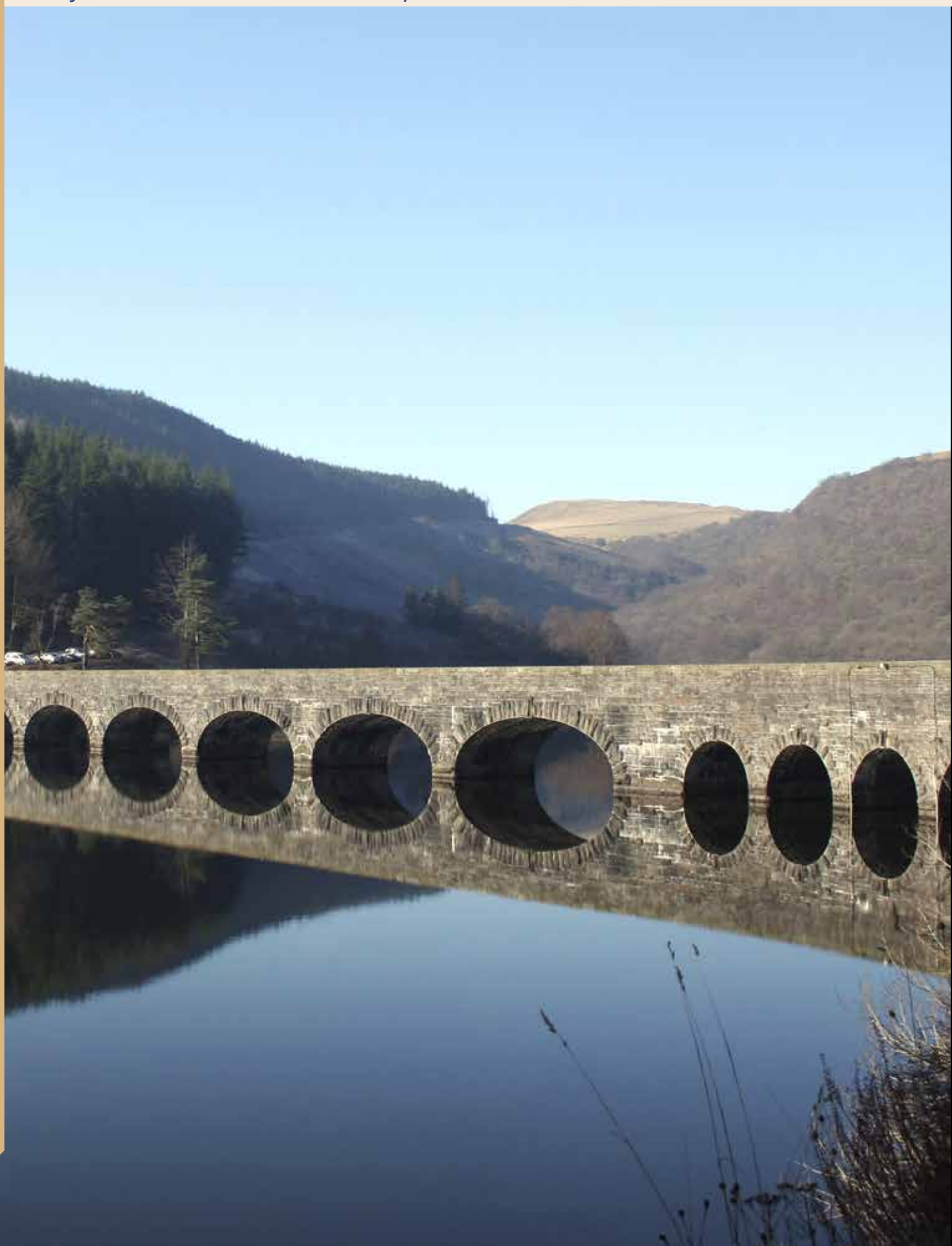
GIG CYMRU NHS WALES

Bwrdd Iechyd Addysgu Powys

Powys Teaching Health Board

Powys Teaching Health Board Director of Public Health Annual Report 2014/15

As a rural health board we aim to provide as many services as close to home as possible



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Foreword

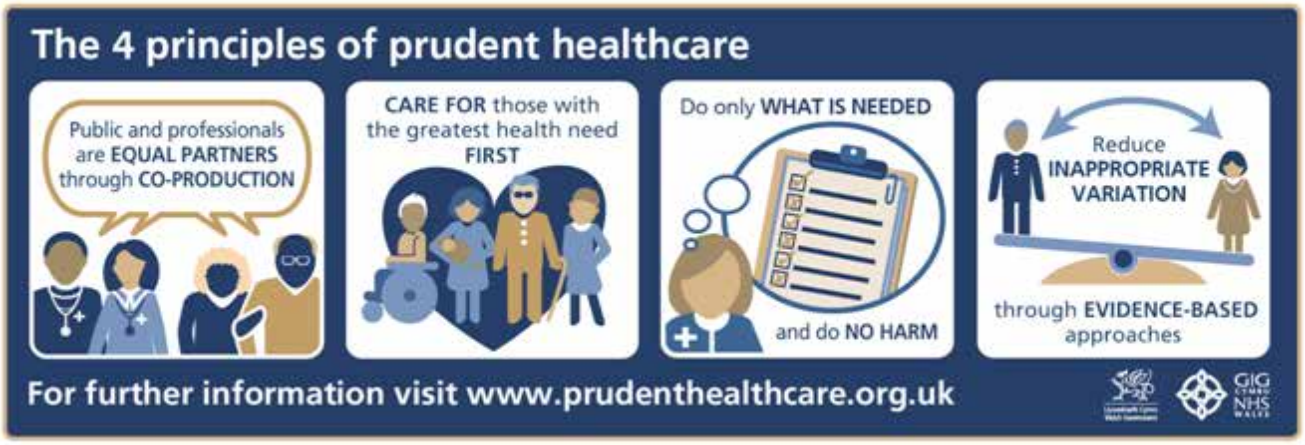
Dear Reader

Welcome to the 2014/15 Annual Public Health Report for Powys. Considering recent reports, the 2011/12 report focused on the importance of prevention in maximising health and wellbeing. In 2012/13, the report focused on the key determinants of health and wellbeing and the importance of partnership working. The 2013/14 report focused on the health and wellbeing of children and young people in Powys. This year's report is based on the findings of a series of analyses and intelligence products published by Public Health Wales during 2014 and 2015.

Timely, accurate intelligence is crucial to the planning and delivery of health services. It ensures that services are provided according to need, it minimises waste, and it supports the effective planning of services into the future. Intelligence is also critical to at least three of the NHS Wales prudent healthcare principles, namely care for those with the greatest health need first, do only what is needed and do no harm, and reduce inappropriate variation through evidence-based approaches.

The use of intelligence is also a key component of public health practice. Surveillance and assessment of the population's health and wellbeing is one of the nine key areas of public health, based around the skills of statistical and epidemiological analysis and interpretation. These skills are strongly evident in this year's report as individual chapters seek to interpret and present findings from key intelligence products. This year's report covers a range of themes and topics; from the determinants of health and healthy lifestyles, to access to health services and the early years of life.

In this year's report, I have made eight recommendations for further action. As reported at the time, I have also reviewed progress with the recommendations of my 2012/13 report in the introduction. In keeping with this timetable, the recommendations of the 2014/15 report will be reviewed in 2016/17.



I am extremely grateful to the very many individuals who contributed ideas, information and text for this report. I hope you find it an enjoyable and useful read. As ever, both I and the Powys Public Health Team welcome all feedback and suggestions.

Acknowledgements

This year's Annual Report draws heavily on products produced by the Public Health Wales Observatory. I would therefore like to express my thanks to the analysts who have produced the range of tools included in this report. In particular, I would like to thank the following colleagues in Public Health Wales Observatory for their assistance in drafting this year's report:

- Dr Ciaran Humphreys, Director of Health Intelligence, Public Health Wales
- Dr Gareth Davies, Principal Public Health Intelligence Analyst
- Nathan Lester, Head of Observatory Analytical Team
- Tracy Price, Advanced Public Health Intelligence Analyst

A number of staff within the Powys team of Public Health Wales have contributed to specific sections. I would like to thank Dr Alison Merry, Public Health Consultant and John Bradley, Principal Public Health Practitioner for their contribution to the Introduction to this year's report. Within Powys Teaching Health Board, I would also like to thank Cate Langley, Head of Midwifery and Sexual Health Services for commenting on Chapter 3, and Andrew Evans, Locality Manager for comments in relation to Chapter 5. I would also like to express my thanks to Tin Mellerick-Wheeler, Communications Manager for helping with the design and print of the report. Finally, I would like to thank Stuart Bourne, Deputy Director of Public Health for coordinating the production of this year's report and drafting the content for individual chapters.

Dr Catherine Woodward

Director of Public Health, Powys Teaching Health Board

Recommendations

1. Powys Teaching Health Board should request that future Director of Public Health Annual Reports are audited at least once every three years to ensure consistency with Faculty of Public Health guidance on the structure and format of Annual Reports.
2. The health assets with some of the widest disparities in Powys are education and training/ qualifications. The Powys Local Service Board All Age Programme Board should consider the importance of education and training when setting new priorities for the Powys One Plan from 2017 onwards.
3. Many of the indicators included in Our Healthy Future remain important measures of health and wellbeing locally and nationally. Efforts should be made as part of the consultation on the Public Health Outcomes Framework to ensure that these measures form part of the final set of indicators.
4. In the past ten years an additional 5% of adults have become overweight or obese. Almost sixty percent of the adult population are now overweight or obese in Powys. Promoting healthy weight must remain a priority, and the existing "Healthy Weight" strategy for Powys should be reviewed to ensure it remains evidence based and comprehensive in its approach. An investigation into the declining rate of consumption of 5 portions of fruit and vegetables a day in Powys should addressed as part of the review.
5. The completeness of recording of the causes of stillbirth of Powys babies should be reviewed; improvement measures should be put in place where indicated.
6. The findings from this year's Annual Report should be presented to each of the primary care clusters in Powys and used to promote discussion about how best to use the current range of intelligence products produced to support primary care development.
7. Rates of elective surgical procedures in Powys are generally lower than in Wales. The two main exceptions to this are apicectomy procedures and wisdom teeth removal where rates are relatively high. The comparative rates in Powys and Wales should be re-assessed, and the factors contributing to this pattern investigated by commissioners to ensure evidence-based referral pathways are in place in Powys.
8. Rates of unscheduled care activity in Powys are relatively low. Although this is not necessarily a negative finding, Powys Teaching Health Board should seek assurance that these relatively low rates are not associated with adverse clinical outcomes in the Powys population.

Immunising children protects them from a range of illnesses and diseases

CHAPTER 1: INTRODUCTION

1.0 Each year a substantial amount of intelligence is published about the health and wellbeing of the population of Powys. Toolkits and other analytical products are released which provide information about the prevalence of different diseases and the main causes of death. Broader data on the underlying determinants of health and the health related behaviours of parts of the population are also produced. The toolkits analyse, re-analyse and benchmark the same data to present information in new and novel formats to aid interpretation and comparison. Much of the credit for this work must go to Public Health Wales, and specifically staff working in the Public Health Wales Observatory. Their effort and output adds greatly to attempts to properly understand health and wellbeing, and to plan services on the basis of health need.

1.1 Turning information into intelligence takes time and effort and often requires the ability to take a step back from the day to day priorities in order to create the space to properly consider what has been produced. Often different products relate to each other or add further detail to the same topic so they cannot be considered in isolation. They must be taken together, and checked to ensure any conclusions are consistent rather than contradictory. The method used must be understood, alongside the technical aspects of how the data is analysed and presented. This all requires time, space and expertise.

1.2 The Director of Public Health Annual Report provides a good vehicle to take the time to review, understand, and present the findings of all the published toolkits, profiles and reports in a single place. There is the opportunity to consider information outside of a specific topic or work related task, and to engage with the material in a considered manner. This is the aim of the Director of Public Health Annual Report for 2014/15.

1.3 This year's report centres on the main intelligence products published by Public Health Wales in 2014 and 2015. There are ten products, grouped into four chapters in this year's report covering the themes of health and wellbeing, primary care clusters, a healthy start to life, and hospital activity. In each chapter the intelligence products are discussed, the key findings are presented, and summary points are listed. Inevitably with this type of content there is some degree of technical content, especially statistical terminology. However, this has been kept to a necessary minimum and it is hoped that this report remains both interesting and engaging to a wide readership. It is designed to be read by a broad range of Powys Teaching Health Board colleagues engaged in the planning of health services at all levels, as well as by readers with a general interest in health and wellbeing. Partner organisations within Powys Local Service Board should have an interest in this year's report, as well as the wider public health community in Wales. Copies will be made available to the public via the Powys Teaching Health Board website *www.powysthb.wales.nhs.uk* which will help to make the report freely available to all interested parties. Any questions or comments about this year's report can be sent to: *PowysPHT.admin@wales.nhs.uk*

Reviewing the 2012/13 Recommendations

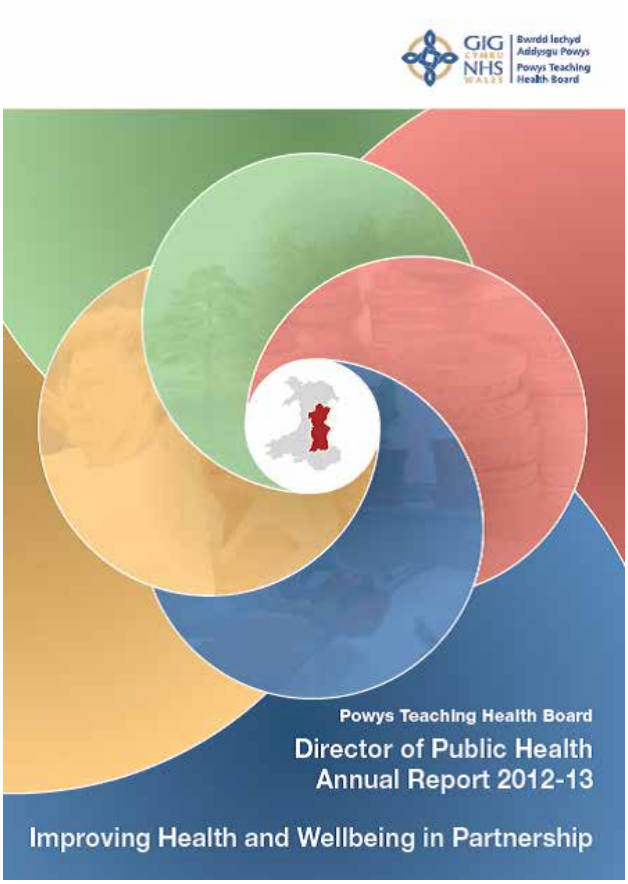
1.4 This year's annual report also provides an update on the status of recommendations published in the Director of Public Health Annual Report 2012/13. It is two years on from this report's publication which provides an opportunity to consider the progress that has been made. The five recommendations made in 2012/13 are listed below, together with a statement about progress in achieving the aims contained within each recommendation.

Recommendation 1

"The Powys Tobacco Control Partnership should review progress with its action plan, to ensure the local approach is effectively targeted on the needs of children and young people (including through Trading Standards), pregnant smokers and communities with the highest smoking prevalence."

1.5 The evidence based adolescent smoking prevention Programme DECIPHer ASSIST has been delivered once to three Secondary schools in Powys since 2012. This programme in 2015/16 wil be superseded by the new Public Health Wales JUSTB Smoke Free programme which will be delivered to two eligible secondary schools in Powys this year, Maesydderwen and Newtown High School.

1.6 All midwives in Powys have been issued with CO monitors to enable them to routinely conduct carbon monoxide testing with pregnant women and other people who live within the same household. All midwives and health visitors have received Making Every Contact Count (MECC) training (as at November 2015) which helps to ensure consistent messaging around smoking cessation, and provides clear referral information for attendees. Following the MECC training, all midwives have been allocated Quit Manager logins to facilitate referrals to smoking cessation services.



1.7 Powys is a pilot area for the Smoking in Pregnancy project, which is a national programme that is working with local teams to encourage routine use of CO monitors and an 'opt out' approach to referring client to smoking cessation services.

