report having been drunk on four or more occasions in their lifetime. In addition, 36 per cent of boys and 42 per cent of girls reported being drunk in the last 30 days. Further analysis of HBSC data indicates that, among this 15-year-old age group, 18 per cent of boys and 19 per cent of girls reported first being drunk at age 13 or younger. This is particularly important given evidence that alcohol dependence in adulthood is less likely if initiation is delayed[20].

Although any amount of underage drinking is a matter for concern, within the age group 11-16 as a whole, Cardiff and Vale have the lowest proportion in Wales of young people reporting having been drunk at least four times (figures 7.2):

Figure 7.2: Percentage of children and young people aged 11-16 in Wales reporting having been drunk at least four times in their lifetime, by LHB and gender, 2009.



Source: Health Behaviour of School-aged Children: initial findings from the 2009-2010 survey in Wales[19]

All respondents aged 11 to 16 surveyed between October and December 2009

Whilst there are no specific Wales or local data, a 2009 report from the Department for Children, Schools and Families indicates that around 1,200 young people may be attending Emergency Units in England each week, needing medical assistance for alcohol related issues[21]. Evidence suggests that around one in five dependent drinkers are diagnosable before the age of 18, and almost half before the age of 21[22]. Yet research in English accident and emergency departments found that most had no strategy or support to deal with young people with alcohol related problems[23].

How improvement will happen

Given the extent of alcohol misuse and its likely impact on the future health of the population, it is clear that much more needs to be done. Guidance from the National Institute of Health and Clinical Effectiveness[24] recommends the following actions as the most effective for reducing alcohol related harm:

- Make alcohol less affordable.
- Restrict availability.
- Strengthen current regulations on advertising.
- Control the number and siting of alcohol licences and enforce the law on underage sales.
- Prioritise alcohol use disorder prevention as an 'invest to save' measure and provide a full range of alcohol services in line with national guidance.
- Provide support for children and young people aged 10-15 thought to be at risk from their use of alcohol.
- Provide screening and extended brief interventions for young people aged 16 and 17 years.
- Provide brief alcohol advice, extended brief interventions, and referral to specialist services for adults.

The Police Reform and Social Responsibility Bill, which includes alcohol licensing policy, contains a recommendation for health boards to become 'responsible authorities' who can influence the awarding and renewal of alcohol licenses. The Bill has now reached the House of Lords Committee stage (line by line examination of the Bill).

At the local level, alcohol issues are addressed by the Community Safety, Substance Misuse Action Teams, through action ranging from information and training for those who work with children in school or informal youth settings, to underage test purchasing of alcohol by Trading Standards departments, to support for young people with alcohol problems from services such as Inroads. The Strengthening Families programme is being provided in Cardiff by the Cardiff Alcohol and Drug Team. This addresses substance misuse within the broad context of family functioning, parenting and young people's skills development (Box 1).

As part of the National Prevention and Promotion Programme, Public Health Wales will be developing a national programme in relation to alcohol screening and brief interventions for adults, especially in primary care settings. Locally, the 'Cardiff Model' of alcohol screening and brief interventions for adult patients with alcohol related facial injuries has been rolled out with staff of the maxillo-facial clinic at the Dental Hospital at the University Hospital of Wales and there is scope to extend this to other clinics such as trauma, ENT and sexual health.

However, given the evidence from England,there may be a gap in services to help children and young people who attend accident and emergency departments with alcohol related issues.

Cardiff and Vale Public Health Team will be working with the School Health Improvement Programme to develop the role of school nurses in helping children and young people at risk of, or with, alcohol problems.

Box 1

THE STRENGTHENING FAMILIES PROGRAMME

Family A - An alcohol dependant (abstinence stage) single mum was concerned about the impact of her drinking habits in relation to her 12 year old daughter, the long term implications of learned behaviour and how this would impact their relationship. Mum was concerned that her daughter would rebel against her if she talked to her about alcohol as she could potentially use the excuse "If you did it, so can I".

During home visits the family displayed a close relationship but said they argued about what was appropriate for teenagers regarding boundaries, values and rules. The daughter highlighted that her mother's concerns were unfounded as she had seen first hand the results of drinking and wished to have the skills to prevent herself from going down the same route.

The family attended all seven sessions of the programme and evaluation showed that they gained a lot from the programme including the teenager having new skills to avoid peer pressure.

The outcome for the family proved to be hugely successful. Mum felt that she had grown in confidence and was able to talk openly with her daughter about drinking, smoking and drugs without feeling hypocritical. The daughter reported that she had respect for her mother and understood the stresses that parents have in every day life and that she was now able to discuss any issues with her mother.

