



Director of Public Health Annual Report

Powys Teaching Health Board

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Foreword

In this year's public health annual report on Powys I have used an idea from a popular film to show how lives can head off in very different directions due to small decisions and chance situations. This is as true of our health as for any other aspect of life, and in the case of health can depend on decisions made by our mothers even before we are born. In the report you can read the imaginary lives of Ffion, depending whether she is born in Gogoneddus Wells (Glorious Wells) to one set of parents, or Bryn Gobaith (Hope Hill) to another set. It is important to stress three things about these stories.

Ffion, who is born in Bryn Gobaith has a mother who loves her, but faces many pressures and problems that the mother in Gogoneddus Wells doesn't. Her health and the choices she makes are affected by a complex interaction of the environment in which she grew up in, culture and the norms and practices of her friends and families.

Secondly, if we want to stop the cycle of deprivation and ill health it is vital that we all recognise that better health and wellbeing depends on partnership. There isn't a simple pill or operation that will fix every health problem. Health services and local government services, including social services, have important roles and functions in ensuring services like vaccination and screening, housing, education, ambulance services are as effective and efficient as possible. The various voluntary agencies and community support are also important in extending the range of support available.

Thirdly, it is also important to stress that it is never too late to change. At almost any age and with almost all conditions individuals can make choices or develop habits which will make things better or worse for their health. If you have already developed a chronic health problem, stopping smoking, reducing alcohol consumption, eating at least 5 fist sized portions of fruit and vegetables a day and walking more would help almost everyone with minimal risks attached. If you have not taken up screening opportunities such as breast screening, it can be very important to your health to do so. As can ensuring all your "jabs" are up to date - including 'flu for the over 65s and chronically ill and teenage boosters for young people going abroad or to university. If you realise that you are facing problems that are overwhelming you due to debt, unbearable housing, or health problems, then again it is never too late to seek help. Better health and wellbeing for all is a partnership, and the services are there to help.

This is my last Annual Report as Director of Public Health for Powys and it has been a very rewarding and interesting experience for me, trying to understand and respond to the many public health challenges in the county. Powys is a beautiful place with so many outstanding natural amenities and a resilient and independent population. Although its health is generally good compared to some other areas, it still concerns me that avoidable premature mortality and morbidity rates can be so high in pockets of Powys. Powys County Council, Powys teaching Health Board, other partner organisations, voluntary agencies and my colleagues will continue to strive to improve the services available.

I hope this report, with its emphasis on "sliding doors", will help reinforce the appreciation that we all have a part to play.

Dr Christopher C. Potter, FFPH, FCIPD, FHM

Foreword WELSH

Bora da....

Dr Christopher C. Potter, FFPH, FCIPD, FHM

Vision

The Powys Public Health team are here to protect and promote the health and well-being of the people of Powys

Mission Statement

We will provide advice using the best knowledge and evidence available to us

We will work in partnership.....

We will facilitate change.....

We will advocate.....

.....**To protect and improve the health of the people in Powys**

Purpose of the 2012 Report

The Director of Public Health Annual Report is an independent professional statement, on the health of the people, of Powys.
The aim of the report is to provide an assessment of the current and future health of the population.

Recommendations

Our aim is to reduce inequalities in health across the life course in Powys.

Pregnancy

Develop a tobacco control action plan, ensuring that all pregnant women have access to appropriate and effective smoking cessation services.

Early years

Develop a Healthy Pre-school Programme to promote all aspects of health and give young children the best start in life.

School aged children

Support the pilot Community Alcohol Project, to promote a partnership approach to protecting children from alcohol related harm.

Adults

Develop a healthy weight strategy with partner organisations.

Older people

Ensure that healthy ageing is everybody's business by working with partners to include healthy lifestyles in strategies and services being developed for older people.

Elderly

Work with partners in the health sector, statutory sector and Voluntary and Community Organisations to increase uptake of flu vaccination.

Sliding doors

Sliding doors is a 1998 romantic comedy film. The film follows the story of Helen Quilley over two parallel universes, based on whether or not she catches a train.

This is a story about Ffion and how, by being born in different places, in different environments, she has an unequal chance of health and happiness.



CHAPTER ONE: Ffion's Story – Take One

My name is Ffion, and this is my story. It is the 15th April 2011 and I don't exist yet. My parents are David and Catherine. My father runs his own business and my mother is a teacher in the local primary school. They live in Gogoneddus Wells, a beautiful town with a close community.

My parents are waiting nervously for the results of a pregnancy test. As two blue lines appear, Catherine squeals in delight and David gives his wife a hug.

My mother immediately researches pregnancy on the Internet. She makes sure she is eating healthily, continues to take her folic acid and cuts out alcohol and caffeine. She attends her appointments with the midwife and is happy to have all the tests to check I am healthy.

On 8th October 2011, I arrive in this world. As my mother Catherine holds me for the very first time, she says to David, "This is the most incredible moment of my life, and we are going to make sure that she has the best chance in life."

My mother knows that breast feeding is best for me and will help her lose her baby weight. My mother is shocked to find that breastfeeding isn't as easy as she imagined. However, she seeks help from her health visitor, friends and family and continues to breast feed until I am six months old.

My mother takes me for my immunisations as she knows how important it is to keep me safe.

My mother goes back to work at the local school when I am a year old. I go to nursery where I play with friends and learn all my letters. I have to clean my teeth every morning in the nursery, and we try lots of fruit and vegetables.

When I am nearly five, I start in big school. I am confident as I already know my letters and numbers and my mother and father help me at home. I love going to gymnastics, swimming and music lessons after school.

When I am 10 my friend moves school. I am very upset at losing a friend and slip behind with my work. Luckily, my mother and father notice and get me some extra tuition. When I start in secondary school, I am back at the top of the class.

I do well in school and go on to University in London to study graphics.

I am reading a paper on my tablet and drinking coffee in my local cafe when I meet William who will become my husband.

We stay in London for a few years. There aren't many professional jobs in Gogoneddus Wells. I get a job working in an advertising agency and William works in IT.

The year is 2041; we are 30 now, and I begin to become tired of the fast pace of life in the big city. We pack our bags and move back to Gogoneddus Wells. We are surprised by how high the local house prices are. They certainly don't relate to local wages. We get married on a glorious sunny day in a marquee in the village.

By now we have two beautiful children, Caitlyn and Rhydian. We have a very nice quality of life.

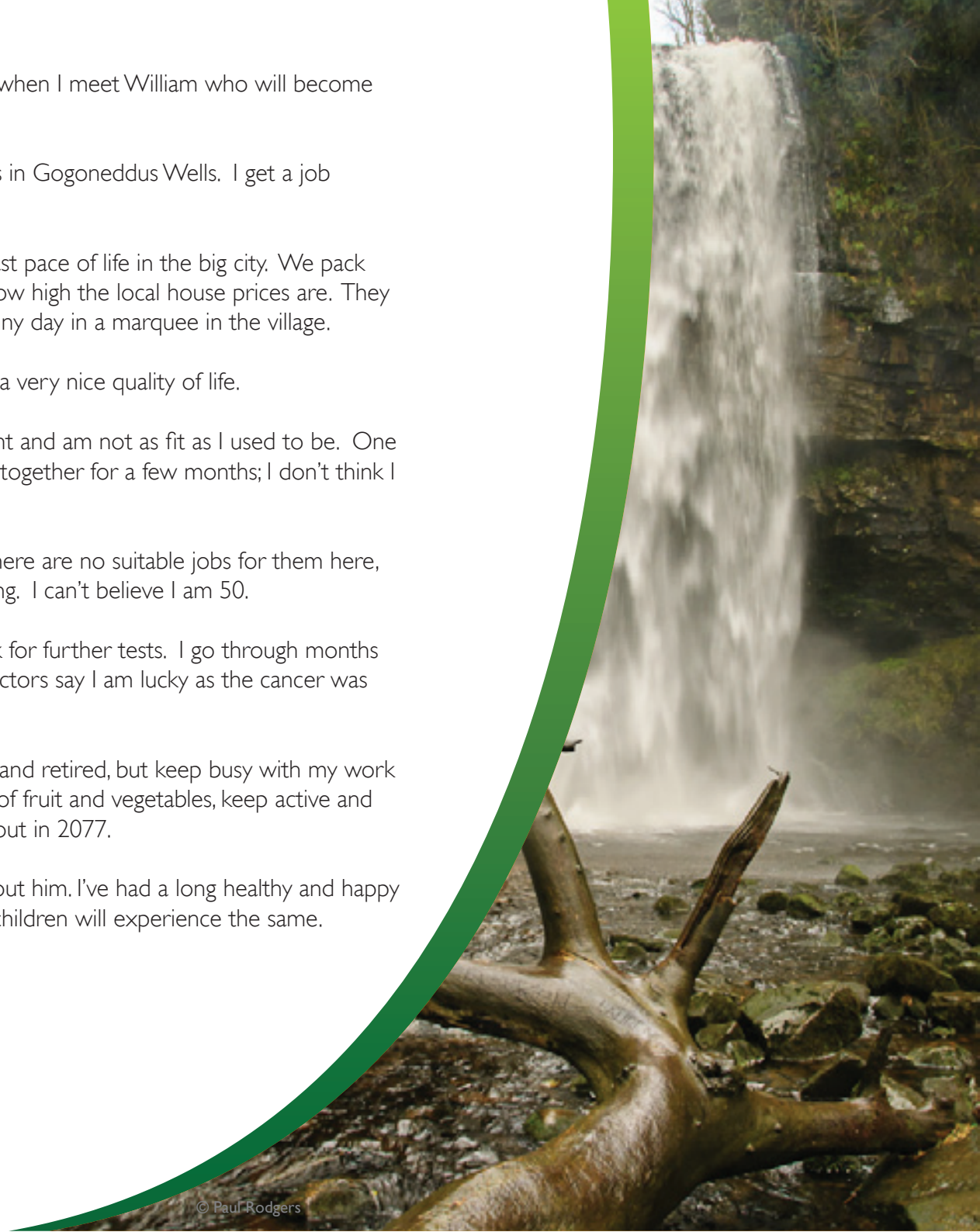
I am 36 years old now, I notice that I am starting to put on some weight and am not as fit as I used to be. One of my friends suggests that we take part in the Race for Life. We train together for a few months; I don't think I would have done it without her.

Time is going by so fast. My children have grown up and left home. There are no suitable jobs for them here, so they move to the city. I get my first invitation for my breast screening. I can't believe I am 50.

Some weeks later I get a letter. The letter states that I need to go back for further tests. I go through months of cancer treatment, but my friends and family are marvellous. The Doctors say I am lucky as the cancer was picked up early by the screening test.

Over 5 years have passed since I was given the all clear. Now I am 60 and retired, but keep busy with my work on the local Church Committee. We look after ourselves; we eat lots of fruit and vegetables, keep active and have the annual flu vaccination, which is lucky, as there is a lot of flu about in 2077.

It is 2101 and William's has sadly passed away - life isn't the same without him. I've had a long healthy and happy life. I couldn't ask for anything more and I hope my children and grandchildren will experience the same.



CHAPTER ONE: Ffion's Story – Take Two

My name is Ffion and this is my story. It is the 15th April 2011, and I don't exist yet. My mam has just brought home a pregnancy test and is anxiously waiting for the blue lines to appear. She already has 3 boys and doesn't want another child. My dad Cai works in the local garage and my mam works in the supermarket. They are struggling to make ends meet as the cost of living keeps rising.

My mam cannot cope with the stress of three young children. She continues to smoke when she is pregnant, but she is so stressed out that harming me is the last thing she is thinking of.

On the 8th October 2012, I am born in Bryn Gobaith. I am incredibly small - the doctors said it was because my mother smoked. My mam starts to breast feed me, but as soon as she goes home, she finds it really difficult. She has my brothers to look after and the bottle is much easier. My mam gives up her job in the local supermarket as the childcare fees means it is not worth working.

I did have some of my immunisations, but my mam was concerned about the safety of the measles, mumps and rubella immunisations.

I am 3 years old when I go to the local playgroup for a couple of hours per day. I really enjoy it since I can play with the toys and look at books. We don't have books at home. When my mam picks me up, we sometimes go to the local fish and chip shop for dinner.