1.8 Several pieces of health intelligence work have been undertaken to help inform and assist planning for smoking cessation service provision in communities with high smoking prevalence rates. This includes the development of a Powys USOA (Upper Super Output Areas) population density map, a Powys USOA smoking prevalence map and a Powys current smoking cessations location marker map overlapped with the Welsh Index of Multiple Deprivation (2014).

Recommendation 2

"The Powys Healthy Weight Partnership should agree further opportunities and actions to tackle the local obesogenic environment."

1.9 The Healthy Weights Steering Group has reviewed its action plan using a life-course approach and with a particular focus on healthy weight in children and young people and in pregnant women.

A number of task and finish sub-groups have been established in order to agree priorities for action and to support implementation. These include groups which are focusing on healthy weights for pregnant women and pre-school children, school-aged children and adults.

1.10 A task and finish group has overseen the introduction of a pilot level 2 service which aims to reduce overweight and obesity in 7-13 year olds by providing advice on healthy eating and opportunities for physical activity for children and their families.

Recommendation 3

"The Powys Immunisation Steering Group should use external peer review to inform development of its flu vaccination action plan for the 2014-15 winter season."

1.11 Peer review informed development of the 14/15 flu immunisation plan. The flu vaccination action plan has been reviewed and updated for the current (2015/16) flu season, in order that actions are informed by best practice and incorporate learning from the previous flu season, including actions identified at a multi-agency "flu wash-up" session which took place following the 2014/15 season. Flu vaccination planning follows an annual cycle and a further review will be undertaken at the end of this winter season in order to identify areas for improvement and inform the development of the flu vaccination action plan for 2016/17.

Recommendation 4

"Supported by a needs assessment, the Powys Area Planning Board should agree further opportunities and actions for the primary prevention of alcohol misuse by children, young people and adults."

1.12 A detailed substance misuse needs assessment was published in 2015 to support the re-commissioning of substance misuse services in Powys. This included local information about the incidence and prevalence of a range of drug related issues, including the incidence of excess alcohol consumption and the distribution of ill health associated with excess consumption. Elements of the needs assessment made reference to alcohol use among younger age groups, as well as interventions to reduce alcohol misuse among all age groups. The findings of the needs assessment will be used to review existing programmes in 2016 and to decide if further action is required to improve strategies for the primary prevention of alcohol misuse.

Recommendation 5

"As part of its performance framework, the Powys Local Service Board should agree a set of high level metrics with which it will track the local impact of the economic situation (including benefits changes) on health and wellbeing, including health inequalities within Powys."

1.13 In 2014/15 Powys Local Service Board commissioned a joint strategic needs assessment (JSNA) which had a single focus on poverty. This contained an analysis of the effect of a deteriorating economy on many aspects of community life - including health and wellbeing, across localities in Powys. Observations and analysis were included about many health-related metrics where economic disadvantage exerts an influence, including (healthy) life expectancy, disability free life expectancy, low birth-weight, and self-limiting long term illness. This led to a refresh of the Powys One Plan in 2015 to better reflect some of the impacts of the economic situation and the actions to address its effects on the population.

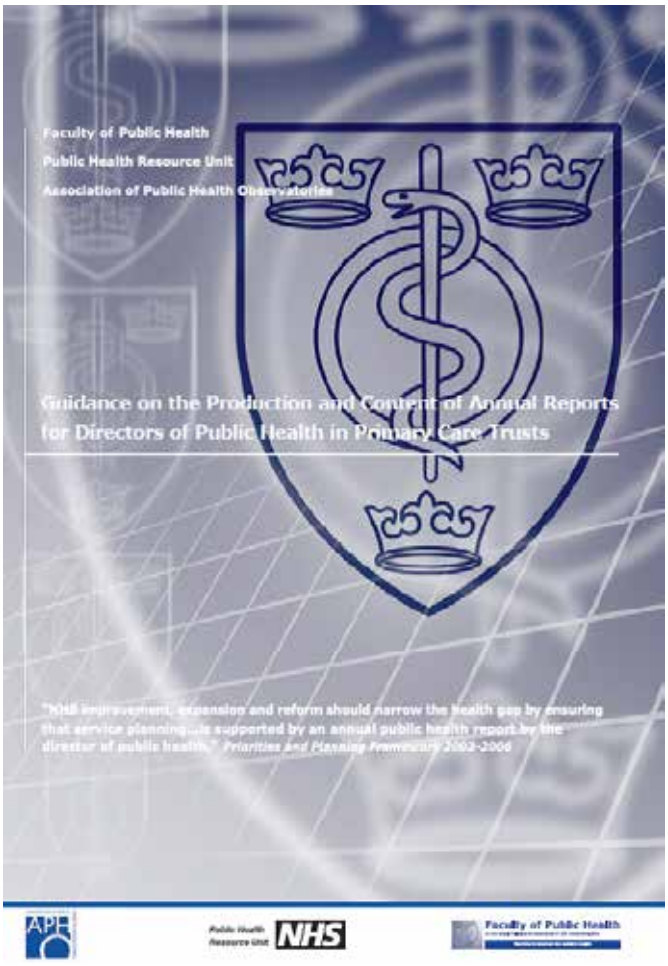
1.14 Work to develop an accompanying set of high level metrics is currently being taken forward through discussion about how to reflect the Well-being of Future Generations (Wales) Act which became law in 20151. The Act contains 7 well-being goals and an accompanying set of 40 draft indicators which will be used by Welsh Government to measure progress in improving well-being in Wales. The goals and indicators contained in the Act will need to be firmly embedded in the work of the Local Service Board in the future, and they are likely to therefore also serve as the local metrics for tracking the impact

of the economic situation in Powys. This will be developed further in 2016 when the national consultation ends, and a final set of well-being indicators is published by Welsh Government.

Assuring the Quality of Public Health Annual Reports.

1.15 Together with a review of the recommendations in the 2012/13 annual report, an audit was also performed for the Director of Public Health Annual Report 2013/14 against the Faculty of Public Health (FPH) criteria for Public Health Annual Reports2. In summary, findings from the audit demonstrated that the 2013/14 report fulfilled the majority of the selected indicators set out by the FPH guidelines. This level of compliance with the criteria set out in the FPH guidance helped to ensure that the report:

- Contributed to improving the health and well-being of the people of Powys;
- Reduced health inequalities with PTHB;
- Promoted action for better health, through measuring progress towards health targets;



- Assisted with service planning and monitoring of local programmes, interventions and services that impact on long term health outcomes.

1.16 Together with the above, the audit also produced the following recommendations for future Annual Reports:

1. The inclusion of an index of current and past content covering previous years, with a detailed reviewof the previous years' recommendations and achievements to be included in all future Director of Public Health Reports. This would then help set the context of any progress reviews of long term local plans and targets alongside any associated national targets.
2. Intended audiences to be clearly outlined in the introduction of any future reports to ensure wide and pragmatic usage of document.
3. Full reference list to be included in future reports.

1.17 Each of these three audit recommendations is being taken forward in this year's report. Audit of the Director of Public Health Annual Report will now also take place on a 3-yearly basis. Recommendation 1: Powys Teaching Health Board should request that future Director of Public Health Annual Reports are audited at least once every three years to ensure consistency with Faculty of Public Health guidance on the structure and format of Annual Reports.

Chapter 2: Health in Powys

Key Messages:

- **Powys has a high prevalence of the assets required for resilient, self-reliant communities.**
- **Educational and training qualifications are the most widely divergent assets in Powys.**
- **Teenage conception rates are declining and pre-school immunisation rates are improving.**
- **The rate of alcohol specific admissions is rising but drinking above guidelines amounts is remaining static.**
- **Approximately 19% of adults are current smokers.**
- **Rates of physical activity are relatively high – but with a wide gender gap.**
- **Nearly 6 in every 10 adults are estimated to be overweight or obese in Powys.**

Introduction

2.0 Chapter 2 focuses on some of the tools developed to measure health and wellbeing. In particular, this chapter is based on 3 products: the Health Assets Reporting Tool, the Our Healthy Future Indicators, and the Welsh Health Survey Lifestyle Trends. Taken together they provide detailed information about a range of issues, including employment, education, diet, physical activity, and life expectancy. In essence, they provide a summary of some of the key determinants of health, as well as the lifestyle factors that are crucial to the prevention of disease and disability. The contents of this chapter support the prudent healthcare principles of 'public and professionals are equal partners through co-production', and 'reduce inappropriate variation through evidence-based approaches'. The Health Assets Reporting Tool serves as a building block for conversations about co-production with local communities. It illustrates the assets available in local areas which can be utilised to promote stronger, more resilient communities. The Health Survey data helps to highlight the extent of variation in lifestyle behaviours between Powys and the rest of Wales and serves as a tool to provoke action to address unnecessary differences.

2i. Health Assets Reporting Tool

www.wales.nhs.uk/sitesplus/922/page/79374

Nearly six in every 10 adults are overwieght or obese in Powys

2.1 Assessing assets gives an improved understanding of communities, helps to build resilience and social capital and thus develops a better way of providing services3. Health assets are factors or resources which enhance the ability of individuals, communities, and populations to maintain their health and wellbeing. These act as protective or supporting factors to buffer against life's stresses4. They include the capacity, skills, knowledge, connections and potential in a community. This approach contrasts with a health deficits approach which focuses on problems or deficiencies in a community. These include, for example, deprivation, illness and health damaging behaviours. Assets based approaches aim to harness inherent assets and support that may exist within families and communities, and should also enhance the public sectors contribution to improving health and well-being.

2.2 The Public Health Wales Observatory has produced an interactive tool showing indicators of health assets for small areas in Wales. The tool presents health asset indicators on a spider chart at the middle super output area level (MSOA), alongside comparative information for Wales. There are 12 indicators included in this interactive data tool, presented to cover a range of topics across three domains:

2.3 Also included within the tool are:

- A summary table containing local authority and health board level data;
- An interpretation guide on how to use the tool;
- A technical guide explaining the data sources and methods used.

2.4 The indicators come from the following data sources: Census 2011, National Survey for Wales, and Department for Work and Pensions.

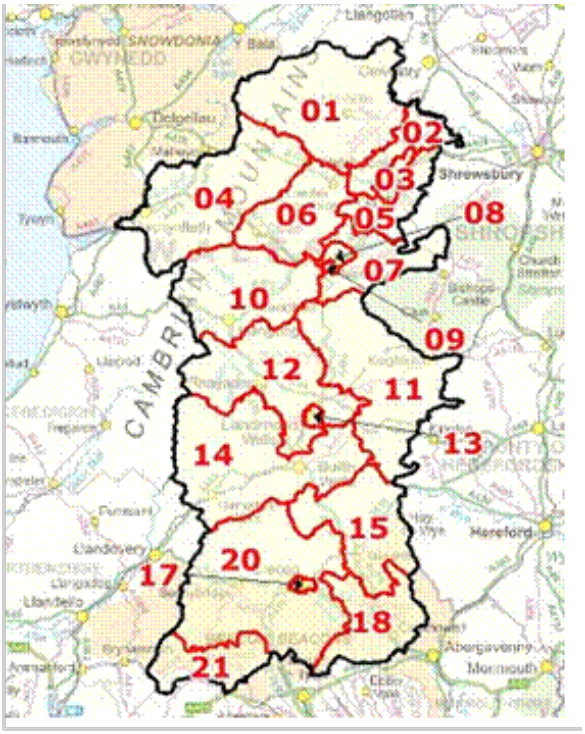
People:	**Community:**	**Structure:**
• Health	• Services	• Employment
• Education	• Family cohesion	• Open environment
• Financial well-being	• Neighbourhood satisfaction	• Built environment

Findings

2.5 Powys is divided into 21 MSOAs. These are illustrated in Figure 2.1, and vary in geographical size depending on the number of people resident in specific parts of the county.

2.6 In Figure 2.2, the results for two MSOAs are shown. These two MSOAs have been selected because they cover some of the most and least deprived parts of Powys. MSOA 003 includes deprived parts of the Welshpool/Newtown area, while 020 includes the more rural south-west of Powys. Taken together, they illustrate the extent of the divergence in health assets at local level in Powys.

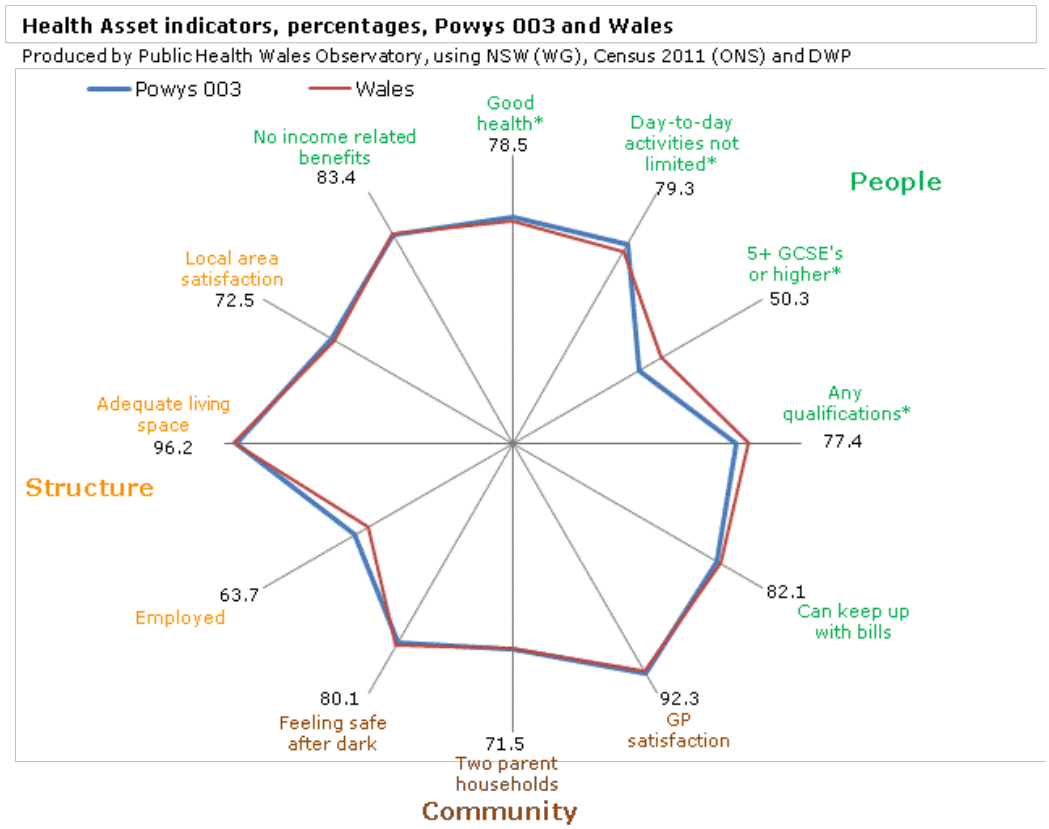
Figure 2.1: Map of Powys MSOAs.