'I am very proud to say I feel very fortunate to have had the opportunity to take part in the Strengthening Families Programme. Not only did the course afford me the opportunity to spend quality time with my daughter who is 12, but it gave us a chance to meet other parents and to share experiences that we otherwise would not have done. The time we spent getting to know each other was precious to us and the impact on our relationship is priceless. Thank you for giving us this fantastic opportunity, we display our certificate of achievement with pride and will always be grateful.'

IMMUNISATION

Why this matters

Vaccination is very effective in preventing and reducing the impact of serious infectious disease. The World Health Organisation estimates that three million lives are saved every year worldwide through immunisation[25]. It is important that all babies, children and young people are immunised against vaccine-preventable diseases (see appendix 3 for details of the routine vaccination programme).

The success of routine immunisation means that we no longer see many of the illnesses which were previously significant causes of morbidity and mortality in children, such as whooping cough (pertussis), polio and diphtheria. It is therefore easy to underestimate the serious threat they continue to pose. Publicity surrounding very rare adverse reactions to vaccination can lead to the false impression that the intervention poses a greater risk than the disease it is aiming to prevent[26]. However, the outbreaks of measles and mumps which resulted from poor uptake of MMR have demonstrated how close we are to re-emergence of these diseases.

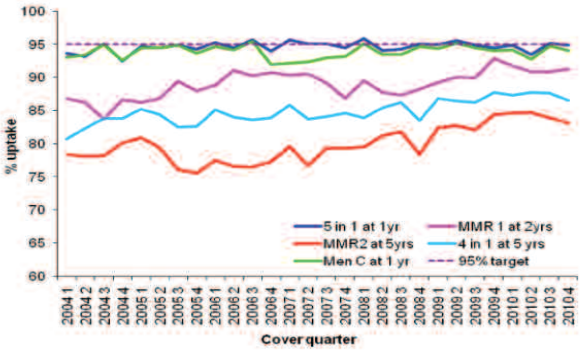
When 95 per cent of a population is fully immunised, the spread of disease can be stopped. This is the so called 'herd immunity', and results in elimination of the disease from a region or country. The decision not to immunise a child therefore not only leaves that individual at risk of disease, but could also potentially leave a whole community at risk. This is of particular significance to those who cannot be immunised, for example very young babies and those with serious illness, who are among the most vulnerable to infection.

The situation in Cardiff and the Vale of Glamorgan

An uptake target of 95 per cent is set for all childhood vaccinations. The target for the HPV vaccination programme is 90 per cent uptake for each of the three doses.

Figure 7.4 highlights the trends in childhood vaccine uptake over the past seven years in the UHB area[27]. Whilst uptake of the early vaccinations (5 in 1 and Men C) has been consistently good, and around 95 per cent target levels, there is still much progress to be made with the MMR vaccine and the 4 in 1 pre-school booster.

Figure 7.4 : Cardiff and Vale University HB trends in routine childhood immunisations 2004-2010 Quarter 4
Source: Public Health Wales quarterly cover reports, correct as at February 2011

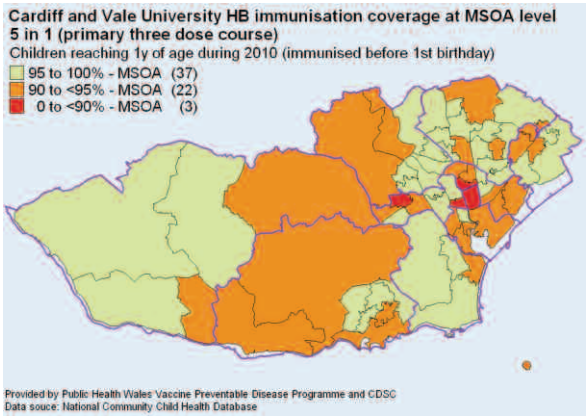


Source: Public Health Wales Vaccine Preventable Disease Programme -2011[27]

When uptake rates are examined at smaller areas within the UHB, more complex variations are seen[28]. Figure 7.5 shows uptake rates for the 5 in 1 vaccine by Middle Super Output Area (MSOA) during 2010.

In the majority of MSOAs (37) uptake rates exceed 95%. In 22, uptake was above 90 per cent but below the target level. However in three MSOAs in the centre of Cardiff, uptake failed to reach 90 per cent. Further analysis has demonstrated that children living in the most deprived fifth of MSOAs are nearly five per cent less likely to be fully immunised against diphtheria, tetanus, pertussis, polio and Hib by the age of one year, than children living in the least deprived fifth (appendix 3).