I am 4 years old and I have to go to the dentist. It isn't a very nice experience as I have to have a filling. The dentist says it is because I eat too many sweets and fizzy drinks.

I am nearly 5, I start reception class in school. I like school; I am able to play with friends, and I am learning how to read. I really like the school dinners as we don't have pasta at home.

I am 14 years old now and in secondary school. I am doing quite well in school but some of my friends don't think school is cool and there is a lot of pressure not to try too hard.

I am 15 years old and my best friend Laura is killed riding on the back of motorbike. I don't know how to deal with it. I make new friends, who introduce me to alcohol. My schoolwork starts to suffer, but no one expects much of me and no one notices.

I am 16; I leave school and get a job in the local cafe. I eat quite a lot in my breaks, it's a perk of the job. There aren't many jobs in Bryn Gobaith and I didn't do well in school.

I am 21; I meet Andy in the local pub and I soon become pregnant with our first child. I keep on eating, I tell people I am eating for two. I know I am overweight, I wish someone would ask me about it.

I want to have the baby at home, but they tell me I can't as I am in the high risk category. This means I have to go to hospital in Any Town, which is a long way. I end up having to have a caesarean section which means I can't drive for 6 weeks. If you can't drive in Bryn Gobaith, you can't go anywhere.

I am stuck in the house on my own with the baby, I'm bored and so just continue to eat. Looking back I was really depressed.

I am 45 and I have been diagnosed with diabetes. This is a real shock. I know I should do something, but I can't cope with going on another diet. I have enough difficulties looking after the children and managing the budget.

I am 55 and I am in a lot of pain, I am waiting for a knee replacement. The Doctor told me to lose weight, but I am in so much pain I can't do any exercise. I have thought about giving up smoking too, but I don't see the point now.

I am 60 when Andy is diagnosed with Alzheimers. It is very tiring and exhausting caring for him. I need a break sometimes, but it's difficult to get out of the house. Who would care for him?

I am 65 years old. I didn't recognise the signs until it was too late. I had a big stroke. I wish I had done the things that I had planned to do such as giving up smoking and taking more exercise. I was just managing day to day.



CHAPTER 2: What Affects our Health?

Chapter 1 tells two parallel stories about the life of Ffion and what would have happened to her had she been born under different circumstances. The sliding doors story illustrates how the accumulation of life events and circumstances can lead to differences in health outcomes. Although fictional, the story is inspired by real life events, evidence from data and research. The aim of this report is to highlight some of the factors that influence our health and the interventions that can help give everyone an improved chance of a healthy and longer life.

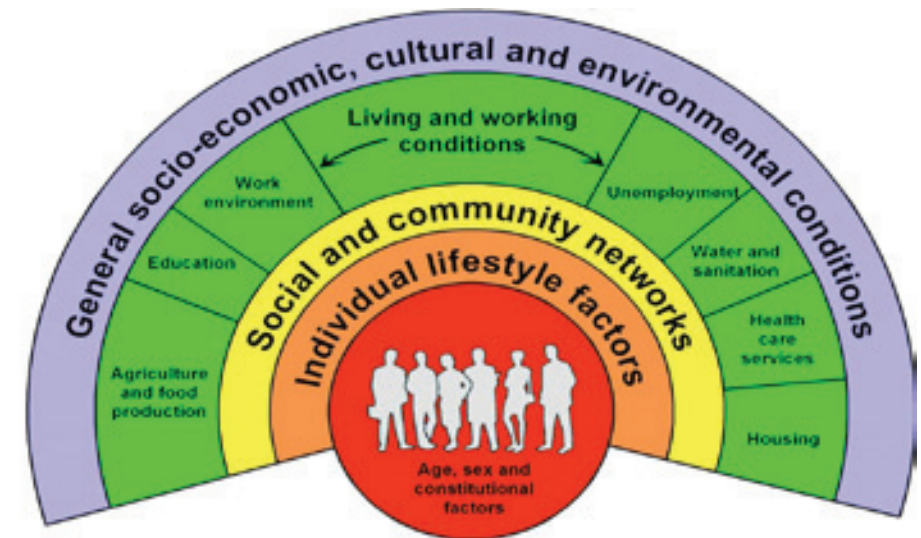
“Health: State of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

World Health Organisation

What affects our health?

A person's health is affected by a complex interaction with the environment in which they live. Figure 1 illustrates factors that influence a person's health. It can be seen that an individual's biology plays a small part of the overall health matrix.

Health, illness and disease in later life are the result of a combination of experiences and exposures throughout the life course. This report follows the life course through pre-conception, pre-school, primary and secondary school, working age adults, older people and the frail elderly. It shows how at each stage in life, various external factors can impact on health both positively and negatively.

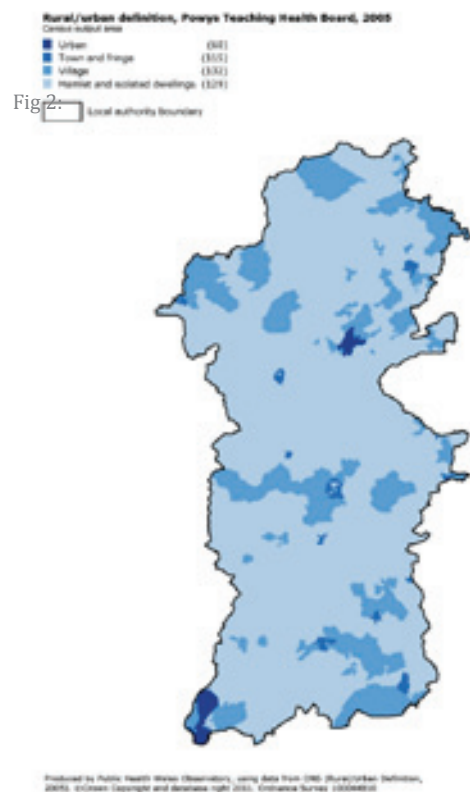


Source: Dahlgren and Whitehead, 1991

Fig. 1 The determinants of health

CHAPTER 3: Specific Health Issues in Powys

Powys is a unique population which appears to be one of the healthiest places to live in Wales. However, Powys has an ageing population, with high rurality, making access to services difficult and beneath the surface, there is hidden deprivation.

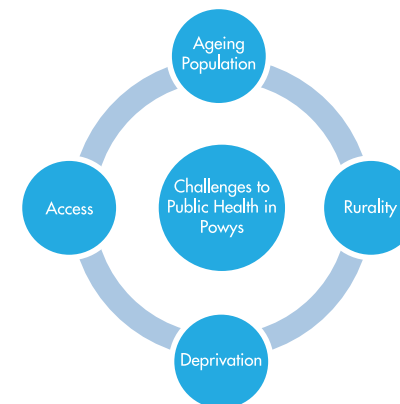


Rurality

Powys Teaching Health Board covers a quarter of the landmass of Wales, but has less than 5% of the population, making it Wales' most sparsely populated area. Figure 2 shows the urban / rural classification for areas in Powys.

Ageing Population

Powys has an estimated resident population of 132,000. Figure 3 illustrates that there is a greater percentage of people aged over 50, and a substantially smaller proportion of working age adults in Powys compared with Wales.



Proportion of population by age and sex, Powys & Wales: 2010

Produced by the Public Health Wales Observatory using data from 2010 mid year population estimates, Office for National Statistics



Fig 3:

How will the age structure of our population change?

Figure 4 shows the projected population pyramid for Powys' resident population for 2033. There are substantially fewer 20-24 year olds compared to the Welsh average, and there are substantially more people aged over 65 than the Welsh average.

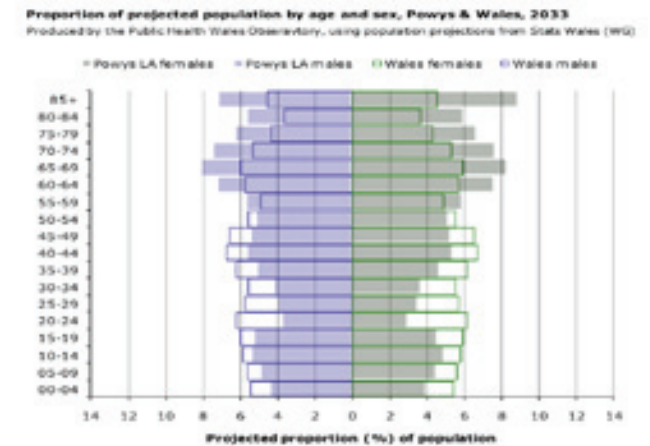


Fig 4:

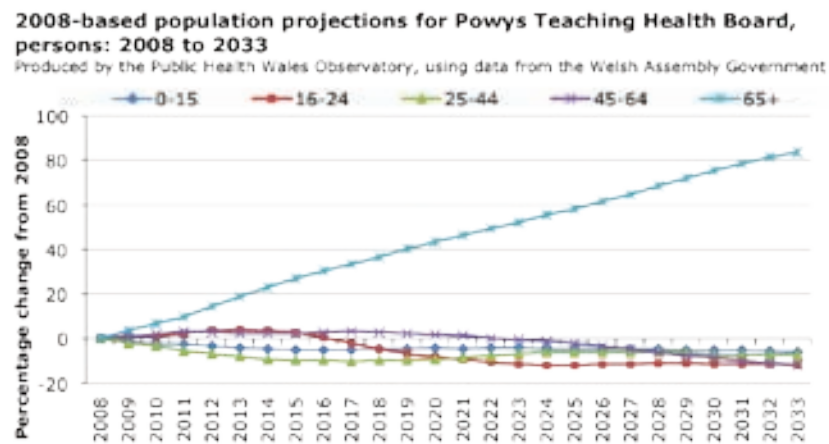


Fig 5:

Figure 5 shows the population projections for Powys until the year 2033. The over 65s is set to increase dramatically, with an 80% increase between 2008 and 2033. If current trends continue, the proportion of people aged under 65 will decrease by the year 2033.

Key Points

- There is a growing population imbalance between older and younger population groups
- The proportion of over 65s will rise substantially by 2033

Health Implications

- There will be an increase in age related morbidity levels in Powys
- There will be an increased need for health services and health budgets will become increasingly stretched

Access to services

Rural communities are more reliant on their cars, as public transport can be infrequent, or non-existent. However, running a car is expensive, particularly with rising fuel costs and longer journeys. Poor access to health services is more likely to affect certain groups: older people, families with children, disabled groups and those individuals without a car. Figure 6 illustrates that it takes longer than 40 minutes to reach a District General Hospital for most areas in Powys, based on the 2007 road networks.

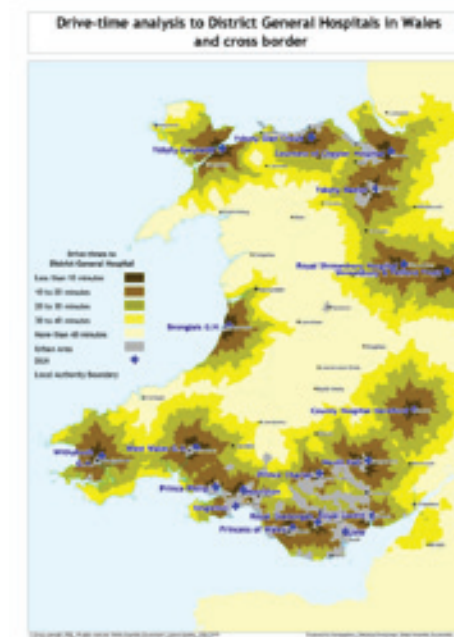


Fig 6:

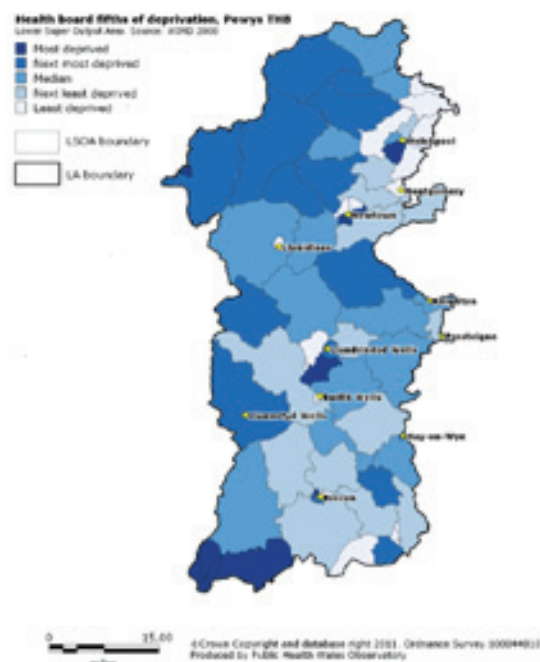


Fig 7:

Deprivation

Disadvantage begins before birth and accumulates through life. An individual growing up in a more affluent household is likely to have a better education, higher paid employment, better health, and a longer life expectancy than an individual growing up in a household where money is scarce. This is illustrated in the story of Ffion.