Source: Public Health Wales

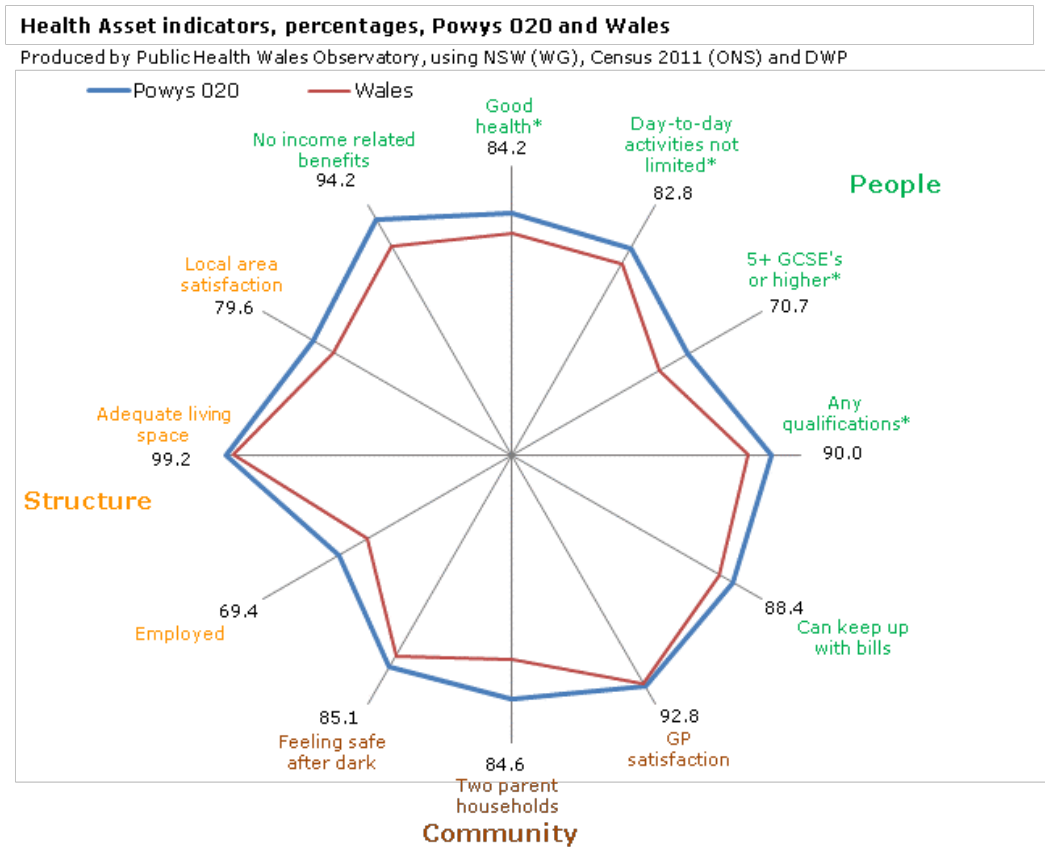
Figure 2.2: Health asset indicators, percentages, Powys MSOA 003 and 020.

MSOA 003



*These percentages are directly age-standardised using aggregated weightings from the 2013 European Standard Population.

MSOA 020



*These percentages are directly age-standardised using aggregated weightings from the 2013 European Standard Population.

Source: Public Health Wales

2.7 Taken together these two spider charts show the extent of the difference in health assets at small area level in Powys. Just glancing at the charts shows the variability in individual measures. In both cases the red line shows the Wales average, with lines closer the centre indicating less availability of a specific health asset. For most measures, the position in Powys is better than in Wales, with the exception of educational attainment (5+ GCSEs) in MSOA 003.

2.8 Table 2.1 compares the extent of the difference between each measure for the two MSOAs shown above. This shows that educational and training qualifications are perhaps the most widely divergent assets in Powys. Only around half the population in MSOA 003 have 5 or more GCSE's, while one in four have no qualifications at all. This contrasts with MSOA 020 where over 70% of the population have 5 or more GCSEs, and 90% of residents have at least one qualification. Family structure also differs, with two parent households less evident in MSOA 003. Possibly as a consequence of the difference in education and training, the proportion of the population claiming benefits also differs between the two MSOAs by almost 11%. At the opposite end of the scale, it is also worth recognising that GP satisfaction remains virtually unchanged across Powys, with consistently high satisfaction rates across all areas in Powys.

Table 2.1: Differences in health assets between MSOA 003 and 020.

Domain	Measure	MSOA 003	MSOA 020	Difference
People	No income related benefits	83.4	94.2	10.8%
	Good health	78.5	84.2	5.7%
	Day to day activities not limited	79.3	82.8	3.5%
	5+ GCSEs or higher	50.3	70.7	20.4%
	Any qualifications	77.4	90	12.6%
	Can keep up with bills	82.1	88.4	6.3%
Community	GP satisfaction	92.3	92.8	0.5%
	Two parent households	71.5	84.6	13.1%
	Feeling safe after dark	80.1	85.1	5%
Structure	Employed	63.7	69.4	5.7%
	Adequate living space	96.2	99.2	3%
	Local area satisfaction	72.5	79.6	7.1%

2.9 What the Health Assets Reporting Tool indicates is that Powys has a high prevalence of the assets required for resilient, self-reliant communities. This is almost universally the case, with good levels of provision relative to Wales, whether looking at people, community or structural assets. The only area where more attention may be required in some parts of Powys is in relation to education and training. Improving educational attainment in more deprived parts of Powys would provide for comprehensive coverage across all communities of the key assets for strong communities. Recommendation 2: The health assets with some of the widest disparities in Powys are education and training/qualifications. The Powys Local Service Board All Age Programme Board should consider the importance of education and training when setting new priorities for the Powys One Plan from 2017 onwards.

2ii. Our Healthy Future Indicators

www.wales.nhs.uk/sitesplus/922/page/83567

2.10 The strategic framework Our Healthy Future was launched by Welsh Government in 2009, with the aim of improving the health of the Wales population. It focused on 6 action areas and 10 priority outcomes as a way to structure thinking and planning. More information is available from Welsh Government at:

http://gov.wales/topics/health/cmo/healthy

Table 2.2: Our Healthy Future actions and outcomes.

Action areas:	Priority outcomes:
1. Health and wellbeing throughout life. 2. Healthy sustainable communities. 3. Reduced inequities in health. 4. Prevention and early intervention. 5. Health as a shared goal. 6. Strengthening evidence and monitoring progress.	1. Reducing inequities in health. 2. Reducing the level of smoking. 3. Increasing physical activity. 4. Reducing unhealthy eating. 5. Stopping the growing harm from alcohol and drugs. 6. Reducing the number of teenage pregnancies. 7. Improving health in the workplace. 8. Increasing immunisation rates. 9. Improving people's mental wellbeing. 10. Reducing the number of accidents and injuries.

2.11 In 2013, the Public Health Wales Observatory published a set of indicators to monitor progress against the framework's priorities. The topics covered include smoking, obesity, alcohol and health inequalities. Since 2013, the indicators have been updated to use the latest available data. The baseline figures have also been amended to account for changes in population estimates and the European standard population. The new information is available via an interactive file or a set of PowerPoint slides. A technical guide is also available which describes the methods used to produce the new indicators.

2.12 It is anticipated that these indicators will be superseded in 2016 by the Public Health Outcomes Framework. This will support the Wellbeing of Future Generations Act by setting out a vision for public health, desired outcomes and a wider set of indicators that will help in understanding how well public health is being improved and protected across Wales.

Recommendation 3: Many of the indicators included in Our Healthy Future remain important measures of health and wellbeing locally and nationally. Efforts should be made as part of the consultation on the Public Health Outcomes Framework to ensure that these measures form part of the final set of indicators.

2.13 An indicator was proposed and agreed by Directors of Public Health, Welsh Government and Public Health Wales Observatory as part of Our Healthy Futures for each of the priority outcomes, with the exception of:

- reducing inequities in health which has two indicators;
- one additional indicator (percentage obese or overweight) covering both physical activity and unhealthy eating.

2.14 The ten priority outcomes and their associated indicator(s) are listed in Table 2.3.

Table 2.3: Our Healthy Future outcomes and indicators.

Priority outcome	Indicator(s)
Reducing inequities in health	Slope index of inequality (SII) for healthy life expectancy at birth (national) SII for life expectancy at birth (local)
Improving people's mental well-being	Proportion of population free from a common mental disorder (as measured by a Mental Health Inventory 5 (MHI-5) score of > 60)
Improving health in the workplace	Gap between the employment rate for those with a long-term health condition and the overall employment rate (age 16-64)
Reducing the level of smoking	Proportion of adults who smoke age 16+ (age-standardised)
Increasing physical activity	Average number of days with 30 minutes moderate or vigorous physical activity, age 16+ (age-standardised, up to maximum of five days). Proportion of adults overweight or obese (body mass index ≥ 25)
Reducing unhealthy eating	Proportion of adults eating five portions of fruit and vegetables per day (age-standardised) Proportion of adults overweight or obese - body mass index ≥ 25 (age-standardised)
Stopping the growing harm from alcohol and drugs	Rate of alcohol-specific admissions to hospital per 100,000 population (age-standardised)
Reducing the number of teenage pregnancies	Rate of conceptions among females aged under 18
Reducing the number of accidents and injuries	Rate of hip fracture admissions to hospital per 100,000 population, age 65 and above (age-standardised rate)
Increasing immunisation rates	Uptake of scheduled childhood vaccinations at age 4

Findings

2.15 The Our Healthy Future tool is an Excel based file that allows changes in the indicators listed above to be compared by health board and by local authority area. The most common time period for measuring changes is 2009/10 to 2013/14, i.e. a four year period. For some of the indicators it is possible to look at values for males and females individually, and each indicator shows values for all health boards (or local authorities) and the Wales average. A screenshot of one of the indicators is shown below to illustrate how the tool visualises the data in each case.

Figure 2.3: Our Healthy Future tool screenshot.

2.16 We have used the tool published by the Observatory to produce a summary table allowing all of the information for Powys to be displayed together (Table 2.4). This shows how each indicator has changed over time in Powys, similarly showing the direction of change in Wales over the same time period.

2.17 Arrows are used in Table 2.4 below to show the direction of change between the two periods used for each indicator. An arrow pointing upwards indicates and increasing trend, whereas an arrow pointing down indicates a reduction. The colour of the arrow shows whether the direction of travel is a positive or negative change in terms of what the indicator is measuring for Powys.

Table 2.4: Our Healthy Future indicator trends.

Indicator	Change (Powys)	Change (Wales)
Inequality gap in life expectancy (males)		No change
Inequality gap in life expectancy (females)		
Proportion of adult population free from a common mental disorder		No change
Proportion of adults who smoke age 16+yrs		
Average number of days with 30 minutes moderate or vigorous physical activity, age 16+yrs	No change	
Proportion of adults eating five portions of fruit and vegetables per day		
Proportion of adults overweight or obese		
Rate of alcohol-specific admissions to hospital		
Rate of conceptions among females aged under 18yrs		
Rate of hip fracture admissions to hospital		
Uptake of scheduled childhood vaccinations at age 4yrs		
Gap between the employment rate for those with a long-term health condition and the overall employment rate	No baseline	No baseline

2.18 There are some positive trends displayed in Table 2.4. The rate of teenage conceptions has shown a marked decline, with 23 fewer teenage conceptions in 2013 compared with 2010 in Powys. The rate of childhood vaccinations has also shown positive improvement, with a 6% increase in vaccination uptake at age 4yrs.

2.19 There are two other indicators where the position in Powys warrants specific mention. The first is the rate of alcohol-specific admissions to hospital. In 2010 there were 217 admissions per 100,000 pop (n=286), while in 2013 there were 238 admissions per 100,000 pop (n=321), an average increase of 12 admissions per year. Although it is reassuring that Powys still exhibits the lowest rate of admission relative to all other health boards in Wales, the sharp rate of increase means that this gap is diminishing over time.

2.20 The second indicator which has shown a relative deterioration in Powys when compared with Wales is the rate of hip fracture admissions to hospital. In Wales as a whole there has been a reduction in the rate of admission during 2010 to 2013, whereas admissions in Powys have risen. There were 190 admissions among 65+yr olds in 2013, compared to just 172 in 2010. The rates used in this indicator are age standardised to account for changes in the age structure of different populations over time and across the different health boards. The rate of admission in 2013 was still lower than the average for Wales, but again the gap is beginning to diminish as performance diverges.

2iii. Welsh Health Survey Lifestyle Trends

www.wales.nhs.uk/sitesplus/922/page/82563

2.21 The Welsh Health Survey provides unique information about the health and health-related lifestyles of people living in Wales5. It presents a picture of the health of the Welsh population, variations between sub-groups and areas, and changes over time, and makes an important contribution to informing and monitoring public health strategy in Wales.

2.22 The Welsh Health Survey (WHS) covers a range of health-related issues, including health status, lifestyle and health behaviours, and health service use. The survey was established in 2003 and runs all year round. Results are published annually by Welsh Government.

2.23 The survey is based on a representative sample of people living in private households in Wales, selected using a random sample from the Post Office's Postcode Address File – an up to date list of all addresses maintained by the UK Post Office. The sample is stratified by local authority. The survey collects information on households (through a short interview) and on individuals (through a self-completion questionnaire). At each household, all adults and a maximum of two children are eligible for inclusion in the survey.

2.24 Public Health Wales have developed a tool based on data from the Welsh Health Survey from 2003/04 to 2014. It focuses on a suite of indicators covering smoking habits, alcohol consumption, fruit and vegetable consumption, physical activity levels and levels of overweight and obesity. The indicators are available at local authority and health board level and can be compared to Wales for males, females or persons. For this section of the Public Health Annual Report the four key behaviours of smoking, physical activity, diet and alcohol consumption have been chosen for analysis.

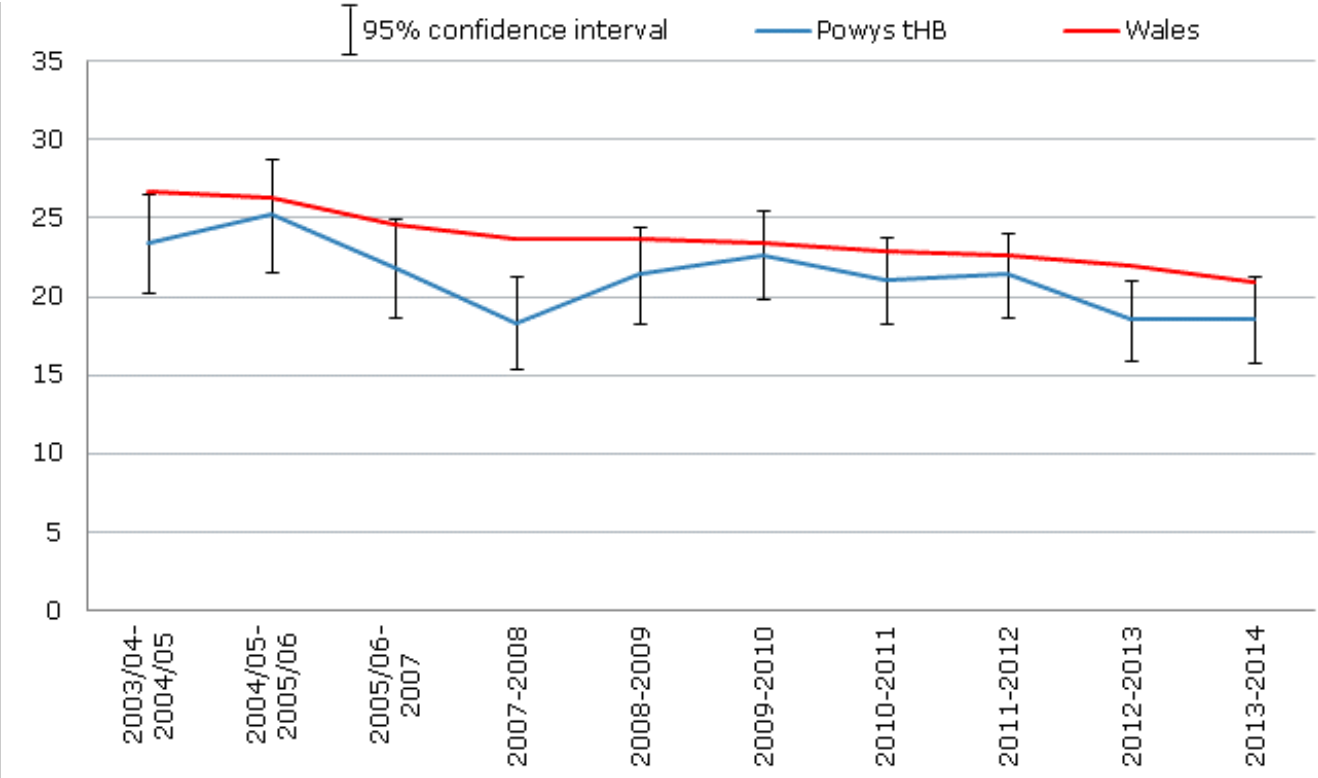
Findings:

Smoking

2.25 Over a ten year period, the proportion of the Powys adult population reporting that they smoke has declined by 4%. The most recent findings from the Welsh Health Survey indicates that around 19% of the adult population are current smokers, i.e. smoke daily or occasionally. There is little significant difference between genders in Powys, although smoking among females is generally lower than that for men (data not shown). This suggests that there are just over 21,000 adults who are current smokers in Powys.