Figure 7.5



Source: Public Health Wales Vaccine Preventable Disease Programme[28]

The situation for MMR is more concerning. Although progress has been made in increasing uptake in recent years (figure 7.4), full immunisation by the time children enter school at the age of five (MMR2) is only 83.2%.

How improvement will happen

Childhood immunisation is a safe and effective intervention which prevents serious and potentially fatal illnesses. A range of factors influence vaccination uptake rates including parental attitudes and beliefs, ease of access to provision, knowledge, attitudes and skills of health professionals, the media and the effectiveness of leadership and co-ordination of all teams and partners to deliver the programme. Whilst immunisation services are provided mainly by health organisations, partner organisations and staff play a key role in raising awareness and supporting parents make informed choices, in signposting and in helping facilitate delivery of elements of the programme, for example in schools. Health organisations responsible for immunisation also have a key role in ensuring all eligible children are able to readily access their services at the right time, and that those who miss routine immunisation are followed up.

Chapter 7:
Preventing ill health in children and families

KEY MESSAGES

- Parental action has a profound effect on the health and wellbeing of children, with the ability to both harm and improve.
- The experience of domestic violence has a significant detrimental impact for children as well as adults involved.
- Problematic parental alcohol consumption can not only affect the health and parenting ability of the adult, but can also influence the future behaviour of children.
    - Alcohol screening and brief interventions should be adopted widely, building on the recommendations made by the National Prevention and Promotion Programme.
- Alcohol consumption in children is a cause for concern.
- Despite improvements, uptake of many of the childhood immunisations is below the desired level. Poor uptake particularly affects the MMR vaccination. This means that children living in Cardiff and the Vale of Glamorgan remain at risk of infection, especially in communities with the lowest uptakes.
    - All partners must encourage and support childhood vaccinations and provide correct information to parents.
- Inequity is evident. Services should ensure they are accessible to all those in need, irrespective of where they live.

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Glossary

Children in Need

The notion of children in need is defined in the Children Act 1989 (Part III, section 17)[1], where a child is considered to be in need if:

- He/she is unlikely to achieve or maintain, or have the opportunity of achieving or maintaining , a reasonable standard of health or development without the provision to him/her of services by a local authority
- His/her health or development is likely to be significantly impaired, or further impaired, without the provision for him/her of such services, or
- He/ she is disabled.

Confidence Intervals and Statistical Significance

Confidence intervals are the indications of the random variation that would be expected around a rate[2]. Confidence intervals must be considered when assessing or interpreting a rate. The 95% confidence interval represents a range which has a 95% probability of including the underlying population rate.

The range of the confidence interval is dependent on the size of the population from which the events came. Rates based on small populations are likely to have wide confidence intervals and rates based on large populations are likely to have narrow confidence intervals.

In this document, statistical significance is set at the 95% level of confidence. Statistical significance does not necessarily equate with public health importance.

Equality and Equity

Equity and equality, although often used interchangeably, have different meanings[3]. The following definitions are provided by NICE[4] 'Health inequality describes differences in health experience and health outcomes between different population groups – according to socioeconomic status, geographical area, age, disability, gender or ethnic group. In contrast, health inequity describes differences in opportunity for different population groups which result in unequal life chances, access to health services, nutritious food, adequate housing and so on[5]. These can lead to health inequalities.'

Thomas Broadbent (Holton Primary School)

Glossary

Experimental Life Expectancy

Life expectancy at birth for an electoral ward in 1999-2003 is an estimate of the average number of years a newborn baby would survive if he or she experienced the particular ward's age-specific mortality rates for that time period throughout his or her life[6]. The figure reflects mortality among those living in the ward in 1999-2003, rather than mortality among those born in each area. It is not therefore the number of years a baby born in the ward in 1999-2003 could actually expect to live, both because the death rates of the area are likely to change in the future and because many of those born in the ward will live elsewhere for at least some part of their lives.

The status of experimental statistics means that they have not yet been shown to meet the quality criteria for National Statistics, but were published to involve users in the development of the methodology and to help build quality at an early stage[7].

Care is needed when interpreting the figures as local factors, such as the presence of nursing homes, can have a large impact on life expectancy results at ward-level[6].

Gastroschisis

Gastroschisis is a congenital anomaly (birth defect) in which there is a gap in the abdominal wall at the front, separate to the umbilicus[8]. The abdominal contents (most often loops of bowel) float freely in the amniotic cavity before birth and are often visible by antenatal ultrasound.

Gross Value Added (GVA)

Gross value added is the difference between output and intermediate consumption for any given sector/industry[9]. That is the difference between the value of goods and services produced and the cost of raw materials and other inputs which are used up in production.