Figure 7 illustrates that within Powys, the most deprived areas are Welshpool, Newtown and Ystradgynlais.

Although WIMD is a useful measure of deprivation in urban areas, it does not reflect the true picture in rural areas. Rural areas tend to have a more mixed population, with those living in poverty being dispersed throughout geographical areas. Although 18% of those living below the poverty line live in rural areas, the majority do not live in areas classified as deprived¹.

How is deprivation measured?

The Welsh Index of Multiple Deprivation (WIMD) is the official measure of deprivation in small areas in Wales.

The WIMD is constructed from eight different types of deprivation. These are: income, housing, employment, access to services, education, health, community safety, and physical environment.

Life expectancy

Figure 8 shows the difference (inequality gap) in life expectancy, healthy life expectancy and disability free life expectancy between the most and least deprived population in Powys. Between 2001-05 and 2005-09, the inequality gap between the most and least deprived population decreased for all measures for both males and females.

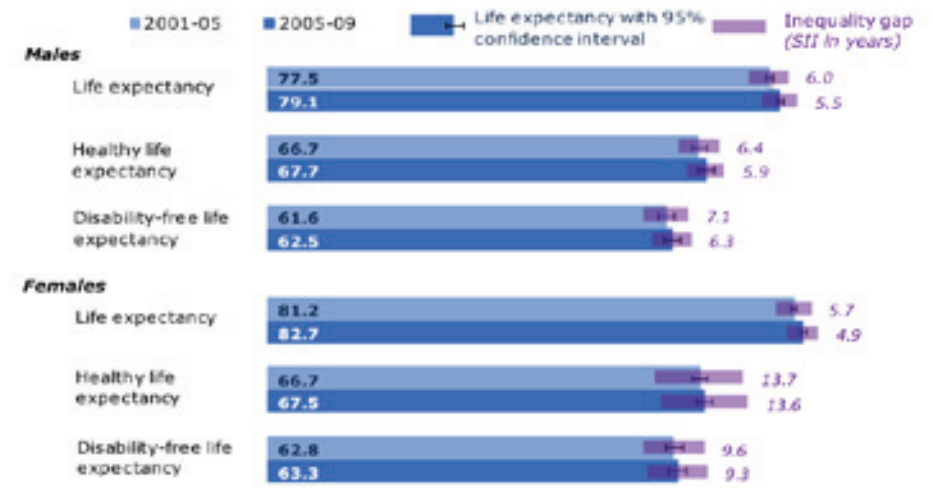
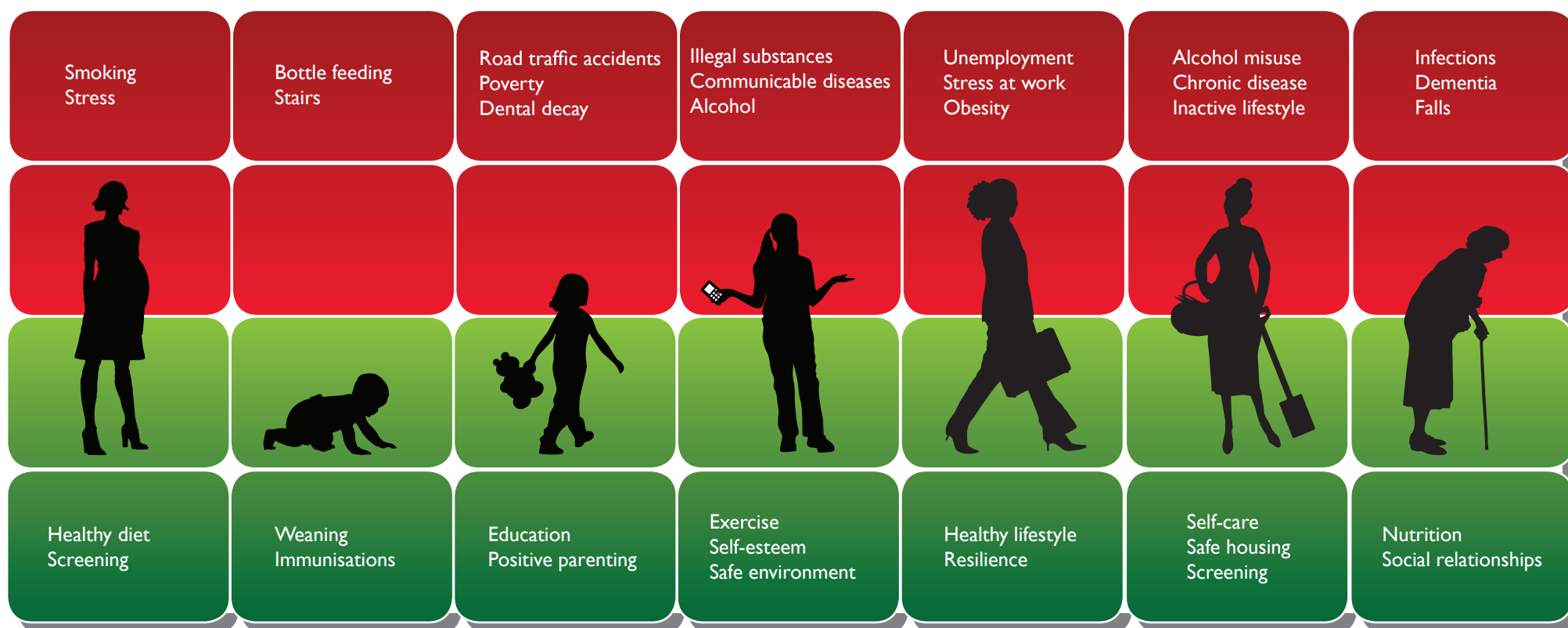


Figure 8: Life expectancy inequality gap

CHAPTER 4: What affects the health of Ffion as she journeys through life?

This next section of the report highlights where the NHS, Local Authorities, Voluntary and Community Organisations can intervene along the life course to improve health outcomes. This report focuses on the factors that particularly influenced the health of Ffion.



Part A: A Healthy Pregnancy



Supporting a healthy pregnancy

The health and well-being of women before, during and after pregnancy is a critical factor in giving children a healthy start in life and laying the groundwork for good health and well-being in later life. For example, there is strong link between poor nutrition, alcohol consumption, smoking, and poor mental health during pregnancy and low birth weight in babies².

What are we hoping to achieve in Powys?

We want to reduce the number of low birth weight babies and pre-term births and increase the number of healthy babies.

A baby born weighing less than 2500g is termed low birth weight. Low birth weight is a leading cause of infant mortality in the UK. Babies born weighing less than 2500g are more likely to suffer poor health and suffer chronic diseases such as diabetes in adulthood

The Story of Ffion

In the first story Ffion's mother made sure that she had a healthy pregnancy and was able to give Ffion the best start. In the second story, Ffion's mother loved her child but was living in very stressful situations and found it difficult to give up smoking.

Smoking in pregnancy

Women who smoke during pregnancy put themselves and their unborn baby at risk. Serious health consequences for the baby include low birth weight, miscarriage, premature births, death of a baby before seven days (perinatal mortality) and a number of birth defects e.g. cleft lip and palate.

A third of mothers (33%) smoke either before or during pregnancy. Across the UK, one in eight mothers (12%) continue to smoke throughout pregnancy, and are still smoking after the baby was born. Mothers in Wales are more likely to smoke throughout their pregnancy (16%) compared with England³.



Stop Smoking Wales offers a fast track service for pregnant women and pre-operative patients as research highlights the huge benefits to quitting for these two groups.

All NHS staff who work with these groups have been invited to attend Brief Intervention Training to encourage quit attempts in patients.

CASE STUDY

Stop Smoking Wales is a free NHS service aimed at supporting those who wish to stop smoking. Accessing this service means quitters are four times more likely to succeed in their quit attempt.

Between April 2011 and March 2012, 677 contacts to the service were made by Powys residents. Of these 50% reported they had quit at 4 weeks and 26% reported they had quit at 52 weeks.

A rural health fund grant has led to a successful Community Pharmacy smoking cessation scheme operating in 7 locations across Powys.

Story 1

My mother immediately goes into action, she researches pregnancy, she makes sure she is eating healthily.

Story 2

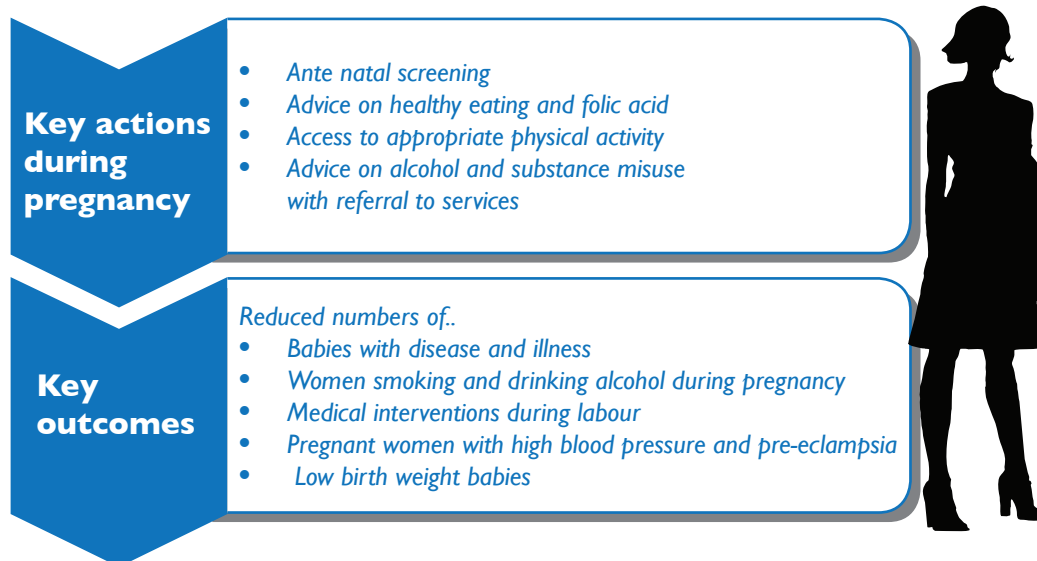
I wasn't very happy, I kept on eating. I used to tell people I was eating for two. I knew I was overweight.

Maternal obesity

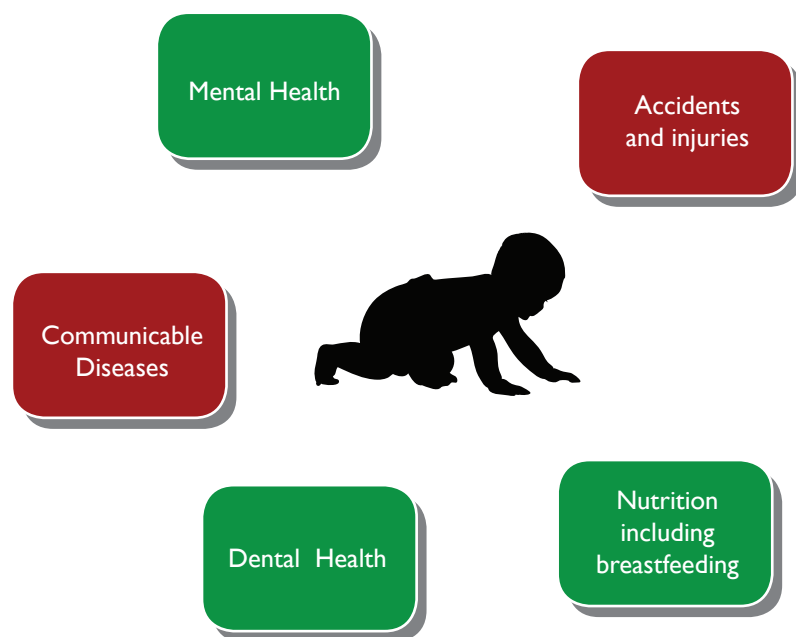
Obesity in pregnancy has been linked to an increased risk of complications and adverse outcomes including miscarriage, high blood pressure, diabetes, and dysfunctional labour. There is also a higher caesarean section rate and lower breastfeeding rate when compared to women with a healthy BMI⁴. Evidence suggests that managing weight gain in pregnancy could significantly reduce labour interventions.