2.26 The smoking rate in Powys has consistently been below the Wales average, although this difference has rarely been statistically significant in any of the years surveyed. The rate of decline in smoking has been slightly greater for males than for females over the ten year period.

Figure 2.4: Percentage of adults reporting to be a current smoker, age standardised percentage, persons, 2003/04-2014.



Source: Public Health Wales Observatory, using Welsh Health Survey.

2.27 Welsh Government has set a target to reduce smoking prevalence to 20% by 2016 and to 16% by 2020. Using the data shown in Figure 2.4 and projecting forwards suggests that both of these smoking prevalence targets could be achieved in Powys. A warning does need to be attached to this extrapolation however due to the statistical uncertainty inherent in this type of analysis, and continued effort still needs to be devoted to preventing new smokers from starting and to helping existing smokers to quit successfully.

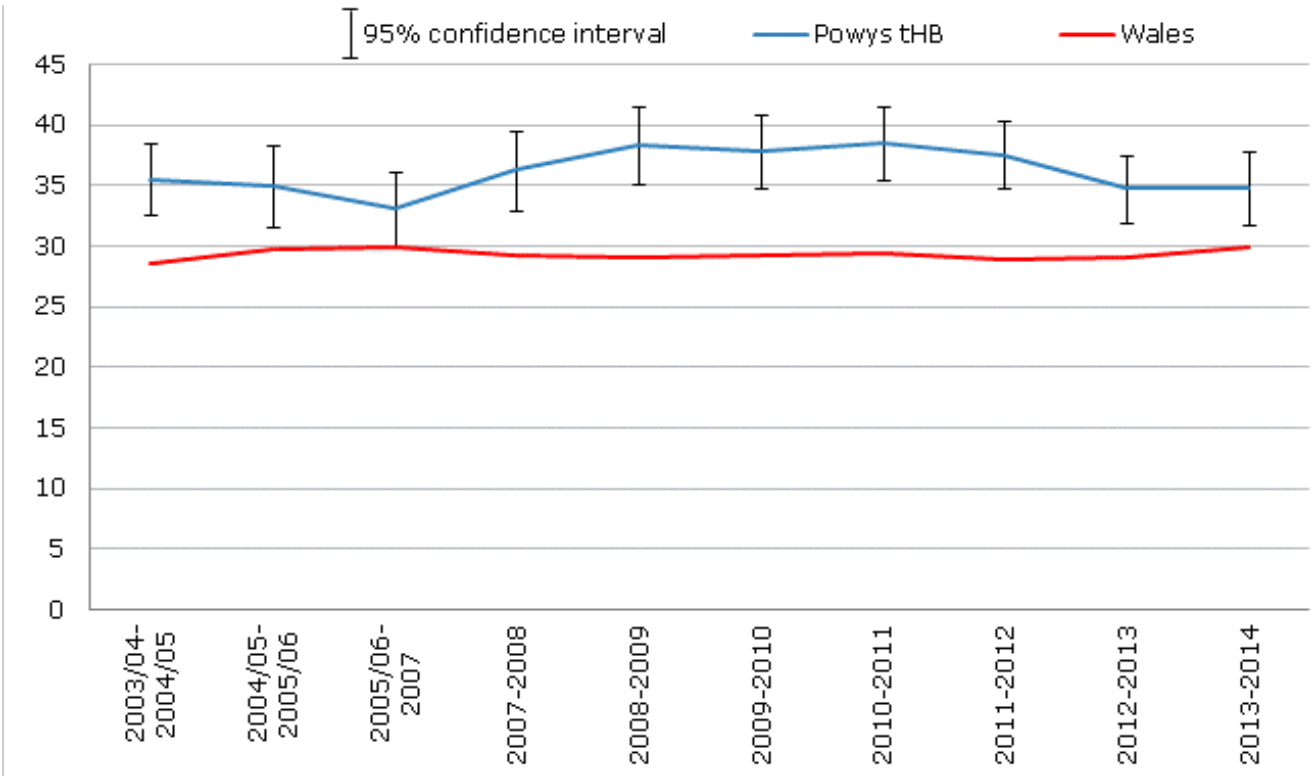
If smokers do want to quit they can either contact Stop Smoking Wales or visit their local community pharmacy providing stop smoking services. Stop Smoking Wales can be contacted on 0800 085 2219 or by visiting *www.stopsmokingwales.com*

Smoking is a major killer in Wales

Physical activity

2.28 The adult population in Powys consistently demonstrates relatively high levels of physical activity relative to other Health Boards. Figure 2.5 shows that around 1 in 3 adults are currently active on 5 or more days each week. This is almost 10% higher than the Wales average and a consistently positive finding. The definition of physical activity is wide and will include time spent walking as well time spent undertaking moderate or vigorous levels of aerobic activity, e.g. running, cycling or going to a gym. It will include physical activity undertaken as part of a job, as well as activities undertaken for leisure or social purposes.

Figure 2.5: Percentage of adults reporting to be physically active on 5+ days a week, age standardised percentage, persons, 2003/04-2014.



Source: Public Health Wales Observatory, using Welsh Health Survey.

2.29 What Figure 2.5 does mask is the wide divide in physical activity among men and women in Powys. In 2013-14, 45% of men reported being physically active on 5 or more days a week compared to just 25% of women. This means there is currently a 20% difference in rates of regular physical activity among men and women in Powys. In addition, the rate among women has also declined slightly over the 10 year period, whereas for men it has increased slightly. Some of the difference between genders will be attributable to differences in employment, however, greater opportunity for women to participate in regular exercise should be considered as an area of future action.

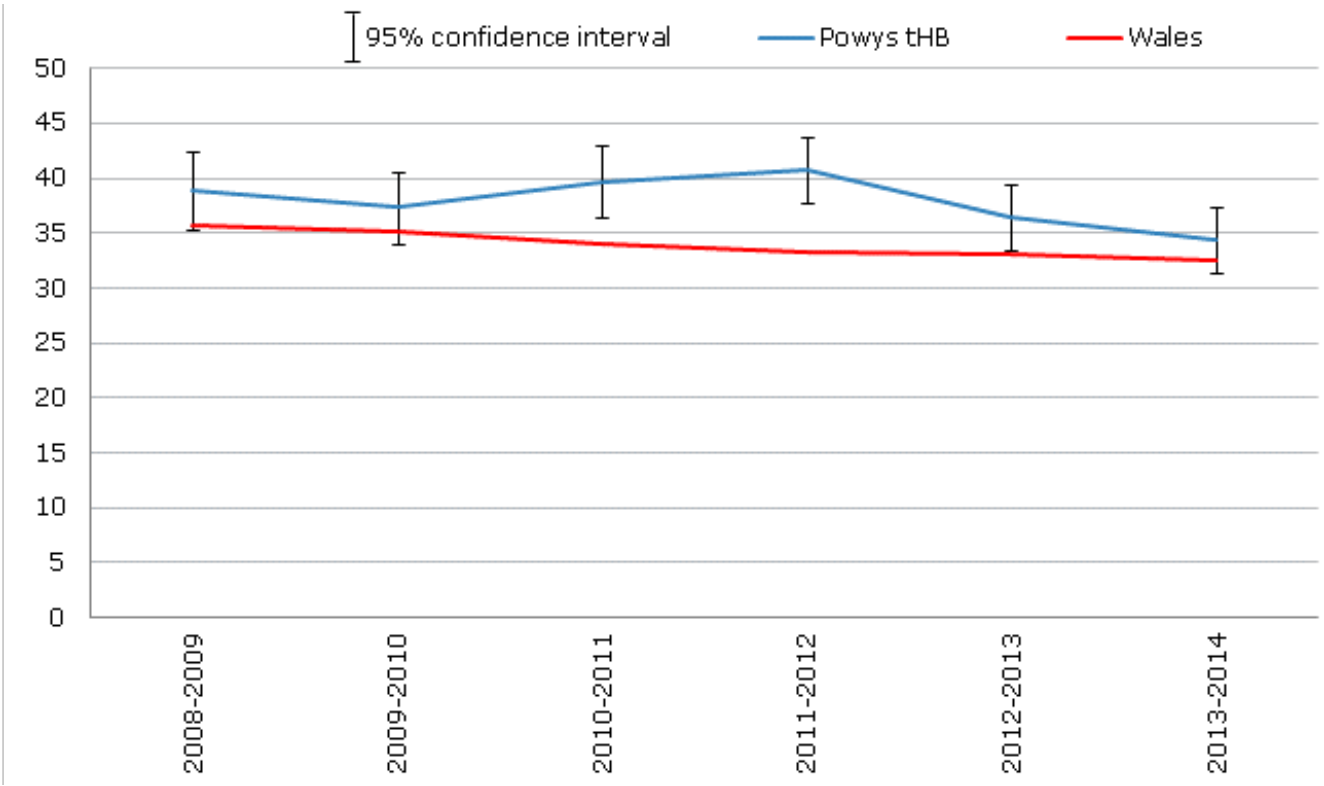
Physical activity helps us stay healthy

Diet

2.30 Fruit and vegetables are part of a balanced diet and can help everyone to stay healthy. The 5 portions of fruit and vegetables a day message highlights the health benefits of getting five 80g portions of fruit and vegetables every day. The principle of 5 a day is based on advice from the World Health Organization, which recommends eating a minimum of 400g of fruit and vegetables a day to lower the risk of serious health problems, such as heart disease, stroke, type 2 diabetes and obesity. For further information on the benefits of eating 5 portions of fruit and vegetables a day go to: *http://change4lifewales.org.uk/families/5day/?lang=en*.

2.31 Figure 2.6 shows trends in the level of consumption of 5 portions of fruit and vegetables in Powys and Wales over a 6 year period. In the most recent year for which figures are available from the Welsh Health Survey, the rate of consumption was not significantly different to Wales as a whole. It is a particular concern that progress between 2009-10 to 2011-12 may be being lost in recent years. However, the reasons for this are unclear, and wide confidence intervals mean that it is difficult to ascertain the reliability of this trend.

Figure 2.6: Percentage of adults reporting eating 5 portions of fruit/vegetables the previous day, age standardised percentage, persons, 2008-2014.



Source: Public Health Wales Observatory, using Welsh Health Survey.

Healthy eating is key to reducing risk

2.32 The decline in regular fruit and vegetable consumption has been most marked among males where daily consumption has dropped from 40% to 32% in two years. This suggests that only around 1 in 3 men regularly consume recommended amounts of fresh fruit and vegetables each day.

Alcohol

2.33 New alcohol guidelines have recently been issued by the UK Chief Medical Officers. The new guidelines are:

On regular drinking (new weekly guideline for men and women):

- **You are safest not to drink regularly more than 14 units per week, to keep health risks from drinking alcohol to a low level.**
- **If you do drink as much as 14 units per week, it is best to spread this evenly over 3 days or more. If you have one or two heavy drinking sessions, you increase your risks of death from long term illnesses and from accidents and injuries.**
- **The risk of developing a range of illnesses (including, for example, cancers of the mouth, throat and breast) increases with any amount you drink on a regular basis.**
- **If you wish to cut down the amount you're drinking, a good way to help achieve this is to have several drink-free days each week.**

On single drinking episodes:

- **Limit the total amount of alcohol you drink on any occasion.**
- **Drink more slowly, drinking with food, and alternating with water.**
- **Avoid risky places and activities, making sure you have people you know around, and ensuring you can get home safely.**
- **Some groups of people are likely to be affected more by alcohol and should be more careful of their level of drinking on any one occasion:**
  - **young adults**
  - **older people**
  - **those with low body weight**
  - **those with other health problems**
  - **those on medicines or other drugs**
- **As well as the risk of accident and injury, drinking alcohol regularly is linked to long term risks such as heart disease, cancer, liver disease, and epilepsy.**

On pregnancy and drinking:

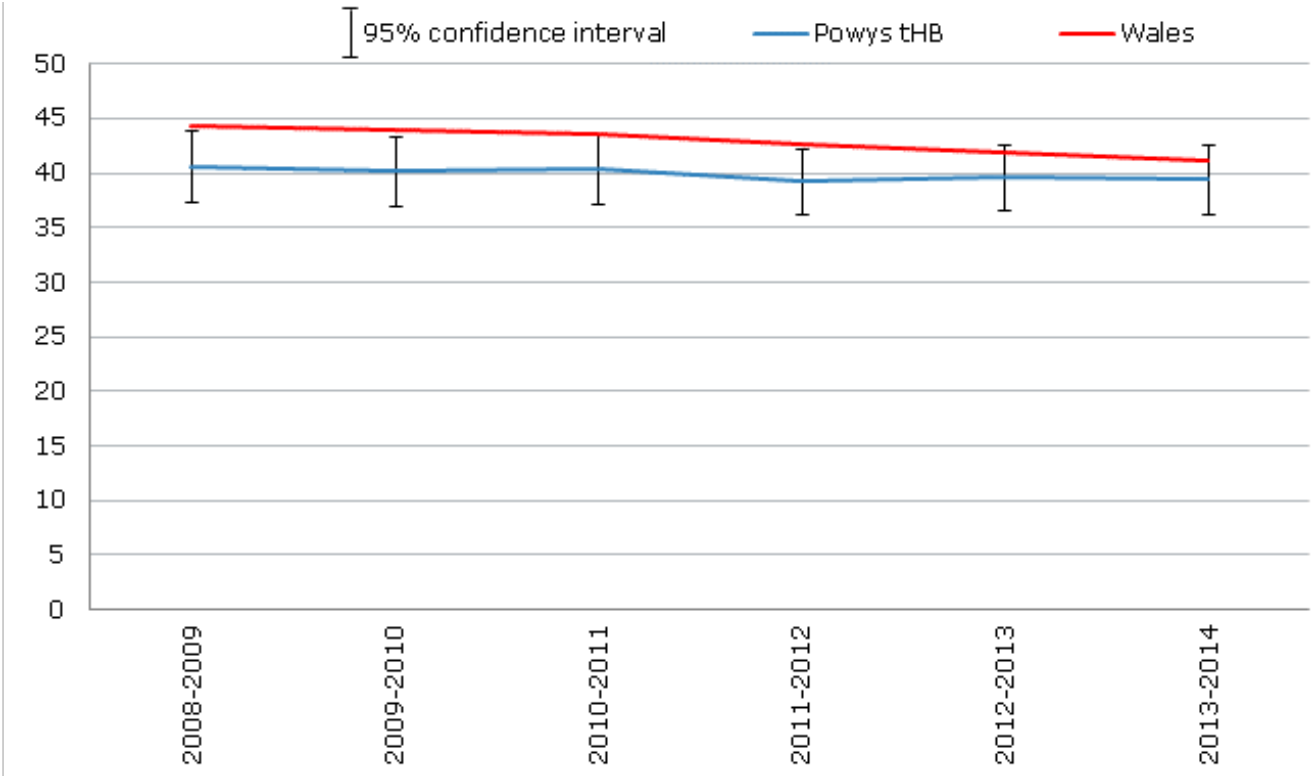
- **If you are pregnant or planning a pregnancy, the safest approach is not to drink alcohol at all, to keep risks to your baby to a minimum.**
- **Drinking in pregnancy can lead to long-term harm to the baby, with the more you drink the greater the risk.**

2.34 Because the new guidelines have only recently been issued, comments in the rest of this section are based on previous guidelines. These were no more than 14 units of alcohol a week for women and 21 units for men. Previous guidelines also recommended one or two days each week where no alcohol was consumed. For reference a standard (175ml) glass of wine or a pint of regular strength beer (ABV 4%) are approximately 2.3 units each.

2.35 Figure 2.7 shows the annual proportion of adults whose self-reported

drinking was above guideline amounts on at least one day a week prior to being surveyed. The data covers a 6 year time period.

Figure 2.7: Percentage of adults reporting drinking above guidelines on a day in the past week, age standardised percentage, persons, 2008-2014.



Source: Public Health Wales Observatory, using Welsh Health Survey.