Isolated Cleft Palate

Isolated cleft palate results from a failure of formation of the palate in the developing embryo[10]. It is termed isolated as there is no accompanying cleft lip.

Lower-Layer Super Output Area

Lower super output areas (LSOAs) are small geographical areas, set by the Office for National Statistics (ONS) in 2004. In contrast with administrative boundaries such as electoral divisions (wards), super output areas were created for the purpose of showing statistical data. LSOAs have a mean population of 1,500 and a minimum of 1,000.

Middle Super Output Area

Middle super output areas (MSOAs) are small geographical areas, set by the Office for National Statistics (ONS) in 2004[2]. In contrast with administrative boundaries such as electoral divisions (wards), super output areas were created for the purpose of showing statistical data. MSOAs have a mean population of 7,500 and a minimum of 5,000.

There are 413 MSOAs in Wales and 62 in the Cardiff & Vale area. The ONS have stated that super output area geographies will be fixed for at least 10 years. The advantage of using these statistical geographies is stability and homogeneity. However, the main drawback is that they do not conform to known administrative boundaries such as electoral divisions (wards); this makes them less amenable to the public and local government.

Welsh Index of Multiple Deprivation

The Welsh Index of Multiple Deprivation is the official measure of deprivation in small areas in Wales[11]. It is a relative measure of concentrations of deprivation at the small area level (such as LSOA and MSOA). Deprivation is a wider concept than poverty. Poverty means a lack of money. Deprivation refers to wider problems caused by a lack of resources and opportunities. Therefore, WIMD is constructed from eight different types of deprivation. These are:

- Income
- Housing
- Employment
- Access to services
- Education
- Health
- Community safety
- Physical environment.

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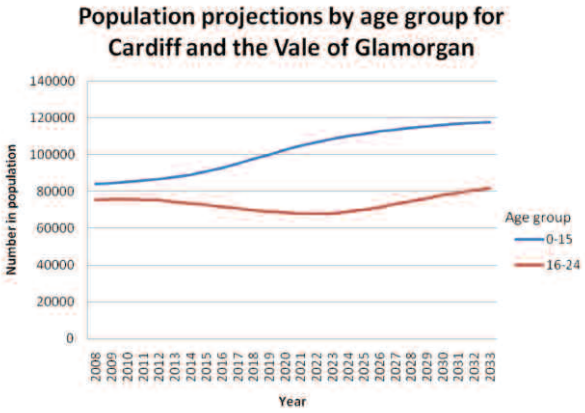
Appendices

APPENDIX 1

Cardiff and Vale of Glamorgan under 18 population size, by age group (2009 mid year population estimates)

Age group	0-4	5-9	10-14	15-17
Cardiff	20,800	17,100	18,500	12,000
Vale of Glamorgan	7,200	7,100	8,300	5,200
Wales	171,000	161,500	179,700	117,200

Source: Stats Wales
Data rounded to the nearest 100.



Source: Stats Wales

APPENDIX 2

Welsh Housing Quality Standard*

The WHQS means homes must:

- Be in a good condition and structurally stable.
- Be safe and secure.
- Have proper heating and be fuel efficient and well insulated.
- Contain up-to-date kitchens and bathrooms.
- Be well managed.
- Be in attractive and safe environments.
- Meet the needs of the people living in them as far as possible.

* Welsh Assembly Government (2001) Better homes for people in Wales: a national housing strategy for Wales http://www.cymru.gov [Accessed 5th April 2011]

APPENDIX 3

Summary of the UK Childhood Immunisation Programme

- Targeted programmes against Hepatitis B and neonatal BCG (vaccination against tuberculosis).
- The childhood vaccination programme which includes the '5 in 1'vaccination for diphtheria, tetanus, pertussis, polio and *Haemophilus influenzae* type b (hib); the pneumococcal vaccine; the Meningitis C vaccine and the MMR (measles, mumps and rubella) vaccine; the '4 in 1' pre-school booster, which boosts childrens' protection against diphtheria, tetanus, pertussis and polio.
- The '3 in 1' teenage booster for tetanus, diphtheria and polio.
- The Human Papillomavirus (HPV) vaccination programme.