Statistics suggest that 50% of women who are of childbearing age are overweight and 18% are obese at the start of their pregnancies in the UK⁵. An audit completed in 2011 in Powys, found that, 21% of women were overweight, 11% obese and 4% were morbidly obese. 13% of the forms audited had no BMI recorded⁶.

Opportunities to help ensure every child in Powys is born healthy



Part B: Preschool years – giving young children the best start



The pre-school years

Experiences in the first months of a child's life lay the foundation for the rest of their life. Children's physical, social and cognitive development strongly influences their school readiness, educational attainment and health.

What are we hoping to achieve in Powys?

We want to ensure every child in Powys is given the foundations for a healthy life.

The Story of Ffion

In the first story, Ffion's mum struggled with breast feeding but had a supportive environment, so managed to continue to breast feed. Catherine had spent a lot of time with her making sure she could read by the time she went to school. In contrast, in the second story Ffion's mum struggled to breast feed, so without help and support she switched Ffion onto bottled milk.

Breastfeeding

Evidence shows that breastfeeding has short and long term health benefits for both mother and baby. Breastfeeding protects the infant against gastroenteritis and respiratory infections. It also reduces the mother's risk of developing some cancers such as pre-menopausal breast cancer and increases the likelihood that she will lose the weight gained during pregnancy⁶.

Data from the National Community Child Health Database shows that breastfeed rates in Powys were 78%, the highest in Wales⁷. An audit of 1194 women conducted in Powys found the proportion of women still breast feeding at 28 days fell to approximately 50%. The audit showed highest breast feeding rates in mothers with BMI of 18-25.

Table 3: Uptake of Breast Screening of eligible women aged 50-70 years for Wales and Powys Teaching Health Board for period 1 April 2010 to 31 March 2011

Number of babies breastfeeding	Birth	28day
BMI not recorded	71%	48%
BMI <18	63%	25%
BMI 18 -25	78%	53%
BMI 25.5 – 30	70%	43%
BMI 30.5-35	75%	41%
BMI 35.5 -40	70%	50%
BMI > 40	65%	19%

Impact of Smoking

Living in a household where one or two people smoke, more than doubles the risk of sudden infant death syndrome. Exposure to second hand smoke in childhood increases the risk of a range of illnesses including lower respiratory tract infection, asthma and persistent ear infections.⁸

Mental Health: Emotional health and well-being

Mental health is the ability of individuals to realise their own abilities, cope with the normal stresses of life, work productively and contribute to their community. In the early years, a child forms emotional attachments that lay the foundations for good mental health.

It has been estimated that between 10-15% women suffer from post-natal depression. Symptoms include low energy levels, feeling unable to cope, and difficulties in bonding with the baby. Research shows that serious or long-term post-natal depression can impact on a child's cognitive and language development. Depressed and anxious parents are less likely to respond to their baby's needs⁹.

CASE STUDY

Healthy Pre-School Scheme

The aim of the Pre-School Scheme is to help give children the best possible start in life, by encouraging and supporting pre-school settings to create a healthy ethos and environment, form healthy habits, as well as promoting a healthy lifestyle to children, families, staff and the community. The setting works to achieve a series of standards set within the following health areas:

- Nutrition & oral health
- Physical activity & active play
- Safety
- Hygiene
- Mental & emotional health, wellbeing & relationships
- Environment
- Workplace health



Story 2

"I did have some of my immunisations, but my mam was concerned about the safety of the measles, mumps and rubella immunisation"

Childhood Immunisations and Vaccinations

"The two public health interventions with the greatest impact are clean water and vaccination"

Vaccinations are one of the best methods of protecting children against many infectious diseases that can cause serious illness or even death. The childhood immunisation programme in the UK protects against diseases that continue to kill such as measles and diphtheria.

Not only do vaccinations protect the individual against disease but they also interrupt the spread of infection and protect the whole population. For example, by giving MMR vaccines to infants, pregnant women are protected from rubella (German Measles). Low immunisation rates in a community mean that there is a risk of an outbreak of the disease.

How many children receive their vaccines in Powys?

Childhood vaccination coverage data is used to monitor trends in uptake and improve immunisation coverage through regular feedback to local areas.

Data for Powys teaching Health Board shows that there has been an increased uptake of childhood vaccines in recent years. Powys has similar uptake levels for most vaccinations compared with Wales, an improvement from previously being well below the Welsh national average.

World Health Organisation

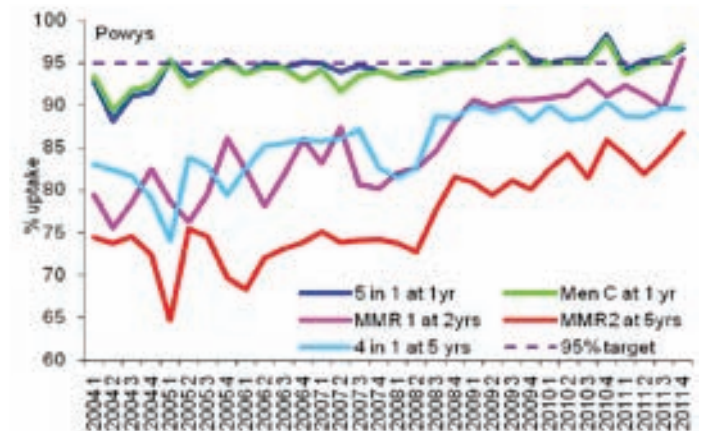


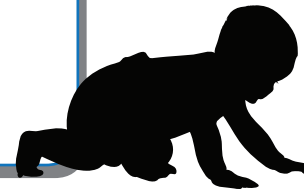
Fig 9: Powys Teaching Health Board trends in routine childhood immunisations 2004 - 2011 Quarter 4

**Key actions
during
pre-school
years**

- *Development checks*
- *Hearing screening*
- *Peer to peer support*
- *Parenting courses*
- *Immunisations*
- *Early years education*
- *Smoking cessation for family*
- *Speech and language support*

**Key
outcomes
by age 5**

- *Happy and positive*
- *Ready for primary school*
- *Healthy weight*
- *Good language and communication skills*
- *Free from disease and illness*
- *Free from decayed, filled or missing teeth*



Part C: Preschool years – giving young children the best start



What are the key health issues for primary school aged children?

The primary school years are a period of accelerated growth in personal, social, behavioural and emotional development. As children grow in independence, their peers and other external factors such as advertising will affect their choices and subsequently their health. They need to be given the knowledge and skills to make the healthy choices.

Story 1
"I have to clean my teeth every morning in the nursery."

Story 2
"I am 4 years old and I have to go the dentist. It isn't very nice as I have to have a filling."

Oral Health

Oral health is defined as the 'standard of health of the oral and related tissues which enables an individual to eat, speak and socialise without active disease, discomfort or embarrassment and which contributes to general well-being' (Department of Health). Oral disease has detrimental effects on an individual's physical and psychological well-being and reduces quality of life. The main oral disease of childhood is dental caries (or tooth decay).

Trends in oral disease

Data on dental health in 5 year olds shows that Wales has higher rates of decayed, missing or filled teeth (dmft) compared with England and Scotland¹⁰.

Two fifths of 5 year olds in Powys have experience of dental caries. In 2007-08, 38.9% had at least one decayed, missing (due to caries) or filled tooth. This was significantly lower than the figure for Wales (47.6%). Whilst Powys might be one of the better areas in Wales, overall Wales' rates are the worst in the UK¹⁰. Although children's oral health has improved on average, inequalities remain. The average dmft for 5 year olds for Powys was 1.60. The dmft in the four super output areas of Powys range from 1.37 to 2.36. Efforts need to be focussed on South Powys USOA (Powys U004) which had an average dmft higher than the Welsh Government target (1.77)¹⁰.

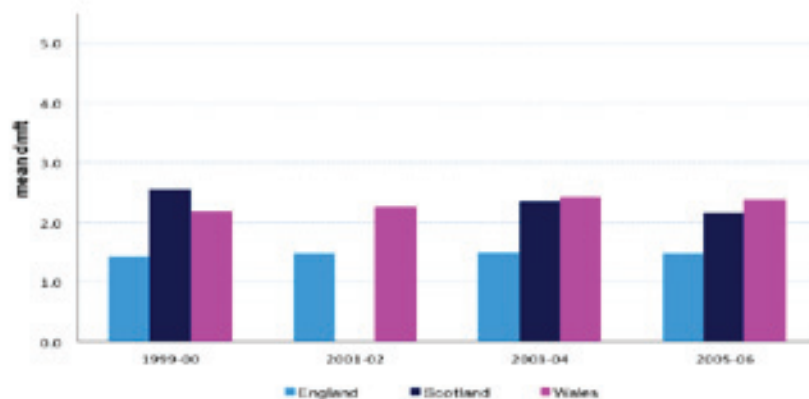


Fig 10: Average dmft for 5 year olds, 1999-2006, Wales compared with England and Scotland

Upper super Output area	Average dmft	% of 5 year olds with dmft greater than 0
Powys U003	1.37	34.3
Powys U002	1.44	38.5
Powys U001	1.57	40.9
Powys U004	2.04	41.7
Powys Teaching	1.6	38.9
Wales	1.98	47.6

Table 2: Indicators of caries prevalence in 5 year olds. 2007-08, for Upper Super Output areas in Powys Health Board



Fig 11: Upper super output areas in Powys

CASE STUDY

Designed to Smile

Designed to Smile is an Oral Health Improvement programme to improve the dental health of children in Wales; its overall aim is to reduce inequalities in oral health.

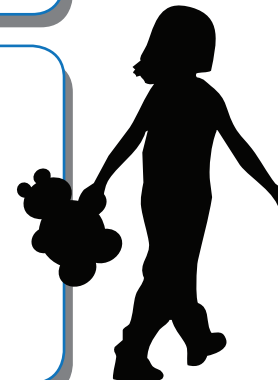
Designed to Smile adopts a multi-agency approach using nursery and schools settings. Participants in Designed to Smile are involved in preventive programmes such as twice yearly fluoride varnishing, toothbrushing activities and health promoting policies such as healthy food and drinks.

Key during primary school years

- *Healthy schools*
- *Recreational and leisure facilities*
- *Education*
- *Mental health support*
- *Parenting classes*
- *Integrated family support*

Key outcomes by age 11

- *Happy , confident and positive*
- *Ready for secondary school*
- *Good educational attainment including numeracy and literacy*
- *Healthy weight*
- *Good communication skills*



Part D: Preschool years – giving young children the best start



Giving young people the freedom to grow

Secondary school aged children may choose risky health behaviours including alcohol consumption, unprotected sex with more than one partner, smoking and substance misuse. Individuals are more likely to engage in risky behaviours if they have low levels of self esteem and limited job prospects¹¹. There is a danger that the risky behaviours adopted in adolescence continue into adulthood.

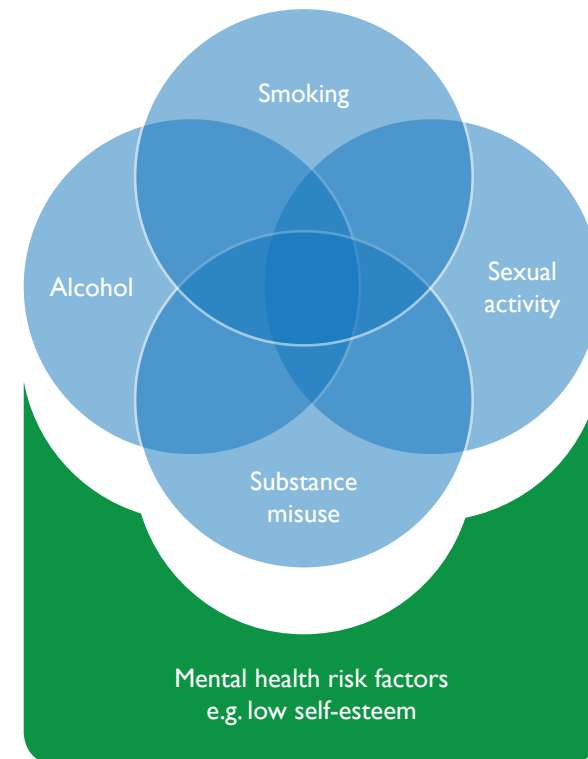


Fig 12: Risk behaviours encountered during adolescence

What does the data show?