2.36 Rates of excess drinking have generally been lower in Powys than in Wales, but the rates have tended not to be significantly different. This means that adults in Powys may display levels of excess drinking equivalent to elsewhere in Wales. Currently around 4 in 10 adults responding to the Welsh Health Survey reported drinking above guideline amounts on at least one day a week. This figure has remained virtually unchanged in Powys over the 6 year period. It should be recognised that this information is self-reported, and may mean that this figure is an underestimate of the true prevalence of excess drinking among adults.

2.37 Rates of 'binge drinking', i.e. consuming 8 or more units in a single session for men and 6 or more for women, and 'very heavy drinking', i.e. men drinking more than 12 units and women drinking more than 9 units on their heaviest drinking day, have shown a more positive trend. Rates of binge drinking have declined from 25% to 22% over 6 years, while rates of very heavy drinking have declined from 14% to 12%. There is a wide gender gap in relation to binge drinking, with 28% adult men reporting that they binge drink compared to just 17% of women. In numerical terms, approximately 24,367 adults will be binge drinking in Powys, and there will be nearly 13,300 very heavy drinkers.

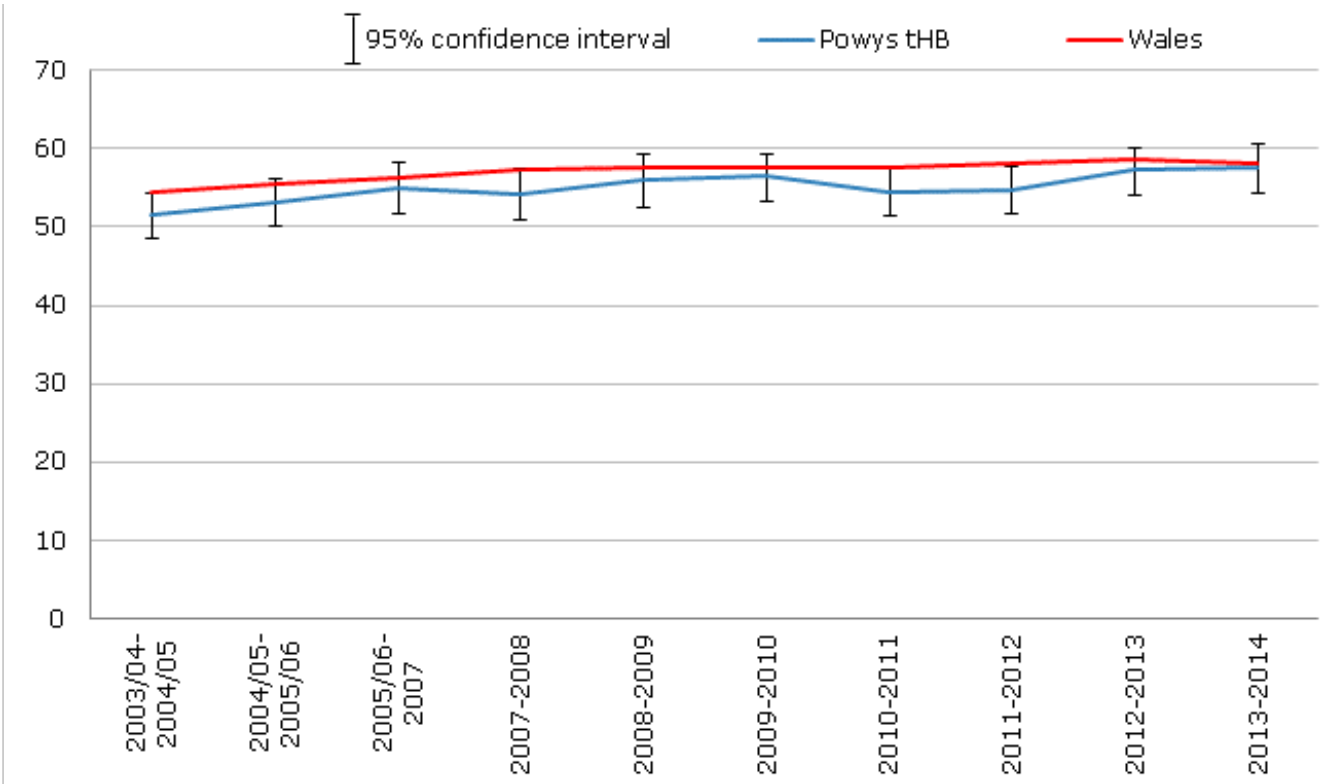
2.38 Alcohol harms health through three mechanisms: acute intoxicating effects occurring after a binge, chronic toxic effects following prolonged periods of drinking at harmful levels, and a propensity for addiction leading to physical and psychological dependency. The immediate intoxicating effects of alcohol - reduced inhibitions, impaired judgement, slurred speech, and nausea/vomiting, for example - can lead to injury, acute poisoning suffocation and heart attack. The effect of longer-term alcohol misuse, despite their serious and potentially deadly nature, may remain undetected. Alcohol is linked to more than 60 different medical conditions, including liver disease, cancer, osteoporosis, stomach ulcers, raised blood pressure, stroke and dementia.

Overweight/obesity

2.39 Diet, exercise, and alcohol are all key contributors to overweight/obesity. Taking steps to tackle overweight/obesity are important because, in addition to causing obvious physical changes, excess weight can lead to a number of serious and potentially life-threatening conditions. These include diabetes, coronary heart disease, breast/bowel cancer, and stroke. Obesity can also affect quality of life and lead to psychological problems, such as low self-esteem and depression.

2.40 Overweight/obesity is defined as a body mass index of 25 or more. Figure 2.8 shows how the rate of self-reported adult overweight/obesity has changed in Powys over a 10 year period. It is clear that the rate in Powys has shown a gradual increase over the period surveyed, rising from 52% in 2003/04-2004/05 to 58% in 2013/14, i.e. nearly 6 in every 10 adults are overweight or obese in Powys. This is consistent with trends in the rate for Wales as a whole. In the past ten years an additional 5% of adults have become overweight or obese. Recommendation 4: Almost sixty percent of the adult population are now overweight or obese in Powys. Promoting healthy weight must remain a priority, and the existing "Healthy Weight" strategy for Powys should be reviewed to ensure it remains evidence based and comprehensive in its approach. An investigation into the declining rate of consumption of 5 portions of fruit and vegetables a day in Powys should addressed as part of the review.

Figure 2.8: Percentage of adults reporting to be overweight or obese, age standardised percentage, persons, 2003/04-2014.



Source: Public Health Wales Observatory, using Welsh Health Survey.

2.41 Looking at the trend line for Powys it appears that some progress may have been made between 2010-12 to stem the rise in overweight/obesity, but that this progress may have been lost in more recent years. Again, however, the difference in the rate(s) does not reach the level of statistical significance and this pattern could be due to random fluctuation. As such, no firm conclusions can be drawn about the changing rate in overweight/obesity in Powys across the time period shown in Figure 2.8.

Chapter 3: The Early Months

Key Messages:

- **Powys recorded just 3.3% of all registered births in Wales in 2014.**
- **The rate of increase in registered births in Powys has shown a declining trend since 2007.**
- **Powys has a lower rate of preterm births than in Wales.**
- **Stillbirths, perinatal, neonatal and infant deaths all show patterns indicative of a small number of events.**
- **The rate of congenital abnormalities has shown a fall since 1999 – although this may be subject to change due to delayed reporting.**

Introduction

3.0 The first 1,000 days of life - from conception to 2 years of age, is perhaps the most vital period in human development. It is the period during which the physical and neurological building blocks are laid down which will carry a person through the rest of their life. This is a critical period for both mother and child, and one where it is important that everything is done to promote and maintain good health.

3.1 In this chapter, the findings from the All Wales Perinatal Survey (AWPS) and the Congenital Anomaly Register (CARIS) will be discussed. The All Wales Perinatal Survey is carried out by Cardiff University while the Congenital Anomaly Register is produced by Public Health Wales. Taken together, both publications cover the period prior to birth when complications in pregnancy can first appear, up to approximately the first year of life. Both the AWPS and CARIS provide information that is fundamentally concerned with the prudent healthcare principle of reducing inappropriate variation. They show data for Powys and Wales, which enables differences to be highlighted and promotes discussion about the acceptability of findings. A consideration of the findings of this chapter also helps to demonstrate compliance with the prudent healthcare principle of 'do only what is needed and do no harm'.

3i. All Wales Perinatal Survey Annual Report

https://awpsonline.uk

3.2 The All Wales Perinatal Survey (AWPS) began in 1993 as a continuous survey of perinatal mortality (stillbirths and death in the first week of life) and infant mortality (deaths in the first year following live birth). It is funded by Welsh Government. The AWPS aims to improve understanding of the ways in which the risk of death in late fetal life and infancy may be reduced by:

- collecting data on all babies who die in Wales from 20 weeks of pregnancy to 1 year of age;
- describing differences in death rates between different areas of Wales;
- describing unrecognised differences in the cause of death.

3.3 The 2014 Annual Report covers post neonatal deaths (deaths at ages 28 days and over but under one year) and infant deaths (deaths at ages under 1 year) for infants born in 2013.

3.4 The report contains data on stillbirths and infant deaths in the seven health boards in Wales and by individual hospitals. The majority of the mortality rates are presented unadjusted for variables known to influence mortality rates such as social deprivation and case mix, therefore caution is required when interpreting the findings. Any increase noted in the mortality rates, either at health board level or at individual hospital level needs further exploration. MBRRACE-UK (Mothers and Babies: Reducing Risk through Audits and Confidential Enquiries across the UK) recommend that local reviews should be carried out where stabilised and adjusted stillbirth, neonatal or extended perinatal rates fall in the red band, (more than 10% higher than the UK average). For the first time, the 2014 report does attempt to present some of the findings for the seven health boards adjusted for the available variables known to influence mortality rates, i.e. maternal age, deprivation quintile, multiple births, gestation and gender.

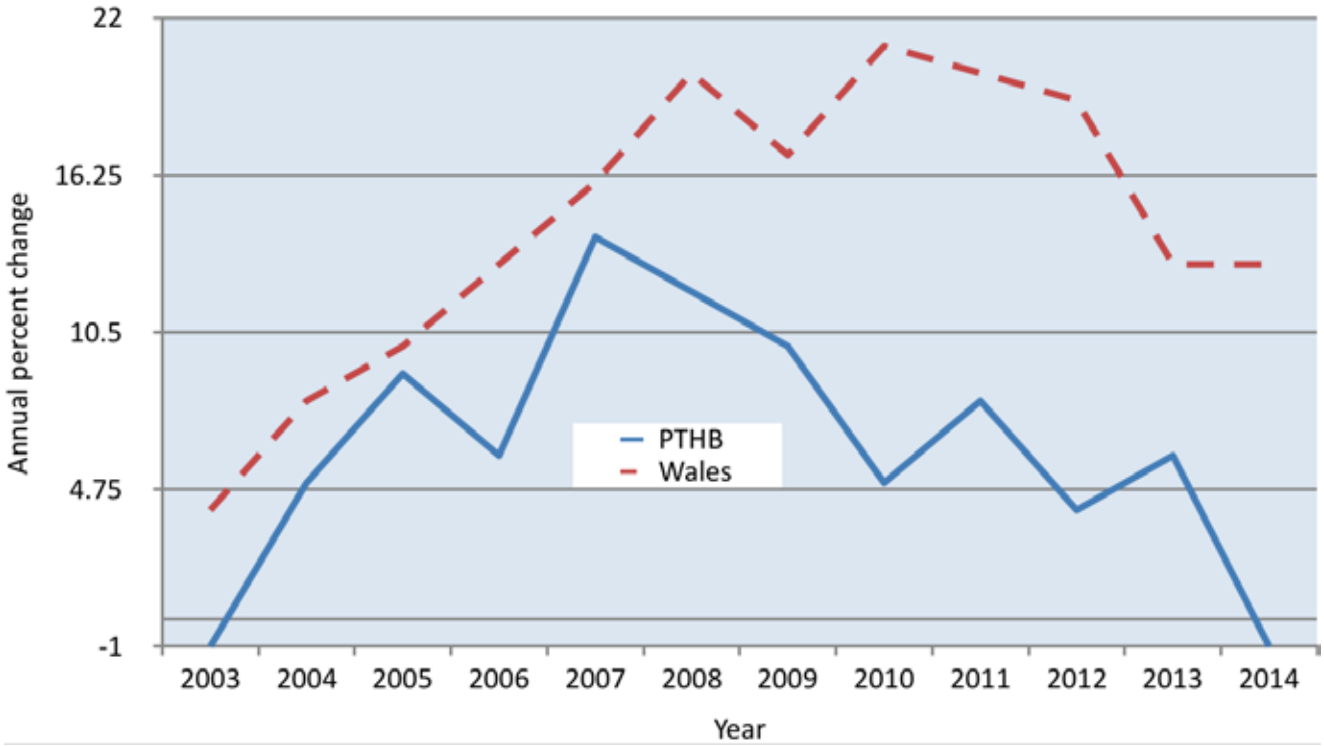
3.5 It is important to note that the findings are based on data for women resident in Wales only. The details for women who are registered with a Powys GP but who live in England are not collected as part of the AWPS. This may lead to an apparent underreporting of some of the statistics quoted in this chapter when comparing against data for a registered patient population.

Findings

Birth statistics

3.6 There were 1,126 registered births in 2014 among women resident in Powys. This represents just 3.3% of all registered births in Wales in 2014. Figure 3.1 shows the change in birth registrations each year between 2003-2014 in both Powys and Wales. During the period 2003-2007 the rate of new birth registrations among women resident in Powys showed an increasing trend, however, this pattern then reversed between 2007-2014. In 2014, the rate of registered births showed a decrease of -1% when compared with the 2013 rate, i.e. the same annual rate as in 2003.

Figure 3.1: Percentage change in registrable births since 2002, PTHB and Wales.

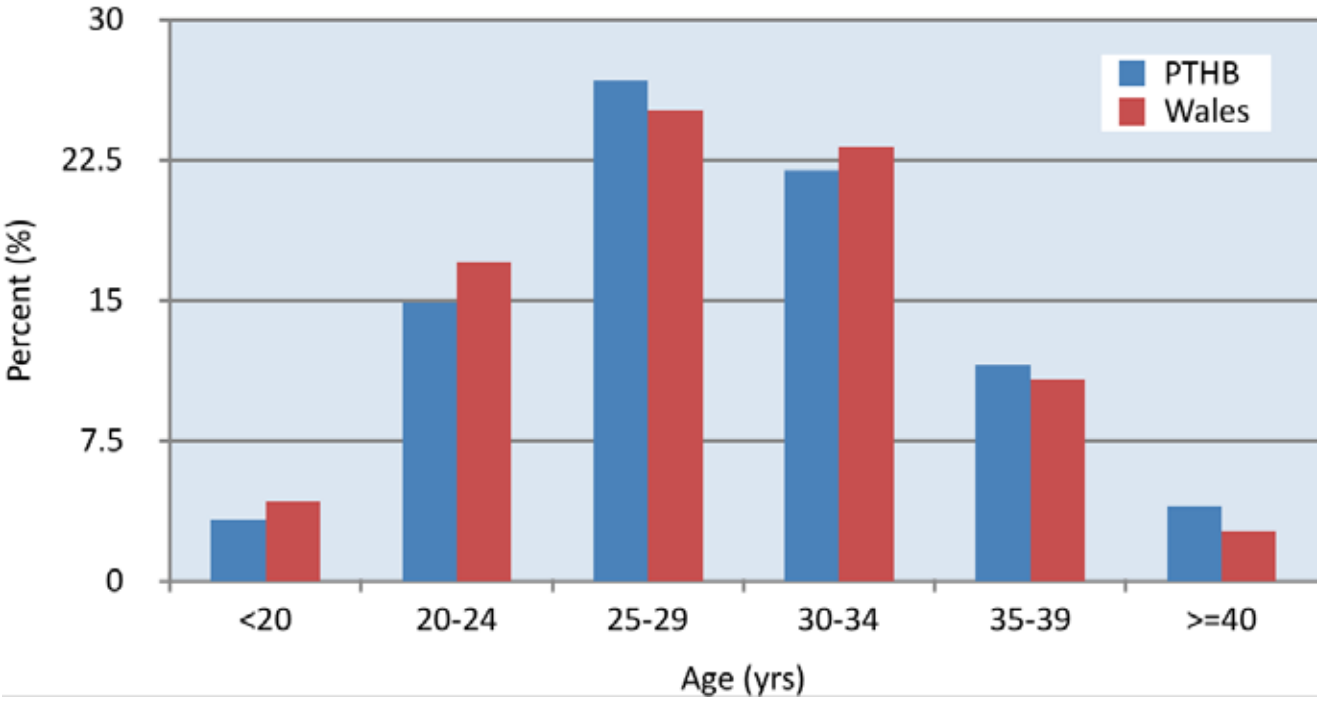


Source: All Wales Perinatal Survey

3.7 The pattern of registered births in Wales differs to Powys. There was a strong increase in the rate of registered births in Wales which was sustained up to 2010. Wales had both a yearly rate of increase that was higher than in Powys, and a rate that was sustained for longer during the 2000s. The rate of decline in the annual increase has also been more moderate, such that in 2014 there were still 13% more births than in 2013. This is an important finding generally because of the impact that a lowering of the birth rate has on demography. A lower rate of births in Powys relative to elsewhere will have the effect of further skewing the age distribution of the population towards the older age range. Ultimately, fewer births also means fewer working age adults entering the population in future years. This has important implications for health, welfare and also the economy as a whole.