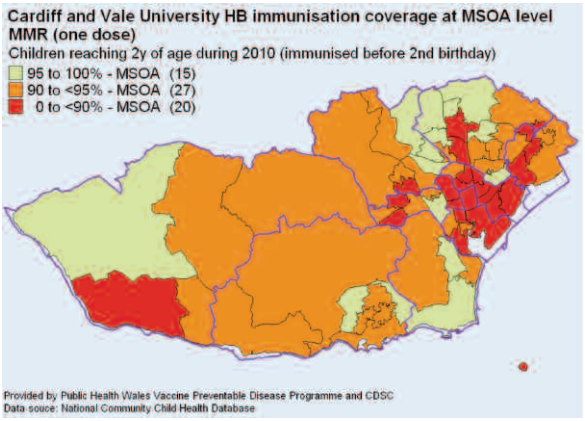
Immunisation Uptake and Deprivation Analysis: Cardiff and Vale UHB Area

Data Sources:

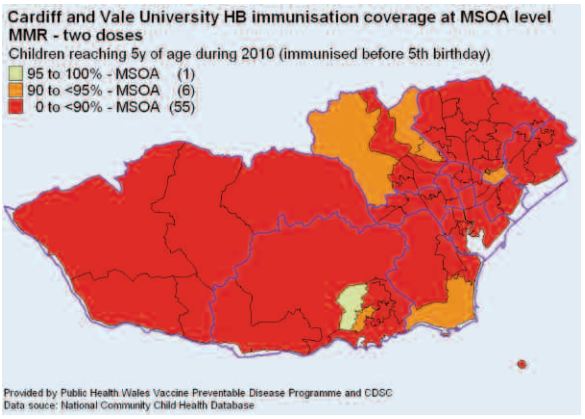
Immunisation status: National Community Child Health Database (as at January 2011)

Deprivation Status: Welsh Index of Multiple Deprivation (2008)

Analysis carried out by Public Health Wales CDSC and Vaccine Preventable Disease Programme (authorised 9th May 2011)



Source: Public Health Wales Vaccine Preventable Disease Programme

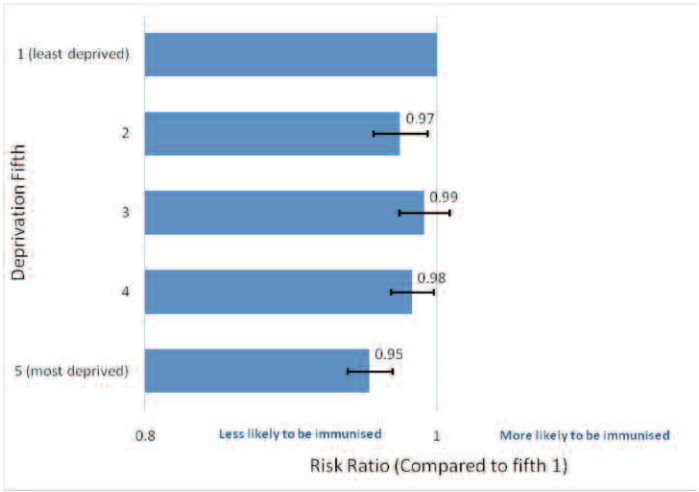


Source: Public Health Wales Vaccine Preventable Disease Programme

Uptake of the 5 in 1 by 1y of age in children turning 1y of age during 2010						
Quintile	risk ratio for being immunised compared to quintile 1	(95% tb CI)		p Value (fishers exact)	Children in quntile (n)	Immunisation uptake (%)
5 (most deprived)	0.954	0.939	0.969	0.000	1681	92.1
4	0.983	0.969	0.998	0.015	1257	94.9
3	0.991	0.974	1.008	0.185	673	95.7
2	0.975	0.956	0.994	0.008	595	94.1
1 (least deprived)	-	-	-		1883	96.5

Uptake of MMR1 by 2y of age in children turning 2y of age during 2010					
Quintile	risk ratio for being immunised compared to quintile 1	(95% tb CI)		p Value (fishers exact)	Children in quntile (n)	Immunisation uptake (%)
5 (most deprived)	0.94	0.92	0.96	0.00	1699	88.1
4	0.94	0.92	0.96	0.00	1124	88.3
3	0.98	0.96	1.00	0.07	691	92.3
2	1.00	0.97	1.02	0.39	616	93.7
1 (least deprived)	-	-	-	-	1935	94.1

Risk ratio by deprivation quintile of not receiving a complete course of 5 in 1 immunisation by 1 year of age (in Cardiff and Vale resident children reaching 1 year of during 2010)



Notes on interpretation:

A risk ratio of less than '1' indicates that children from the deprivation quintile are less likely to be immunised than those in the least deprived quintile.

A risk ratio of greater than '1' indicates that children from the deprivation quintile are more likely to immunised than those in the least deprived quintile.

A risk ratio equal to '1' indicates that children from the deprivation quintile are neither more likely or less likely to be immunised than those in the least deprived quintile.

Confidence intervals for risk ratios that overlap '1' suggest that the increased or decreased risk is not likely to be significant.

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