The Community Safety Partnership commissioned an on-line survey called 'Viewpoint' in 2011 for all High Schools in Powys. This showed:

Alcohol

Alcohol misuse causes problems to individuals and society, and yet it is culturally more readily accepted than other substances e.g. smoking and illegal substances¹². Alcohol is responsible for:

- 1,000 Welsh deaths per year
- 18,000 violent crimes in Wales in 2007/8
- An increase in hospital admissions
- Half of respondents in the British Crime Survey perceive alcohol as a major cause of crime¹³



Mental Health

There is increasing evidence that many people experience mental health symptoms in adolescence. Findings from a UK birth cohort tracked over time found¹⁴:

- | | |
|---|-----|
| • No mental health symptoms in adolescence or adulthood | 45% |
| • Adolescent onset with repeated symptoms during adult life | 35% |
| • Adolescent onset with good outcome | 6% |
| • Adult onset of symptoms | 14% |

This means that 71% of adults with mental health problems first had symptoms in adolescence. Symptoms of depression and anxiety in adolescence persisted into adulthood in all but the small proportion of people.

There are a range of risk and protective factors that can influence mental health and well being.



Fig 13: Risk and protective factors for mental health problems in children and young people

CASE STUDY

Powys Healthy Schools is an accredited member of the National Network of Healthy Schools Scheme. The scheme provides guidance and support for schools to achieve national standards set through the Healthy Schools National Quality Award (NQA). The scheme recognises developments through a structured award programme, accrediting schools in the following health aspects:

- Food and Fitness
- Mental and Emotional Health and Well Being
- Personal Development and Relationships
- Substance Use and Misuse
- Environment
- Safety
- Hygiene



Road traffic accidents

Road traffic accidents are the biggest killer of young people aged 10-24 worldwide.

Figure 14 shows personal injury road crashes occurring in Powys from 2005 to 2010. Overall, there has been a reduction in the number of road casualties in all age groups, except for those aged over 70 years.

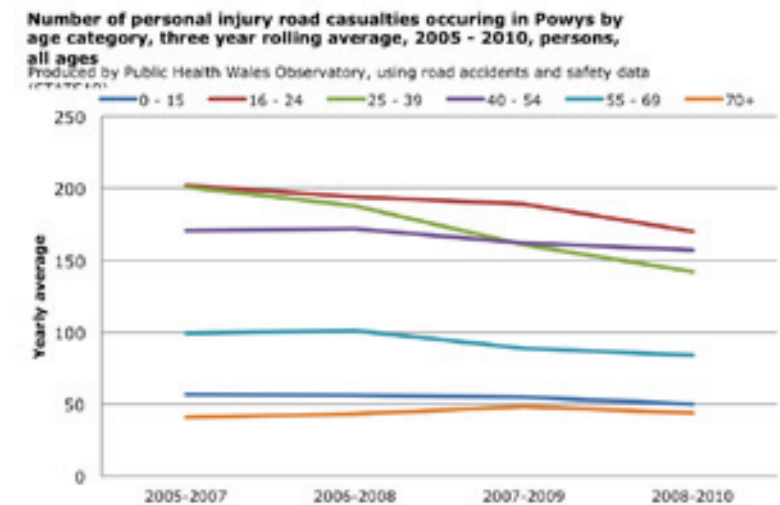


Fig 14:

Education

Key stage 4 marks the end of compulsory education. Educational attainment is a critical indicator of future education and employment prospects. The mean average score at key stage 4 for Powys pupils was higher than the Wales average score and was one of the highest in Wales.

The two highest (best) scores (figure 15) occurred in the north of the local authority in the area around Llanfyllin. The lowest (worst) scores occurred in the more densely populated areas such as Llandrindod Wells, Brecon, Ystradgynlais and Ystradfellte¹⁵.

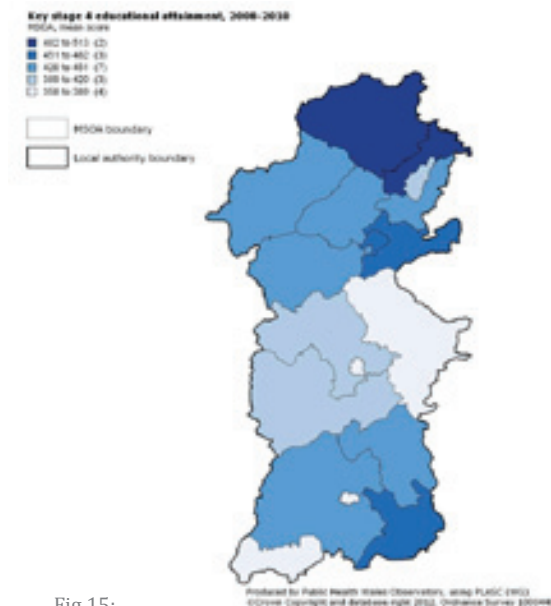


Fig 15:

Opportunities to ensure every teenager has the freedom to grow, learn and enjoy life



Part E: Working age adults - live healthy, happy prosperous lives



The working years

On reaching adulthood, the majority of people will be looking to secure employment, find a home to live in, develop new family ties, and have a good social support network around them.

Being in work is important for physical and mental health and well-being. Unemployment is associated with a decrease in life expectancy, and higher rates of mental health problems.

In Powys, there are low levels of people claiming unemployment benefit overall. However, there is variation within Powys, and the highest levels of claims are in areas such as Llandrindod Wells, south west of Newtown, Ystradfellte, Coelbren, Ystradgynlais and Cwm Twrch (Figure 16). Employment related benefit uptake rates are generally highest in the more urbanised areas of Powys¹⁵.

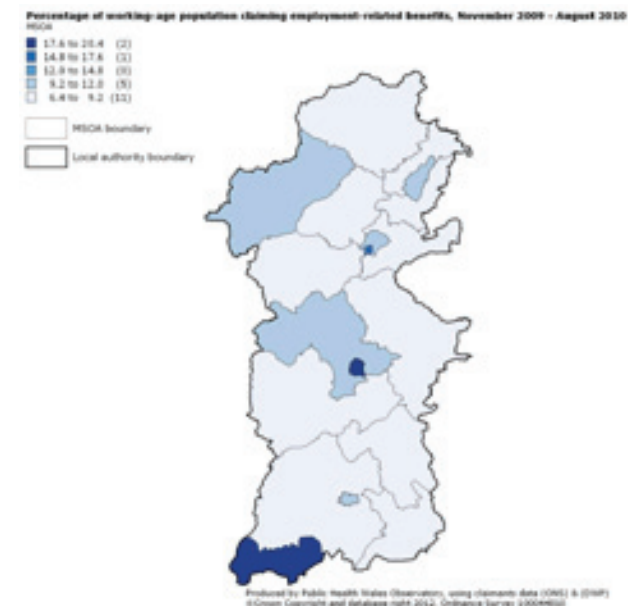


Fig 16:

The story of Ffion

The employed

Story 1
“I get a job in advertising and William works in IT”

Story 2
“I am 16, I leave school and get a job in the local cafe. There aren't many jobs in Bryn Gobaith.”

Powys has higher rates of self employment across all main sectors than elsewhere in Wales. For example, self employment in Powys in manufacturing and in distribution, hotels and restaurants is twice as high as the Welsh average. Although there are high levels of employment, the employed tend to be low paid. In 2009 the average weekly wage in Powys was £434, compared to £506 for Wales. Powys ranked in 39th position in the UK for unaffordable houses, based on house price to income ratio. This could make it difficult for young families to remain in the area^{16, 17, 18}.

The Workplace: Why is it important?

The workplace provides an environment which can reinforce positive health messages through social networks, supporting behaviour change and providing an opportunity to monitor and evaluate interventions. There is also the potential to disseminate messages to families and social networks of employees, resulting in an indirect positive effect on the health of the community.

What impact does the workplace have on health?

The working environment can have a direct effect on an individual's physical and mental health and their life expectancy. There are also costs to business due to poor health¹⁹:

- Mental health problems cost the Welsh economy £1.2 billion per year
- The cost of smoking borne by employers in Wales is around £80 million

CASE STUDY

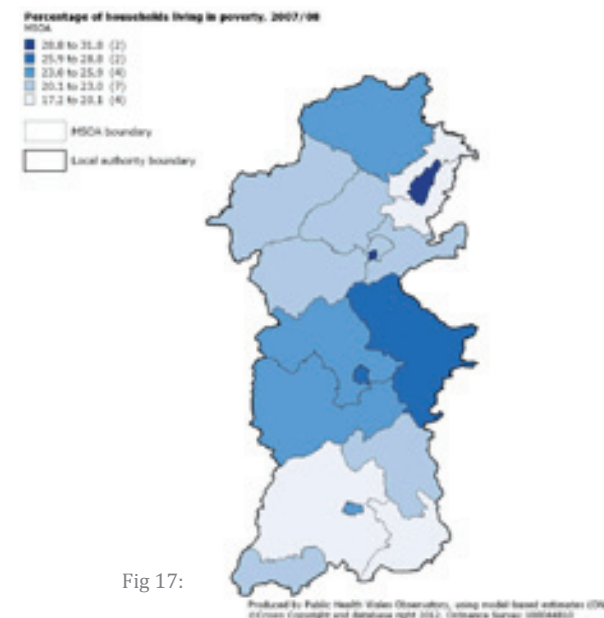
Corporate Health Award

Powys teaching Health Board and Powys County Council, the two biggest employers in Powys are leading the way as exemplary employers. These organisations have achieved the Gold Corporate Health Standard Award and it is anticipated that they will achieve platinum level by 2013. Both organisations are now working together to share best practice and joint working to improve the health of their staff.

Poverty

Low income can lead to poor health and vice versa. A low income is likely to reduce a household's ability to access healthy food and maintain warm accommodation. Those on low incomes are more likely to engage in health damaging behaviours, such as smoking and eating high calorie foods as coping mechanisms²⁰.

Across Powys, model-based estimates for the proportion of households estimated to be living in poverty range from 17.2% (Powys 016) to 31.8% (Powys 009). Figure 17 shows higher levels in the south west of Newtown, Llandrindod Wells, Welshpool, Knighton and Presteigne¹⁵.



Opportunities to enable every adult in Powys to live a healthy, happy and prosperous life.

Key actions during working life

- Promote the health and well being of staff employed by the public and private sector through the wellbeing in work scheme
- Support lifelong education and training
- Accessible and affordable childcare facilities
- Mental health first aid courses
- Recreational and leisure facilities
- Affordable, safe housing
- Mental health support and wellbeing

Key outcomes by age 64

- Free from illness and disease
- Free from injury and accidents
- Ability to maintain healthy lifestyle



Part F: Older people - live healthy, happy lives



Healthy and Active Ageing: The age of opportunity

The National Service Framework for Older People in Wales defines an older person as someone aged over 50 years. This creates a diverse group of people, with some still working whilst others are in a care home. Similarly, some may be in extremely good health or extremely poor health.

There are three stages in the life of an older person, as illustrated in figure 18:

- Entering old age and preparing for retirement
- Transitional, where health problems may emerge
- Frail and vulnerable, where the individual has high levels of need for health and social care services

What are we hoping to achieve in Powys?

Healthy ageing is about creating the conditions to support the older people in Powys to lead healthy, active lifestyles and continue to play an active role in society.

Why is healthy ageing important?

As the baby boomer (people born between 1946 and 1964) generation continue to retire and move through old age, Powys will see a rapidly ageing population. As people get older they are more susceptible to long-term conditions, although poor health is not inevitable.