3.8 The age at which mothers give birth in Powys is similar to Wales as a whole. Figure 3.2 shows that births peak in the 25-29yr age group, with approximately 1 in 4 births occurring to women in this age range. Just 4% of births occurred among women aged 40+yrs, and 3.29% occurred among women less than 20yrs of age.

Figure 3.2: Maternal age characteristics of births in 2014, PTHB and Wales.



Source: All Wales Perinatal Survey

3.9 Over the period 2010-14 the rate of preterm (less than 37 weeks gestation) births in Powys was 6.55% (388 births), below the Wales average of 7.34%. Very preterm birth rates (less than 28 weeks gestation) averaged just 0.42% of all registered births in Powys between 2010-14. This was again lower than the Wales average.

3.10 A number of risk factors are known to contribute to preterm births such as in-vitro fertilisation, multiple pregnancies, and maternal weight. Smoking in pregnancy is also a risk factor for preterm birth and for low birthweight. The risk of preterm delivery, especially very preterm delivery, has been linked to maternal obesity during pregnancy. Cnattingius6 noted that the risk of spontaneous extremely preterm delivery increased with BMI among obese women (BMI > or equal to 30) and that the risks of medically indicated preterm deliveries increased with BMI among overweight and obese women. Welsh data on maternal weight is not currently accurately collected, therefore is not reported. The Powys midwifery service does collect body mass index (BMI) data on all bookings and this information is available locally.

3.11 Improvements in perinatal care, antenatal steroids, surfactant therapy and advances in neonatal care have all resulted in improved outcome of very preterm infants. In Wales the survival figures compare with UK and international figures7-9.

3.12 The most significant improvement has been observed in infants born at 24 and 25 weeks gestation. In Wales in 1994 survival up to one year was 19% at 24 weeks and 46% at 25 weeks gestation10. In 2013 survival up to one year after a live birth was 58.6% at 24 weeks and 66.7% at 25 weeks gestation. Survivors up to one year after a live birth for 2014 will be published in next year's AWPS annual report.

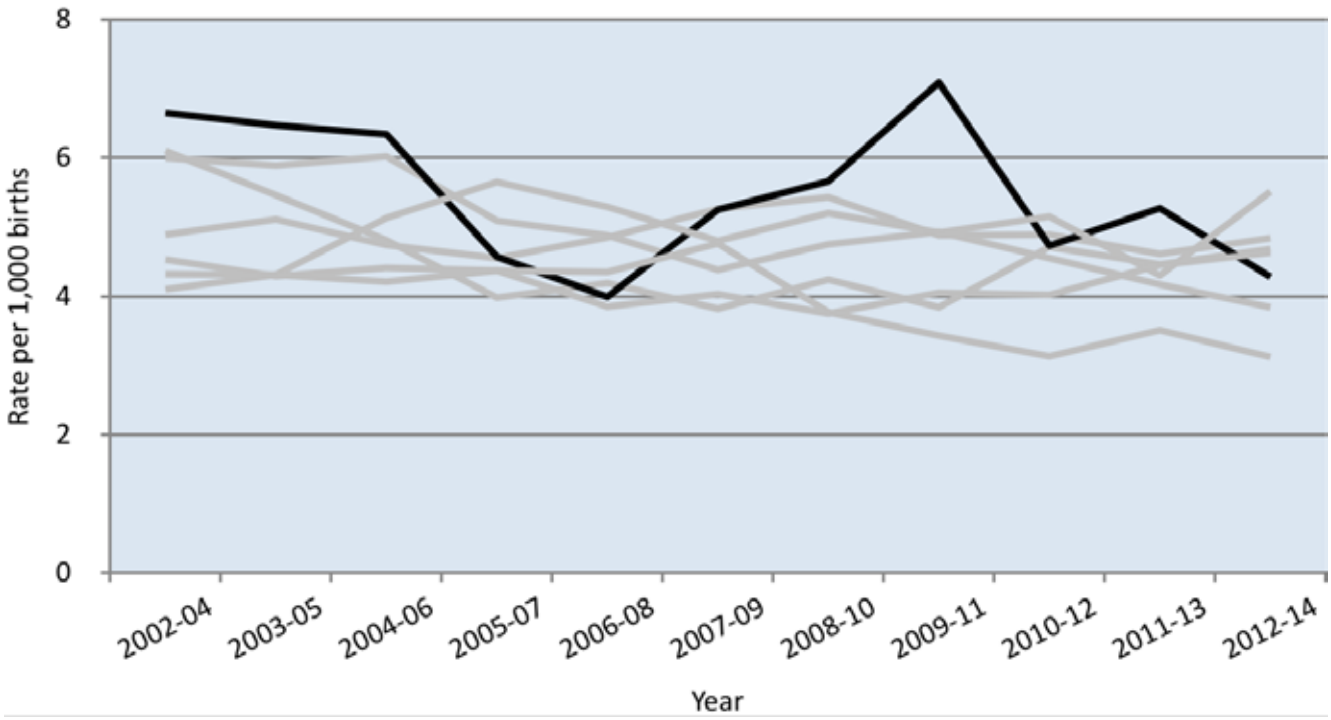
3.13 Throughout the rest of this section it must be stressed that the patterns described are based on small numbers of actual events. Even when adding together data over a number of years, the total number of events remains very small. A lack of confidence intervals also means that the level of uncertainty attached to these findings is difficult to demonstrate.

For these reasons, the relative positions and trends need to be interpreted with caution.

Stillbirths

3.14 In the UK, stillbirth is defined as late fetal death from 24 weeks gestation. Figure 3.3 shows the trend in the stillbirth rate in Powys between 2002 and 2014. The Powys rate is again shown as a black line. N.B. It should be remembered that the Powys rate is based on the mother's place of residence, and that some episodes of maternity care may have been out of county.

Figure 3.3: Stillbirths (excluding late terminations), 3-year rolling rates per 1,000 registered births, 2002-14.



Source: All Wales Perinatal Survey

3.15 It is apparent from looking at Figure 3.3 that the stillbirth rate has risen and declined over the time period included in the analysis. However, the actual number of stillbirths has remained low, for example the stillbirth rate in 2014 was 4.44 per 1,000 registered births which equates to just 5 stillbirths. Nevertheless, each and every case remains a traumatic event, and every effort should be made to keep the number of cases as low as possible.

3.16 The authors state that in 42% of stillbirths in Wales the cause of death was recorded as unknown and 15% had missing cause of death data.

3.17 In those cases where a cause is recorded, intrapartum and placenta were leading causes of stillbirth. When the placenta category was broken down further, abruption or retroplacental haematoma were leading causes of death. When the intrapartum category was broken down further, cord and placenta complications were leading causes of death. It is also important to note that stillbirth rates are persistently higher in the most deprived quintile of the population in Wales. This is a pattern likely to be present in Powys, although the low number of events means that it is extremely difficult to confirm this.

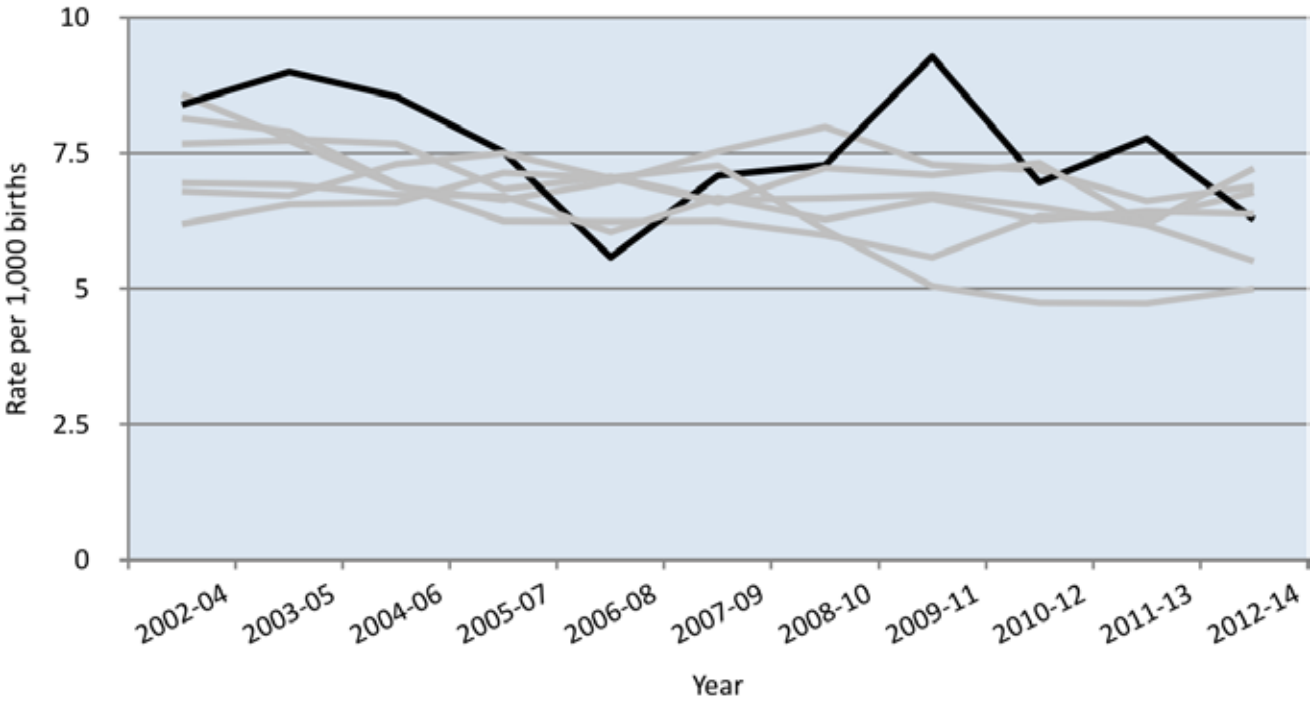
3.18 The fact that the main causes of stillbirth are unknown in so many cases suggests that there is further work to do to across Wales to improve recording, and to better understand what interventions need to be adopted to positively impact on stillbirth rates. Small for gestational age and fetal movements are all part of the Maternity Network Welsh Initiative for Stillbirth Reduction (WISR) programme which is aiming to reduce stillbirth rates

across Wales. Recommendation 5: The completeness of recording of the causes of stillbirth of Powys babies should be reviewed; improvement measures should be put in place where indicated.

Perinatal mortality

3.19 Perinatal mortality includes stillbirths and early neonatal deaths, i.e. deaths in the first week of life. Figure 3.4 shows a slow reduction in perinatal deaths over the period 2002 to 2014 in Powys, although the rate does fluctuate in individual three year periods. (In this chart, the Powys rate is shown as a black line with the corresponding rates in the other Health Boards shown in grey for comparison).

Figure 3.4: Perinatal deaths (excluding late terminations), 3-year rolling rates per 1,000 registered births, 2002-2014.



Source: All Wales Perinatal Survey

3.20 In a third of perinatal deaths in Wales the cause of death was unknown, while the cause of death was missing in a further 16% of cases. Where a known cause was identified, intrapartum, neonatal, placental, and congenital anomalies were leading causes of perinatal death. Figures for individual health boards are not reported for perinatal deaths.

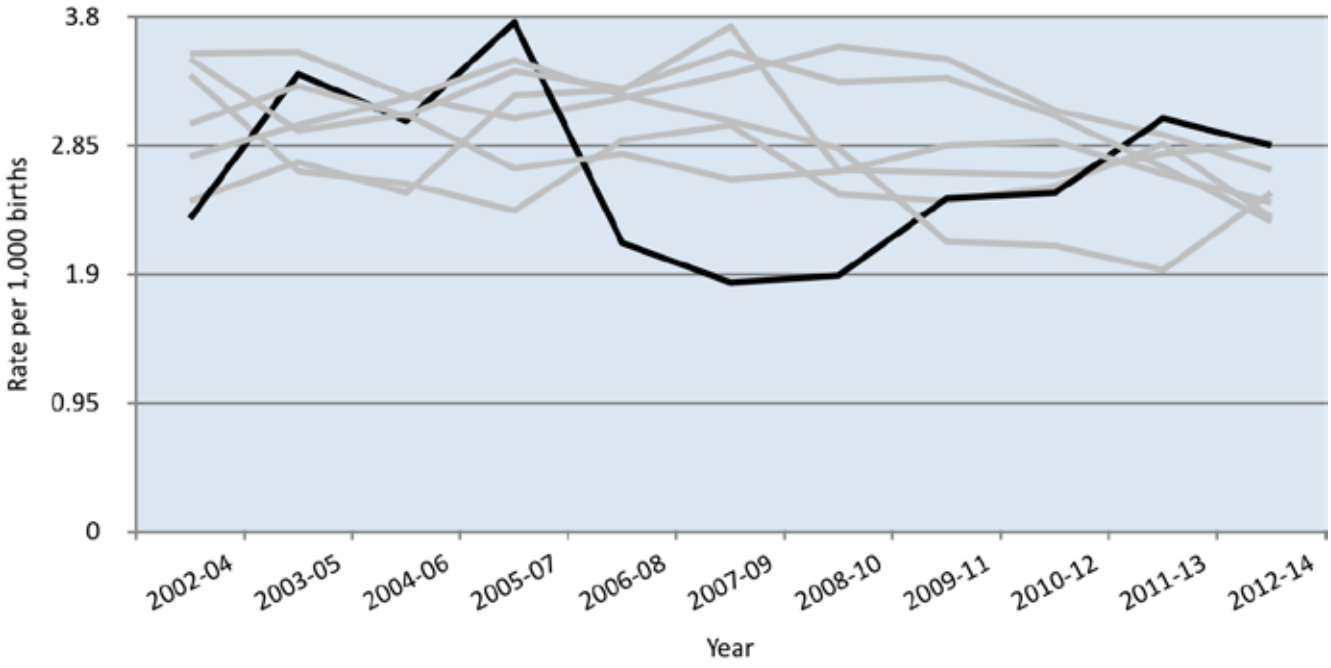
3.21 The apparent spike in perinatal deaths during 2009-11 has previously been investigated by the Health Board. This included a look-back exercise of every perinatal death during this period. No explanation or apparent cause for this increase was found. Perinatal deaths continue to be reviewed and monitored annually by midwifery services in Powys to learn lessons and act on findings. Powys midwifery service also participates in MBRRACE-UK.

3.22 Key findings from a 2012 Office of National Statistics report for England and Wales11 were that the maternal age was an important factor in perinatal mortality, with rates higher for mothers in the 'under 20's' and '40 and over' age groups. Very low birthweight (VLBW) (<1500g) infants had the highest infant and perinatal mortality rates. Thus, the age at which a mother gives birth appears to have a strong association with perinatal mortality.

Neonatal mortality

3.23 A neonatal death occurs following a livebirth and up to 27 days afterwards. The neonatal mortality rate is a key measure of health and care during pregnancy and delivery. The principal causes of neonatal death in high-income countries are complications relating to very preterm birth and congenital anomalies. Figure 3.5 shows the trend in the neonatal mortality rate in Powys between 2002 and 2014.