The benefits of healthy ageing are clear; improved quality of life for individuals, reduction in need for health and social care services, and the positive contribution individuals can make to their friends, families and communities.

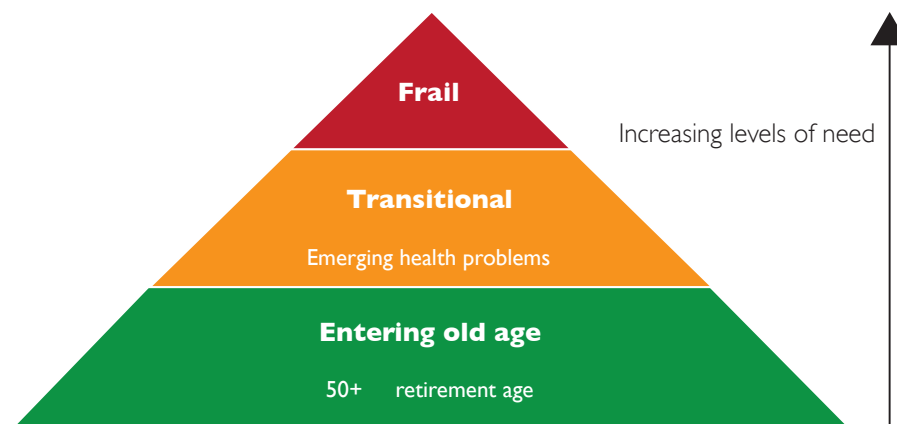


Fig 18: Stages in the life of an older person

Ffion's Story

Healthy lives

Story 1

"Now I am 60 and retired, but keep busy with my work on the local Church Committee."

Story 2

"I am 55 and I am in a lot of pain, I am waiting for a knee replacement. The Doctor told me to lose weight, but I am in so much pain I can't do any exercise. I have thought about giving up smoking too, but I don't see the point now."

Older adults can live healthy, happy and longer lives by staying socially connected, increasing their physical activity levels, eating a healthy diet, refraining from smoking, reducing their alcohol consumption and taking steps to reduce their risk of injuries. This involves using a holistic approach, with a drive to provide a wellness service that aims to take a whole-person and community approach to improving health^{21,22}.

The Welsh Health Survey (2009–2010) assessed the number of people who followed a healthy lifestyle: not smoking, eating 5 portions of fruit and vegetables, being active on 5 or more days and drinking below the recommended daily units of alcohol. It found that only 8% of adults reported all four healthy behaviours in Powys²⁹.

Physical Activity

Keeping active has many important benefits. It can improve strength, balance and flexibility, improve bone density, thus helping reduce risk of fractures. It can lower the risk of heart disease and stroke as well as improving mental health and providing opportunities for social interaction. Physical activity can include walking, gardening, dance, as well as sports such as football

Current physical activity guidelines recommend that an adult undertakes at least 30 minutes of physical activity, of moderate intensity, on five or more days each week²³. Although Powys is comparably active much of Wales, less than half of the population meet the recommended physical activity guidelines (Figure 19).

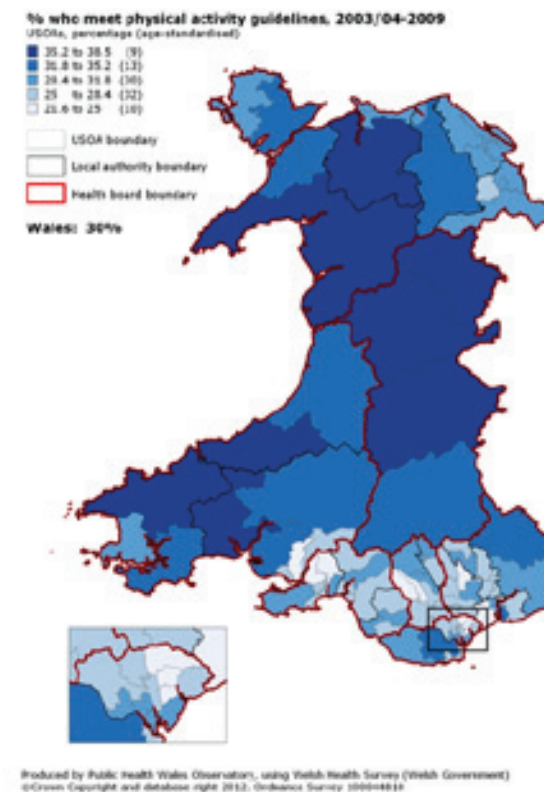


Fig 19:

Smoking

Smoking is the largest single cause of avoidable ill health and early death in Wales. Smoking and passive smoking have been linked to a range of serious illnesses including cancers and heart disease. Smoking prevalence in Powys is 21%, which is slightly lower than the Welsh average (23%)²⁴. Smoking rates vary across the county, as seen in figure 20.

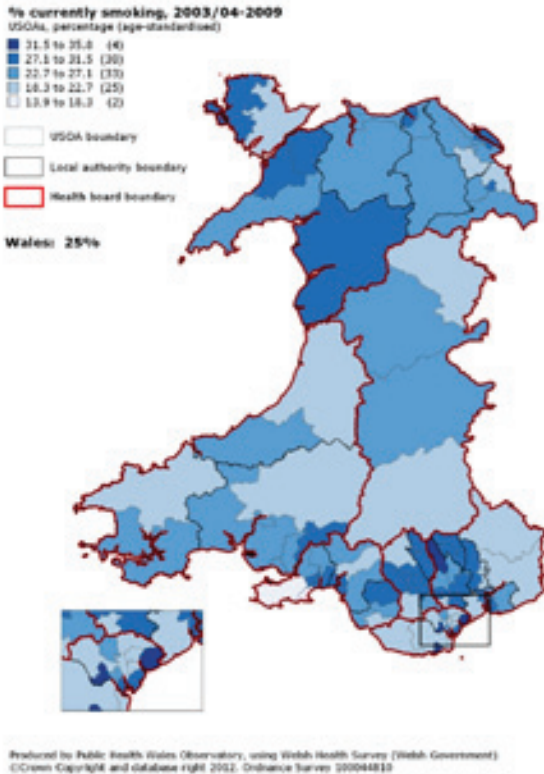


Fig 20:

Breast Cancer Screening

The aim of the breast screening programme is to reduce mortality from breast cancer by detecting breast cancer early. In Powys, 71.7% of women invited for screening took up the offer²⁵. This is above the minimum target of 70% set by Welsh Government, but below all Wales screening uptake levels. All eligible women are invited for screening within a three-year period, which means that a one year period is sometimes unrepresentative as only a proportion of women may be invited from a defined geographical area.

Table 3: Uptake of Breast Screening of eligible women aged 50-70 years for Wales and Powys Teaching Health Board for period 1 April 2010 to 31 March 2011

Population	All-Wales	Powys Teaching HB
Percentage	74.7%	71.7%
Number eligible women tested	98,956	1,119

Source: Data from Screening Division, Public Health Wales

Opportunities to ensure older people can live healthy, happy lives

Key actions for older people

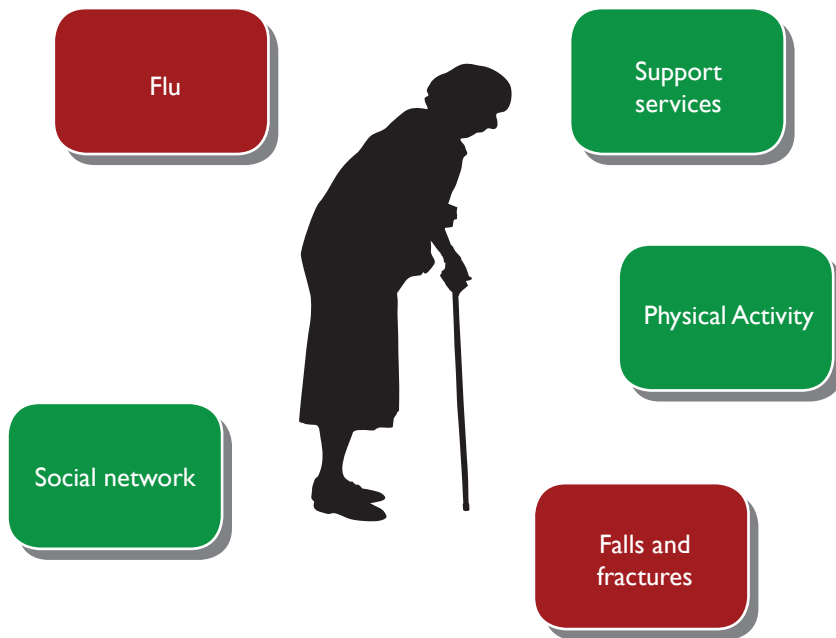
- *Increase opportunities for social and physical activities*
- *Increase opportunities for volunteering*
- *Health information*
- *Recreational and leisure facilities*
- *Affordable, safe housing*
- *Mental health support*
- *Promote the Agored Cymru Community food and Nutrition course to those who work with older people, carers, and service users*

Key outcomes by age 74

- *Free from illness and disease*
- *Ability to maintain healthy lifestyle*
- *Free from injury and accidents*
- *Maintain independence*



Part G: Elderly People - Remain happily independent



The golden age: remaining happily independent

People are living longer and for many older people, advancing age is associated with frailty. Frailty describes individuals who have physical or mental disabilities that may interfere with the ability to independently perform activities of daily living.

As people age, there is a greater likelihood of developing chronic diseases e.g. diabetes, coronary heart disease and cancers. Some older people are more susceptible to falls, accidents and injuries, and gradual deterioration in vision and hearing. This results in a greater likelihood for them to need health and social care services²⁶.

Influenza (flu)

Influenza is a viral infection which is usually a self limiting illness. However, for vulnerable groups such as the very old and those with chronic conditions, residents in long stay care homes or pregnant women it can be much more serious. Flu vaccination would protect these groups from serious complications of flu. Other groups that should receive the flu vaccination are carers for an elderly or disabled person, those working as first aiders for third sector and NHS Frontline staff.

The aim of vaccinating individuals is to reduce their risk of serious illness and death, as well as to reduce the number of hospital admissions due to flu.

Flu immunisation uptake

The national target for flu vaccination uptake is 75%. In 2011/12, Powys flu immunisation uptake in patients aged 65 years and older was 66.5% (figure 21). For the same period uptake in those aged below 65 years with clinical risk conditions was 47.6% (figure 22).

Out of all the risk groups, uptake was lowest in pregnant women (32%) and highest in patients with diabetes (65%)²⁷.

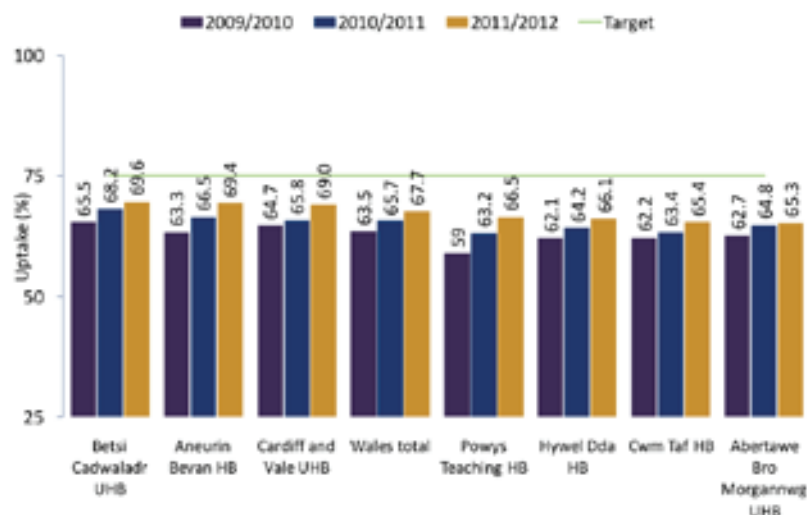


Fig 21: Uptake of flu immunisation in Welsh Health Boards in patients aged 65 years or older, 2009/10 – 2011/12

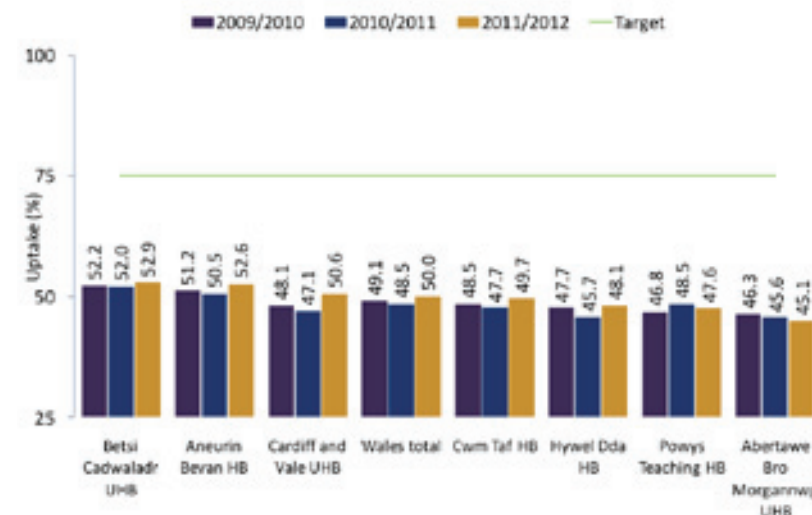


Fig 22: Uptake of flu immunisation in Welsh Health Boards in patients aged 6 months to 65 years with one or more clinical risks, 2009/10 – 2011/12.

Source: Public Health Wales Vaccine Preventable Disease Programme, Seasonal Influenza vaccine uptake in Wales - 2011/12, May 2012. Cardiff: Public Health Wales

CASE STUDY

Raising awareness among British Red Cross staff

Red Cross staff and volunteers have contact with vulnerable people through their work such as Home from Hospital, Therapeutic Care, Transport and Escort and Medical loan.

In 2011, the British Red Cross successfully bid for a Wellbeing and Activity Grant, with the aim of raising awareness amongst their staff and volunteers. A series of workshops were held to improve staff knowledge of the effects of flu and the need for immunisation in targeted groups.

In total, 92 Red Cross Health and Social Care Staff and volunteers attended workshops across Powys. All workshop participants received flu information leaflets for distribution to clients.

Long term conditions

The most common long-term conditions are heart disease, diabetes, stroke, cancer and chronic respiratory diseases. Figure 23 shows the factors that can lead to these long-term conditions. Our cultural, environmental and economic conditions shape our living and working conditions, which in turn can influence our health behaviours. This, combined with our genetics, leads to intermediate risk factors such as raised glucose levels or abnormal blood lipids, culminating in chronic disease. Research has shown that unhealthy diet, physical inactivity and tobacco use are the major contributory factors to long-term conditions²⁸.

How many people in Powys have long-term conditions?

The proportion of adults who report being treated for a long term condition is generally lower in Powys compared with Wales (table 4 and figure 24).

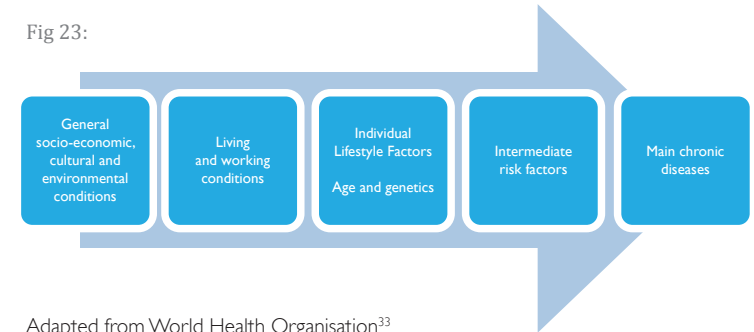
Table 4: Welsh Health Survey results (observed) for selected conditions for persons aged 65 and over, 2008-10

Indicator: Currently treated for (%)	Powys	Wales
High blood pressure	50	51
Heart condition	25	29
Respiratory condition	17	22
COPD (proxy*)	5	7
Mental Illness	8	10
Arthritis	27	33
Diabetes	14	15

* reports of currently being treated for emphysema and / or bronchitis is used as a proxy for COPD

Source: Public Health Wales Observatory, using Welsh Health Survey data (WG).

Fig 23:



Adapted from World Health Organisation³³

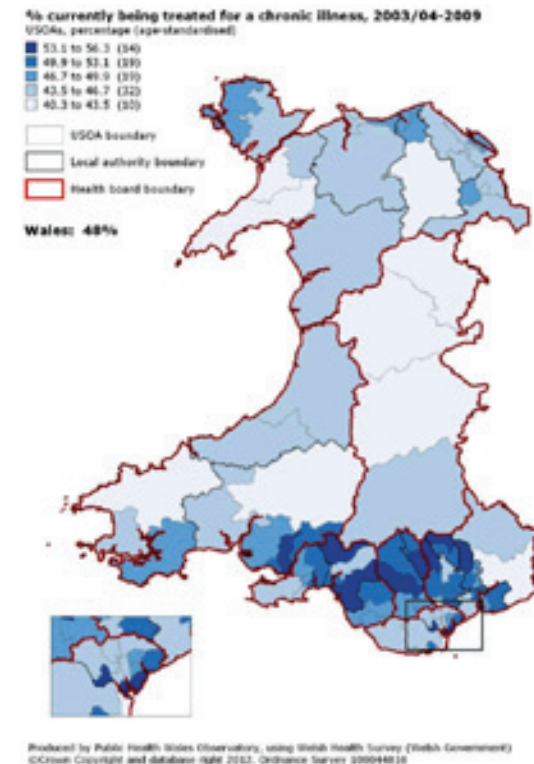


Fig 24:

Mental Health

Mental health underpins our overall health. Mental health contributes to the extent to which people feel able and motivated to adopt healthy lifestyles²⁹. Poor mental health is associated with obesity, alcohol misuse and smoking as well as a number of long term conditions such as diabetes, coronary heart disease and chronic obstructive pulmonary disease. The Welsh Health Survey (2009 and 2010) showed that those who reported a higher number of healthy behaviours also reported better mental health and well-being²⁴.

Dementia

Dementia is a debilitating progressive illness that is characterised by a widespread impairment of mental function²⁹.

As the condition progresses, individuals will have more complex needs, especially in the later stages. This means that they become increasingly dependent on health and social care services as well as carers, friends and family. The Alzheimer's society has estimated that dementia costs the UK £23 billion. This is more than the cost of cancer, stroke and heart disease combined³⁰.

People with dementia have on average, longer lengths of stay in hospital. For example a report by the Alzheimer's Society found that the average duration of stay following a hip fracture for a dementia patient was 43 days, compared to 26 days in a patient without dementia³¹.

Risk factors for dementia

Dementia prevalence increases with age, roughly doubling every 5 years for people aged over 65 years. One in 14 people over 65, one in 6 people over 80, and one in three people over 95 has some form of dementia³².

The evidence suggests that the best advice for preventing dementia is adopting the mantra, “*what is good for your heart is good for your brain*”. The evidence suggests that maintaining or adopting lifestyle changes such as physical activity, stopping smoking, healthy diet, mental stimulation, and socialising is especially important in those aged 40-64 years³³.

Dementia in Powys

The number of dementia patients aged between 75 and 84 years is estimated to increase from 839 in 2011 to 2522 in 2030 (Figure 25 and 26).

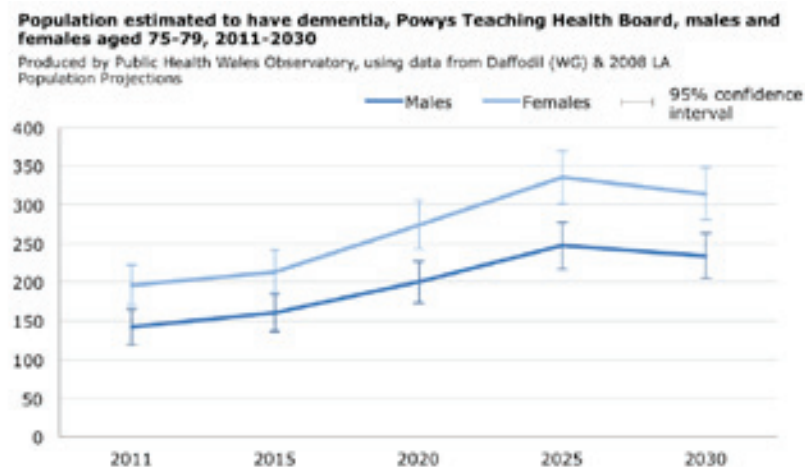


Fig 25:

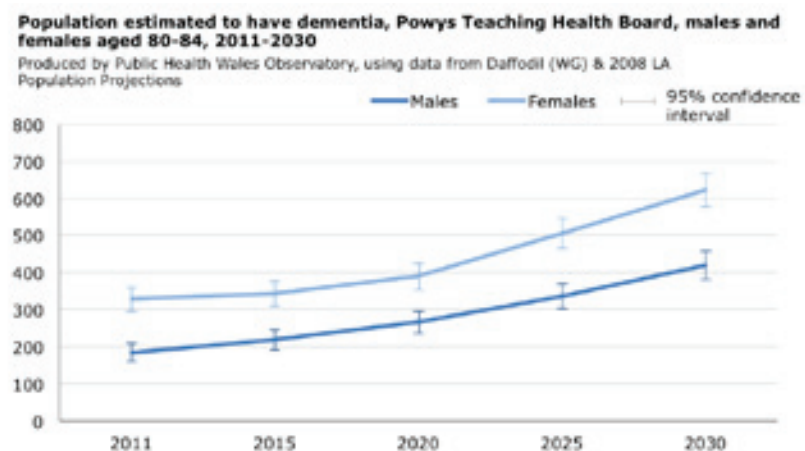
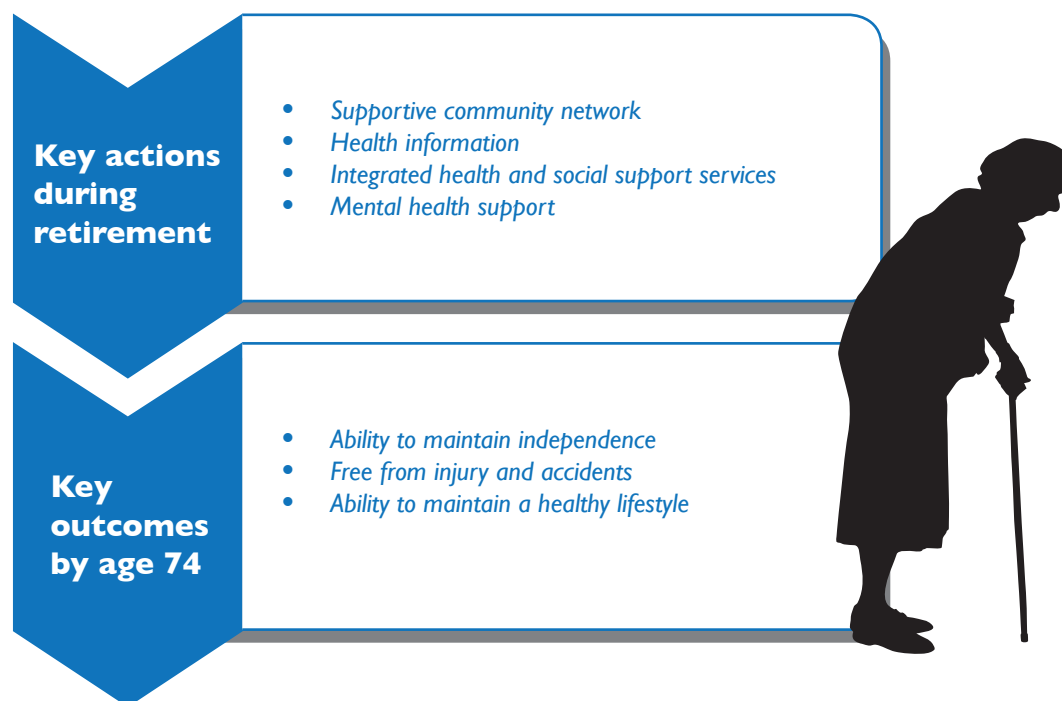


Fig 26:

Opportunities to ensure older people can live healthy, happy lives



CHAPTER 5 Ffion's story retold - Can you change my life?