Figure 3.5: Neonatal deaths (excluding late terminations), 3 year rolling rates per 1,000 registered births, 2002-14.



Source: All Wales Perinatal Survey

3.24 The neonatal mortality rate in Powys has fluctuated considerably over the period shown above. The Powys rate moved from one of the highest rates in Wales in 2005-07 to the lowest in 2006-08, with a pattern of variability that is indicative of a small number of events. Due to this it is difficult to infer a consistent trend in the figures, and the lack of confidence intervals makes it impossible to assess significance.

3.25 Neonatal reasons are the leading cause of neonatal death, followed by congenital anomaly and intrapartum. When the neonatal category is broken down further, extreme prematurity is the leading cause of death – manifest in many cases as severe pulmonary immaturity.

Post neonatal mortality

3.26 Post neonatal mortality is defined as a death from 28 days post birth to 1 year of age. The low number of post neonatal deaths each year means that any observed trends should be treated with caution. For example, out of 1,195 live births in 2013, there were just 2 post neonatal deaths recorded for PTHB. Confidence intervals are also not routinely produced by the AWPS making it impossible to assess the significance of the figures. There continues to be a high degree of volatility in the Powys figures indicative of a low actual number of events. In addition, in 20% of post neonatal deaths across Wales the cause of death was unknown and in 48% of cases the cause was missing. This makes it impossible to comment on the pattern of specific causes of infant deaths either in Powys or Wales as a whole. Rates of post neonatal mortality have been relatively low in PTHB compared to other Health Boards in recent years but the reliability of this trend must be treated with caution for the reasons stated above.

3.27 The Powys Midwifery service reports on all perinatal and maternal deaths through reporting to the local Datix system, the national surveillance teams in MBRRACE and AWPS, and, in cases of suboptimal care, Welsh Government. In 2014 a change in the review process was introduced, Powys Band 7 midwives took on the responsibility of investigating cases and bringing back for case discussions with the lead midwife (risk) at clinical risk meetings and monthly midwives meeting. An annual report and action plan is produced and submitted to PTHB Quality and Safety Committee for approval each year.

3ii. Congenital Anomaly Register Annual Review

www.caris.wales.nhs.uk/data-tables-annual-reviews

GIG NHS | Public Health Wales | Congenital Anomaly Register & Information Service

3.28 The Congenital Anomaly Register & Information Service for Wales (CARIS) provides reliable data on congenital anomalies in Wales to assess patterns of anomalies, including possible clusters and their causes, and inform the work of other health services, including screening. The 2015 review presents data from the 30,000 cases in Wales recorded between 1998-2014. The key headline results for Wales were:

- Between 1998 and 2014, 29,642 cases of congenital anomaly were reported, out of a total of 569,537 (live and still) births in Wales. This gives a gross rate of 5.2%.
- 58% of those affected were male, and 40% female. 14 were described as intersex, and the remainder were unknown or not recorded, often because the pregnancies ended in a miscarriage or termination.
- 25,540 (86.2%) of the babies were live born and 96.9% of these (born between 1998 and 2013) lived until at

least their first birthday. Survival was reduced where there were increasingly complex anomalies.

- 60.2% of cases were affected by a single congenital anomaly. 11.3% of the cases were associated with an underlying chromosomal disorder.
- The five most common groups of anomaly in Wales in descending order are circulatory, limb, musculoskeletal, urinary and digestive.

3.29 There are two areas of focus in this year's report from CARIS – congenital disorders of sex development and teenage pregnancies. Disorders of sex development are rare and most are not diagnosed antenatally. The two most common disorders – hypospadias (urethral opening on the underside of the penis) and cryptorchidism (undescended testes) may be diagnosed at birth but clinical reporting to CARIS is poor. The rates of these disorders are 29.9 per 10,000 births and 24.3 per 10,000 births respectively. Information about both disorders is often delayed until there is notification of surgery to correct the disorders. Other conditions are very rare, the next most common being Klinefelter's Syndrome- a condition affecting boys which means they are born with an extra X chromosome, which has a rate of just 1.1 per 10,000 births. Other disorders such as congenital adrenal hyperplasia, mixed gonadal dysgenesis, and androgen insensitivity are even rarer with approximately one case each year in Wales.

3.30 Parents with a baby with a disorder of sex development at birth will need guidance from an experienced clinician, usually a paediatric endocrinologist. Ideally their child will be seen by a specialist multidisciplinary team with experience of caring for children with these disorders. Members of the team should include specialists in surgery, urology, psychology/psychiatry, radiology and nursing. Wider access to specialists in genetics, gynaecology, plastic surgery, biochemistry and clinical ethics may also be necessary.

3.31 Young women who become pregnant while they are teenagers (<20 yrs) are at increased risk of their baby developing a congenital anomaly. Although across the UK the teenage pregnancy rate is falling, births to UK women aged under 20yrs are the 4th highest in Europe after Bulgaria, Romania and Slovakia12. Within the UK the rate is consistently higher in Wales than in England: in 2013 the maternity rate for under 18yrs in Wales was 14.9/1,000 total births compared to the English rate of 11.9/1,00013. Using CARIS data, a comparison was made between congenital anomalies in teenagers (<20 yrs) and women in the 20-34 yr age group. This study found significantly increased rates of neural tube defects, abdominal wall defect (gastroschisis), limb reduction defects and double outlet right ventricle. Of these, gastroschisis has been well recognised in younger mothers. Research is planned by CARIS to look at these conditions in terms of risk factors in teenage mothers. The significantly raised numbers of neural tube defects in the teenage population suggests there may be value in targeting teenage mothers in terms of planning pregnancy, taking preconception folic acid and eating a healthy diet.

3.32 Table 3.1 shows the trends in all congenital anomalies between 1999-2013 in Powys. Data for individual years have been grouped together into 5 year bands due to the low number of actual events in single year data.

3.33 Although Table 3.1 is suggestive of a fall in the rates of congenital anomalies in Powys, this finding should be treated with caution. Reporting is subject to a time lag which means that the 2012 and 2013 figures remain subject to change. This is even more of an issue for Powys than elsewhere because of delays in receiving information from hospitals in England. Therefore, although rates have fallen at the time of reporting, the 2009-12 rate is subject to change in future. So far during 2009-13 there have been 279 births where a congenital anomaly was recorded, which equates to a current average of 56 cases per year.

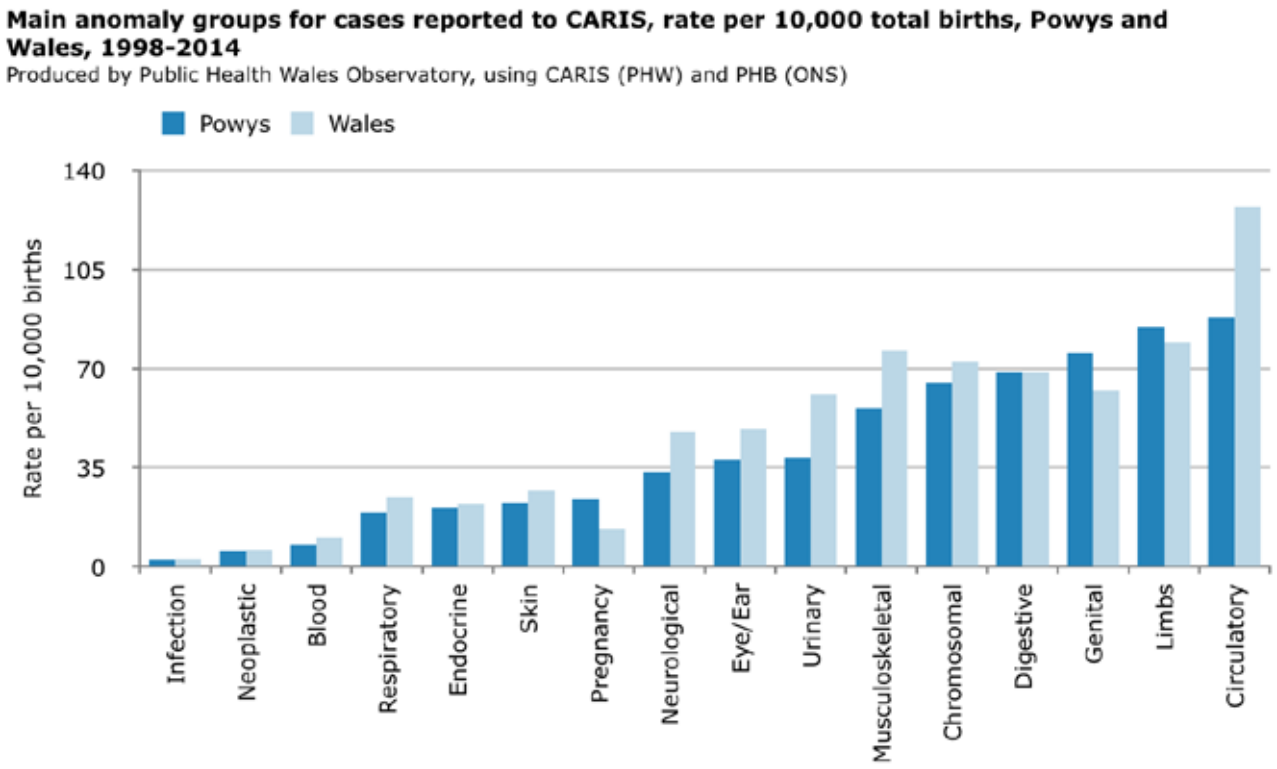
Table 3.1: Trends in congenital anomalies, Powys, 1999-2013.

POWYS	TOTAL CASES			RATE PER 10,000 BIRTHS		
	1999-2003	2004-2008	2009-2013	1999-2003	2004-2008	2009-2013
ALL CASES	**324**	**332**	**279**	**536.4**	**527.2**	**453.8**
A - Neurological	**16**	**27**	**22**	**26.5**	**42.9**	**35.8**
All neural tube defects (NTDs)	4	10	13	6.6	15.9	21.1
Anencephaly	*	5	*	*	7.9	*
Encephalocele	*	*	3	*	*	4.9
Spina bifida	*	*	6	*	*	9.8
Hydrocephaly	7	*	*	11.6	*	*
B - Eye/Ear	**25**	**30**	**12**	**41.4**	**47.6**	**19.5**
Congenital hearing loss	9	16	6	14.9	25.4	9.8
Cataracts	5	*	*	8.3	*	*
C - Circulatory	**59**	**70**	**38**	**97.7**	**111.2**	**61.8**
Hypoplastic left heart syndrome	*	6	*	*	9.5	*
Transposition	*	*	*	*	*	*
Ventricular septal defect (VSD)	23	33	13	38.1	52.4	21.1
D - Respiratory	**12**	**11**	**15**	**19.9**	**17.5**	**24.4**
Cystic adenomatoid malformation of lung (CCAML)	*	*	*	*	*	*
E - Digestive	**44**	**51**	**34**	**72.8**	**81.0**	**55.3**
Cleft lip with / without palate	5	6	8	8.3	9.5	13.0
Cleft palate	10	7	6	16.6	11.1	9.8
F - Urinary	**31**	**31**	**11**	**51.3**	**49.2**	**17.9**
Bilateral renal agenesis	*	*	*	*	*	*
Multicystic kidneys	*	3	*	*	4.8	*
G - Genital	**45**	**41**	**56**	**74.5**	**65.1**	**91.1**
Hypospadias	22	16	20	36.4	25.4	32.5
H - Endocrine, metabolic†	**11**	**20**	**7**	**18.2**	**31.8**	**11.4**
Hypothyroidism	*	4	*	*	6.4	*
J - Blood, immune, lymphatic	**9**	**4**	**3**	**14.9**	**6.4**	**4.9**
K - Skin	**19**	**13**	**15**	**31.5**	**20.6**	**24.4**
L - Limbs	**59**	**47**	**50**	**97.7**	**74.6**	**81.3**
Limb reduction defects	9	4	5	14.9	6.4	8.1
Congenital dislocation of hip	4	11	8	6.6	17.5	13.0
M - Musculoskeletal	**40**	**34**	**29**	**66.2**	**54.0**	**47.2**
Gastroschisis	*	*	4	*	*	6.5
Diaphragmatic hernia	*	*	4	*	*	6.5
Craniosynostosis	6	*	*	9.9	*	*
N - Neoplastic	**3**	**5**	**3**	**5.0**	**7.9**	**4.9**
O - Chromosomal & other genetic disorders	**26**	**50**	**42**	**43.0**	**79.4**	**68.3**
Trisomy 21- Down syndrome	11	15	17	18.2	23.8	27.7
Trisomy 18 - (Edwards syndrome)	*	8	*	*	12.7	*
45X (Turner syndrome)	*	*	3	*	*	4.9
P - Pregnancy related anomalies	**24**	**13**	**10**	**39.7**	**20.6**	**16.3**
R - Infection related anomalies	*	*	*	*	*	*

Source: CARIS

3.34 Disorders of the genitals are the most common congenital disorder, followed by limb defects and chromosomal/other genetic disorders. In Figure 3.6, a comparison of the rates of the specific types of congenital abnormalities in Wales and Powys is provided. This is based on data covering a 17 year time period to increase the number of cases and improve the reliability of the findings.

Figure 3.6: Congenital anomaly rates, Wales vs Powys, 1998-2014.



Source: Public Health Wales Observatory/CARIS Review 2015

3.35 Figure 3.6 shows that the rate of congenital anomalies affecting the circulatory system, e.g. hypoplastic left heart syndrome, appears lower in Powys. Similarly, the rate of anomalies affecting the urinary, neurological, eye/ear, musculoskeletal and chromosomal systems is higher in Wales than in Powys. Conversely, Powys displays higher rates of anomalies affecting the genital organs and the limbs than Wales. Whether the differences in the rates are significant cannot be confirmed in the absence of confidence intervals. In the presence of a low number of events – especially when looking at individual systems of the body, the likelihood is that the differences in the rates are not illustrative of real differences. Differences in the completeness of recording and coding congenital anomalies in maternity units may also affect the data – especially when disorders are extremely rare. Delays in receiving information from hospitals in England may also play a part, especially in relation to the lower rates of specific congenital anomalies in Powys. Further analysis would need to be undertaken by the CARIS team to properly understand whether the different pattern of congenital anomalies in Powys was real or just an incidental finding based on small numbers.

Chapter 4: Disease Prevalence: Cardiovascular Disease

Key Messages:

- **All clusters in Wales show variation with modelled estimates of CHD prevalence.**
- **The South Cluster exhibits the highest age-standardised prevalence of hypertension and atrial fibrillation.**

Introduction

4.0 Chapter 4 reports the findings of a coronary heart disease (CHD) modelled prevalence analysis, and analysis of atrial fibrillation and hypertension data. The data has been analysed at cluster level and is therefore reported on a registered population basis.

4i. Coronary heart disease modelled prevalence analysis

www.wales.nhs.uk/sitesplus/922/news/37760

4.1 The aim of this project was to produce coronary heart disease (CHD) prevalence estimates, by cluster, using a method based on self reported health survey data, and to compare those estimates with the QOF CHD register. In doing so, the results of this project are designed to be a useful starting point for local investigations of case ascertainment through GP chronic disease registers.