My name is Ffion and this is my story. It is the 15th April 2011, and I don't exist yet. My mam has just brought home a pregnancy test and is anxiously waiting for the result. She already has 3 boys and doesn't want another child. My dad, Cai works in the local garage and my mam works in the supermarket. They are struggling to make ends meet as the cost of living keeps rising.

My mam cannot cope with the stress of three young children. She continues to smoke when she is pregnant, she is so stressed out; harm to me is the last thing she is thinking of. When she went along to see the midwife, she was asked about her smoking habits and how she was feeling. The midwife listened to her concerns and referred her to the smoking cessation service, the local counselling service, and the council to get some money advice. This made her feel much better and she was able to give up smoking.

On the 8th October 2012, I am born in Bryn Gobaith. I was born a healthy weight. My mam starts to breast feed me, but as soon as she goes home, she finds it really difficult. She has my brothers to look after, so is busy rushing around after them. The community midwife came to visit and gave her some support. She also referred her to a local breastfeeding support group where she was able to receive mutual support from other mums.

The local authority gave her some advice and helped her access local childcare, so she was able to continue working part time.

I am 3 years old when I go to the local playgroup for a few hours each day. I really enjoy it since I can play with the toys and look at books. When my mam picks me up, we go to the local fish and chip shop for chippies as a rare treat.

I am 4 years old and I have to go to the dentist. I was given the all clear. I did eat a few sweets occasionally, but I made sure I brushed my teeth, which I had been told about at school.

When I am nearly 5, I start reception class in school. My mum made me some sandwiches for lunch. The school gave my mum lots of advice on healthy eating.

I am 14 years old now and in secondary school. I am doing well in school but some of my friends don't think school is cool and there is a lot of pressure not to try too hard. Things are not great at home, without my best friend Laura I don't know how I'd manage.



I am 15 years old now and my friend Laura is killed riding on the back of motorbike. I don't know how to deal with it. My mum takes me to the local Doctor and he refers me to a counselling service. I think it really helps, as I am able to let off some steam and talk about how I feel.

I go on to study A 'levels. I leave school and get a job working for the local council. I eat quite a lot as we always have cakes to eat when it's someone's birthday or when someone comes back from holiday.

I am 21 when I meet Andy in the local pub. I soon become pregnant with our first child. When I go for my booking with the midwife, she gives me advice about my weight so that I don't put myself and my baby in danger.

I am really pleased as I am able to have Sian at home, with Andy by my side. This is lucky as my car has broken down and I can't afford to have it fixed. After I give birth to Sian, I find it difficult to get the weight off and I am feel very depressed about it. The health visitor tells me about a local buggy fit group. I meet a new group of friends, which really helps with the depression, and I am able to keep fit at the same time.

I go back to work at the Council. I find it really difficult to balance work and home and become very stressed. Luckily they have a healthy workplace scheme and are able to help me manage the stress.

I am 45 years old now. To be the honest the weight has crept back on me a little and my back has started to hurt. I go to my Doctor and he advises me that I need to keep active to help lose weight. I go to a weight management programme, which is fantastic as it isn't just about diet, it was about changing the way I think about myself and food. I am offered counselling, exercise and nutrition advice. I am able to exercise at the local leisure centre so don't have to travel too far.

I am 55 now. I have started leading some walking groups with a local charity. This is fantastic as I feel I can put something back into the community.


I am an old lady now. I've had a long healthy and happy life. I couldn't ask for anything more and I hope my children and grandchildren will experience the same.

Diolch yn fawr.....

References

1. OCSI Deprivation in rural areas: Quantitative analysis and socio-economic classification. Report for the Commission for Rural Communities 2008 Available at: <http://www.ocsi.co.uk/ruraldeprivation/> [Accessed 6th August 2012]
2. Bull, J., Mulvihill, C., Quigley, R. Prevention of low birth weight: assessing the effectiveness of smoking cessation and nutritional interventions. Evidence Briefing: Health Development Agency, 2003 Available at: http://www.nice.org.uk/aboutnice/whoweare/aboutthehda/hdapublications/prevention_of_low_birth_weight_assessing_the_effectiveness_of_interventions_evidence_briefing.jsp [Accessed 6th August 2012]
3. The NHS Information Centre. IFF Research Infant Feeding Survey 2010: Early Results 21 June 2011 Available at: http://www.ic.nhs.uk/webfiles/publications/003_Health_Lifestyles/IFS_2010_early_results/Infant_Feeding_Survey_2010_headline_report2.pdf [Accessed 6th August 2012]
4. Centre for Maternal and Child Enquiries (CMACE). Maternal obesity in the UK: Findings from a national project. London: CMACE, 2010 Available at: http://www.oaaanaes.ac.uk/assets/_managed/editor/File/CMACE/CMACE_Obesity_Report_2010_Final%20for%20printing.pdf [Accessed 6th August 2012]
5. Marie Lewis. Maternity services outcomes for women and babies in relation to their BMI at booking. Audit Report: Powys teaching Health Board. Powys Teaching Health Board 2011
6. National Institute for Health and Clinical Excellence. Improving the nutrition of pregnant and breastfeeding mothers and children in low-income households March 2008 <http://www.nice.org.uk/nicemedia/live/11943/40097/40097.pdf> [Accessed 6th August 2012]
7. Welsh Government Births in Wales 2010: Data from the National Community Child Health Database July 2011 Welsh Government Available at: <http://wales.gov.uk/docs/statistics/2011/110713sdr1162011en.pdf> [Accessed 6th August 2012]
8. Dyson A, Hertzman C, Roberts H, Tunstill J and Vaghri Z. Childhood development, education and health inequalities. Report of task group. Submission to the Marmot Review. 2009. Available at: <http://www.ucl.ac.uk/gheg/marmotreview> [Accessed 6th August 2012]
9. Royal College of Psychiatrists. No health without mental health: the case for action. Royal College of Psychiatrists position statement PS4/2010 October 2010. Available at: <http://www.rcpsych.ac.uk/pdf/Position%20Statement%204%20website.pdf> [Accessed 6th August 2012]
10. Maria Morgan Profile of dental health in Powys Health Board. Welsh Oral Health Information Unit, in association with the Public Health Wales Dental Public Health Team. Cardiff University Available at: <http://www.rcpsych.ac.uk/pdf/Position%20Statement%204%20website.pdf> [Accessed 6th August 2012]
11. Jackson C, Sweeting H, Haw S. Clustering of substance use and sexual risk behaviour in adolescence: analysis of two cohort studies. BMJ Open 2012;2:e000661.doi:10.1136/bmjopen-2011-000661 <http://bmjopen.bmj.com/content/2/1/e000661.full.pdf+html> [Accessed 6th August 2012]
12. Alcohol Concern. A drinking nation? Wales and alcohol. November 2010 Available at: <http://www.alcoholconcern.org.uk/assets/files/Publications/Wales%20publications/A%20drinking%20nation%20-%20November%202010.pdf> Accessed 6th August 2012]

13. National Public Health Service. A profile of alcohol and health in Wales. 2009. Available at <http://www.wales.nhs.uk/sitesplus/888/page/43761> [Accessed 1 June 2012]
14. Frieldi L and Parsonage M. Promoting mental health and preventing mental illness: the economic case for investment in Wales All Wales Mental Health Promotion Network. October 2009. Available at: [http://www.publicmentalhealth.org/Documents/749/Promoting%20Mental%20Health%20Report%20\(English\).pdf](http://www.publicmentalhealth.org/Documents/749/Promoting%20Mental%20Health%20Report%20(English).pdf) [Accessed 6th August 2012]
15. Public Health Observatory Wider determinants of Health Powys Teaching Health Board. April 2012. Available at: [http://www2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/61c1e930f9121fd080256f2a004937ed/6f04c0b165fa8f2d802579e40035bb04/\\$FILE/WDoH_report_Powys_v1.pdf](http://www2.nphs.wales.nhs.uk:8080/PubHObservatoryProjDocs.nsf/61c1e930f9121fd080256f2a004937ed/6f04c0b165fa8f2d802579e40035bb04/$FILE/WDoH_report_Powys_v1.pdf) [Accessed on 10th August 2012]
16. Wilcox S. The Geography of affordable and unaffordable housing and the ability of younger working families to become home owners. Joseph Rowntree Foundation. 2006. Available at: <http://www.jrf.org.uk/sites/files/jrf/1951-affordability-housing-regions.pdf> [Accessed on 6th August 2012]
17. Cyngor Sir Powys County Council Powys Unitary Development Plan Affordable Housing for Local Needs Supplementary Planning Guidance (SPG) Adopted March 2010. Available at: http://www.powys.gov.uk/rep_2010-09-28b1_298c_en.pdf?id=47 [Accessed on 6th August 2012]
18. Cyngor Sir Powys County Council Powys Local Development Plan Draft Population & Housing Topic Paper. August 2011. Available at: http://www.powys.gov.uk/rep_2011-08-08dp1_36.1b_en.pdf?id=47 [Accessed on 6th August 2012]
19. Welsh Assembly Government Healthy Working Wales. Health, Work and Well-being Action Plan for Wales 2011-2015. Available at: <http://wales.gov.uk/docs/phhs/publications/110517actionplanency.pdf> [Accessed on 6th August 2012]
20. National statistics for Wales Welsh Health Survey 2009 and 2010: Combined health lifestyle behaviours of adults Welsh Government. May 2012. Available at <http://wales.gov.uk/docs/statistics/2012/120522sb432012en.pdf> [Accessed 6th August 2012]
21. NHS Confederation from Illness to Wellness: Achieving efficiencies and improving outcomes. Briefing 224. London: NHS confederation. 2011 Available at www.yorkshireandhumber.nhs.uk/document.php?o=6004 [Accessed on 13th August 2012]
22. Buck D, Frosini F. Clustering of unhealthy behaviours over time. Implications for policy and practice Kings Fund. 2012. Available at http://www.kingsfund.org.uk/publications/unhealthy_behaviours.html [Accessed on 1st September 2012]
23. Department of Health, Physical Activity, Health Improvement and Protection. Start active, stay active: a report on physical activity from the four home countries' Chief Medical Officers. July 2012. Available at http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/documents/digitalasset/dh_128210.pdf
24. Welsh Health Survey 2009 and 2010 <http://wales.gov.uk/topics/statistics/headlines/health2011/1109131/?jsessionid=CwpXT3BMb65S1MgDpLpy2KIzfGIjhT4Xyr1fhLtxdww5Nyymgs6M!1249552498?lang=en> [Accessed 6th August 2012]
25. Hillier S. Report on Population based National Screening Programmes in Powys Teaching Health Board. 21 March 2012.
26. Cornwell J. The care of frail older people with complex needs: time for a revolution. The Sir Roger Bannister Health Summit, Leeds Castle Kings Fund. March 2012. Available at: http://www.kingsfund.org.uk/publications/care_revolution.html Accessed [6th August 2012]
27. Public Health Wales Vaccine Preventable Disease Programme. Seasonal Influenza vaccine uptake in Wales - 2011/12. May 2012. Cardiff: Public Health Wales.

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28. World Health Organisation. Preventing chronic disease vital investment. World Health Organisation. Available at http://www.who.int/chp/chronic_disease_report/contents/part2.pdf [Accessed 6th August 2012]
29. National Institute for Health and Clinical Excellence. Dementia -Supporting people with dementia and their carers in health and social care. 2006. Available at: <http://www.nice.org.uk/nicemedia/pdf/CG042NICEGuideline.pdf> [Accessed 6th August 2012]
30. Alzheimer's Society. Dementia UK - The full report. Alzheimer's Society. 2007. Available at: http://www.alzheimers.org.uk/site/scripts/download_info.php?fileID=2 [Accessed 6th August 2012]
31. Alzheimer's Society. Counting the cost Caring for people with dementia on hospital wards. Available at: http://alzheimers.org.uk/site/scripts/download_info.php?fileID=787 [Accessed 6th August 2012]
32. Welsh Assembly Government. National Dementia Vision for Wales. Dementia Supportive Communities. 2011. Available at <http://wales.gov.uk/docs/dhss/publications/110302dementiaen.pdf> [accessed on 6th August 2012]
33. Alzheimer's Society. Welsh dementia prevalence and diagnosis rates: Powys Teaching Health Board. Available at: http://alzheimers.org.uk/site/scripts/directory_record.php?recordID=1776 [Accessed on 6th August 2012]

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