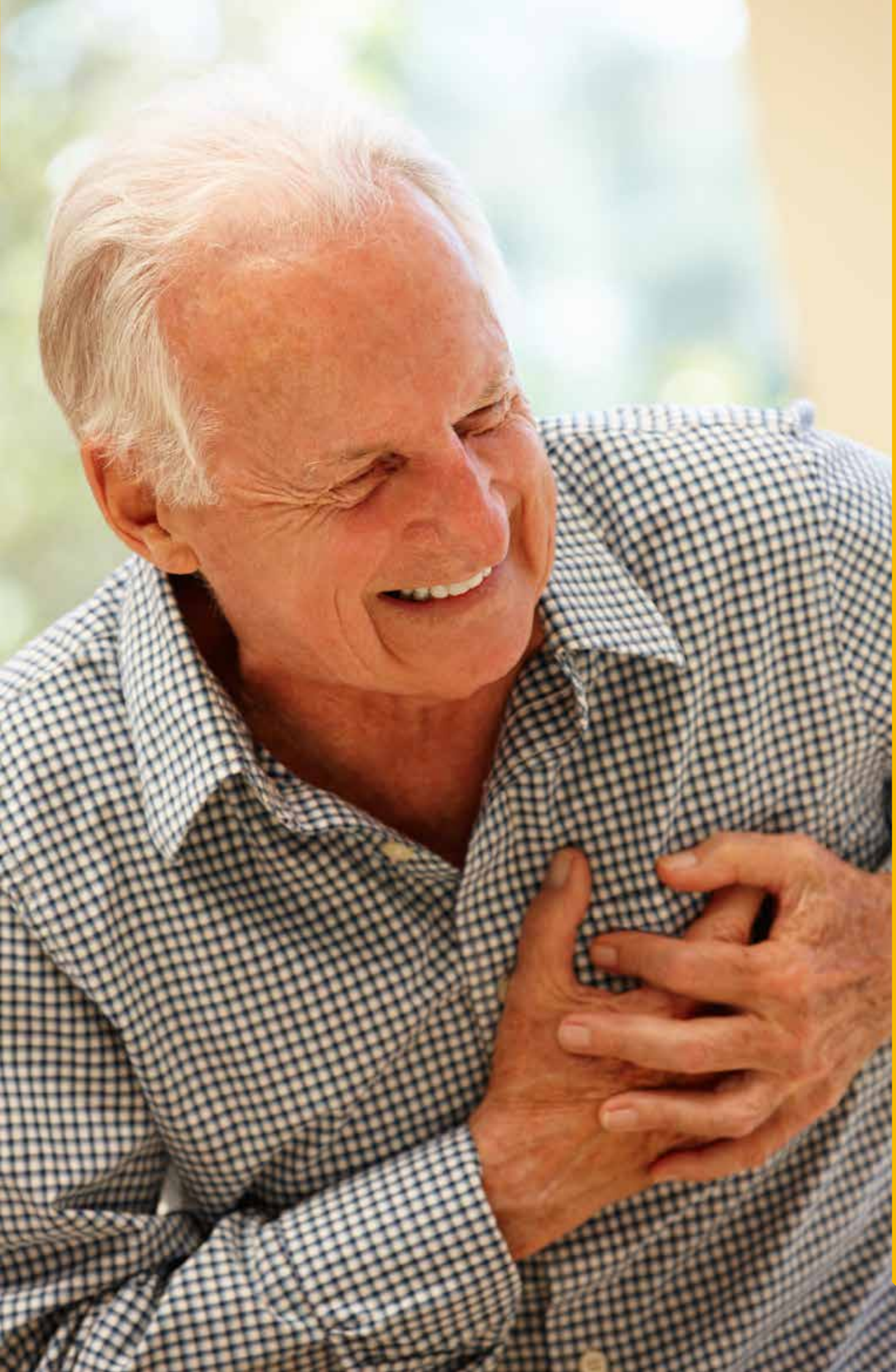
4.2 Within this project the prevalence of CHD was considered in two ways, both of which have potential limitations. The basis of the model is self reported prevalence of treatment for heart attack and/or angina from the Wales Health Survey (WHS). It is important to note that the WHS does not include any clinical measurement or confirmation, and that it is liable to various biases including:

- Response rate (79% in the period used here)
- Exclusion of care home residents
- Problems with self reporting health status

These issues listed above could lead to both an under or over reporting of the prevalence of CHD.

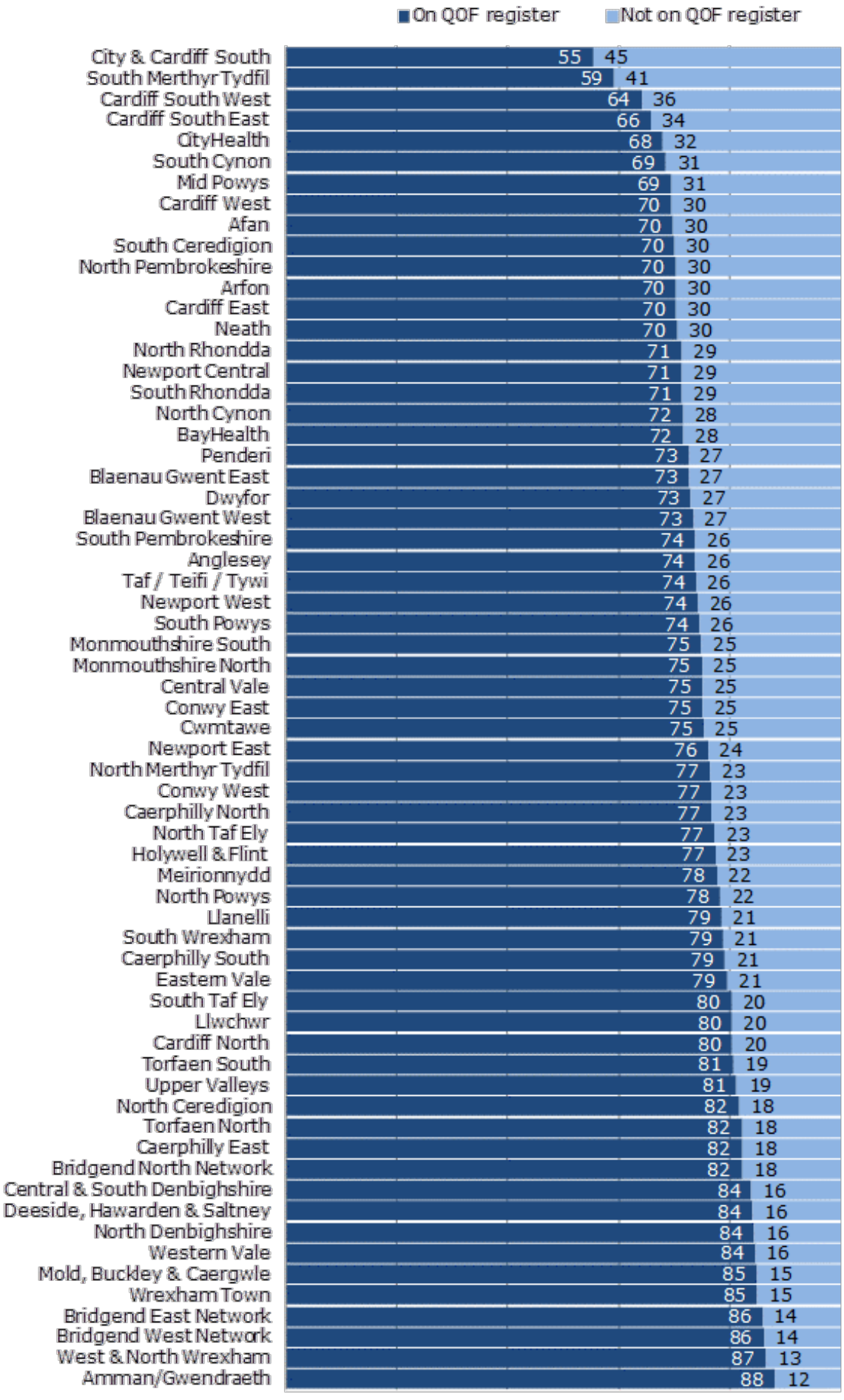
4.3 The basis for the comparison of the modelled prevalence is the Quality and Outcomes Framework (QOF) CHD register. For a patient to be on the QOF CHD register there must be at least one of the specified codes in their electronic health record. It is important to remember that, in general, prevalence based on clinical diagnosis depends upon people presenting with such symptoms and hence may not capture some cases. It is also important to note that the QOF data is a snapshot at a point in time; in this case the QOF data was taken on 31st March 2013. Case recording changes and current figures may be different to those recorded in 2013.

4.4 It can be seen that for every cluster in Wales, the model estimated a higher prevalence than the QOF register reported. The QOF register prevalence as a percent of the modelled prevalence for each cluster in Wales is shown in Figure 4.1.



Chapter 4: Disease Prevalence: Cardiovascular Disease

Figure 4.1: All Wales CHD QOF register as a per cent of the modelled prevalence.



Source: Public Health Wales

4.5 Extreme caution is urged when comparing the modelled prevalence estimates with the QOF register. Any differences between the modelled prevalence estimates and the QOF register cannot be attributed to any cause without further investigation. Possible causes include, but are not limited to deficiencies in the model, or the data on which the model is built, including the reliability of existing data, and the unavailability of some potentially important data, such as true local smoking prevalence.

4.6 The method used in effect is a comparison of (self reported) treated prevalence and general practice register diagnosed disease prevalence. It does not in any way identify undiagnosed cases, though it may identify gaps between conditions being managed in different care settings. The true test of any such model would be to conduct a programme of active case finding within one or more clusters. Whilst this model may provide an indication of where this may be more likely to yield a greater number of cases, it cannot be assumed that the numbers modelled definitely exist within the community.

4.7 Bearing in mind these issues, Figure 4.1 shows that Mid Powys may have the lowest estimated rate of case recording for CHD in primary care in Powys. This equates to an estimated 542 patients with CHD not currently captured on chronic disease registers. The rates of patient capture in North and South Powys are higher in this model, but still amount to an estimated 741 and 654 patients respectively with CHD but not recorded on practice registers. Due to the difficulty in attributing any firm findings using this model, a programme of active case finding might be considered to test the accuracy of this model, and to find out if patients with CHD are actually missing from registers in primary care.

4ii. Quality and Outcomes Framework: atrial fibrillation and hypertension data

www.wales.nhs.uk/sitesplus/922/page/74700

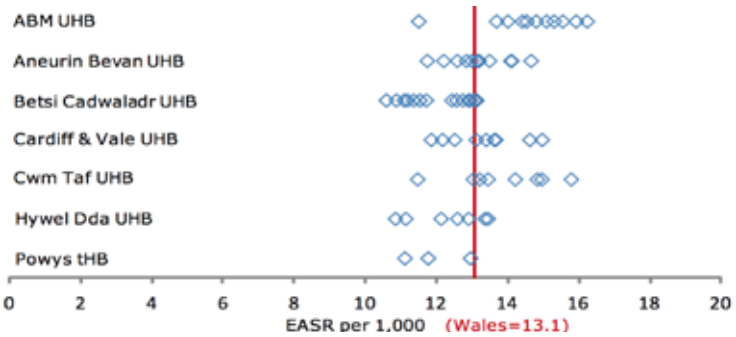
4.8 The Public Health Wales Observatory has published information at cluster level relating to atrial fibrillation, stroke and hypertension. The publication again uses data from the chronic disease registers and the clinical domains of the quality and outcomes framework (QOF), part of the General Medical Services (GMS) contract.

4.9 Atrial Fibrillation is a heart condition causing an irregular and often abnormally fast heart rate. Together with hypertension or high blood pressure, they are all major risk factors for cardiovascular disease such as heart disease and stroke. It is estimated there are around 11,000 stroke events, including 6,000 new strokes, per year in Wales.

4.10 The three figures shown below are based on data for the year 2012-13. This work should be considered in conjunction with the GP cluster profiles (available at: http://www.wales.nhs.uk/sitesplus/922/page/67714). A more detailed analysis of this profile will form part of the Director of Public Health Annual Report for 2015/16.

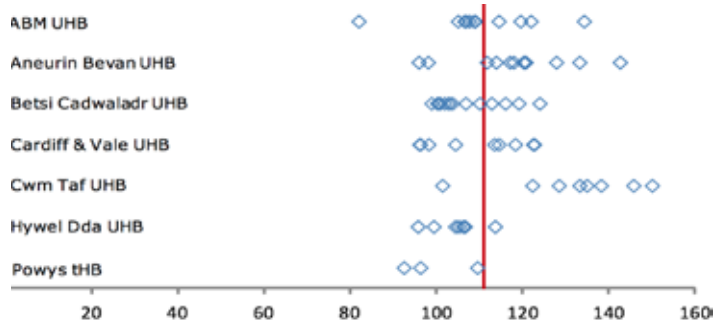
4.11 Each diamond shown in the charts above represents a cluster with the data split by Health Board. For each Health Board, the individual values for each cluster are distributed along a low to high continuum. The vertical red line is the Wales average for each of the measures. Powys has three clusters, represented by the three diamonds next to 'PTHB' at the bottom of each chart. One cluster (South Powys) exhibits a consistently higher rate than the other two and is closest to the Wales average in each of the three charts.

Figure 4.2: Stroke/TIA, European age-standardised rate per 1,000, Wales clusters, 2012.



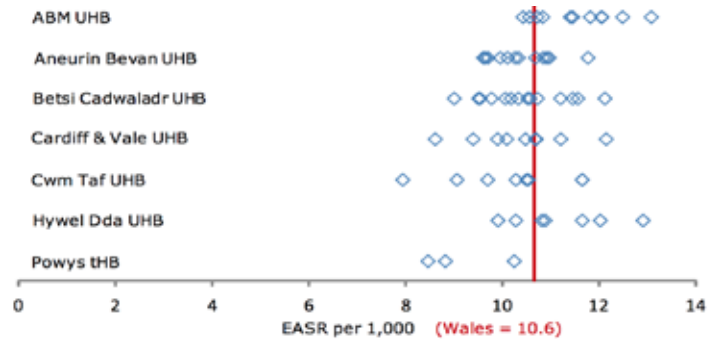
Source: Public Health Wales

Figure 4.3: Hypertension, European age-standardised rate per 1,000, Wales clusters, 2012.



Source: Public Health Wales

Figure 4.4: Atrial fibrillation, European age-standardised rate per 1,000, Wales clusters, 2012.



Source: Public Health Wales

The difference in recorded prevalence (age standardised) is statistically significantly higher in South Powys for hypertension and atrial fibrillation compared to the other two Powys clusters. This suggests that South Powys cluster is either more complete in its finding and recording of cases of hypertension, stroke/TIA and atrial fibrillation than the other clusters in Powys, or that the prevalence of these two causes of stroke is higher in the south of the county.

4.12 The quality of management of patients that are recorded on the disease registers appears uniformly good in Powys. Table 4.2 below shows a high level of achievement for the main QOF indicators that underpin the management of hypertension and atrial fibrillation, with low rates of exception reporting against most measures – with the exception of AF07. There is no national average in the data provided by Public Health Wales with which to benchmark local figures. However, the figures that are available do suggest a consistently high standard of care for patients across Powys practices.

Table 4.2: QOF clinical indicator summary, counts and percentages of QOF indicator target population, Powys GP clusters, 2012/13

	South Powys		Mid Powys		North Powys	
	% QOF indicator achieved	% Exceptions*	% QOF indicator achieved	% Exceptions*	% QOF indicator achieved	% Exceptions*
AF 05	96.6	3.8	97.5	3.6	99.9	1.7
AF 06	93.8	4.5	94.9	3.3	96.3	4.3
AF 07	80.7	15.8	76.9	12.7	76.4	20.5
BP 04	90.9	3.7	90.9	1.0	93.9	2.3
BP 05	76.8	6.7	80.8	3.5	81.2	5.3

**Exceptions denominator includes indicator denominator and exceptions coded.*

QOF Indicator definitions:

AF 05: The percentage of patients with atrial fibrillation in whom stroke risk has been assessed using the CHADS2 risk stratification scoring system in the preceding 15 months (excluding those whose previous CHADS2 score is greater than 1).

AF 06: In those patients with atrial fibrillation in whom there is a record of a CHADS2 score of 1 (latest in the preceding 15 months), the percentage of patients who are currently treated with anti-coagulation drug therapy or anti-platelet therapy.

AF 07: In those patients with atrial fibrillation whose latest record of a CHADS2 score is greater than 1, the percentage of patients who are currently treated with anti-coagulation therapy.

BP 04: The percentage of patients with hypertension in whom there is a record of the blood pressure in the preceding 9 months.

BP 05: The percentage of patients with hypertension in whom the last blood pressure (measured in the previous 9 months) is 150/90 or less.

4.13 Exceptions are patients who are on a chronic disease register and who would ordinarily be included in the indicator denominator (i.e. the total number of patients). However they are excepted or removed from the denominator because they meet at least one of the exception criteria set out in guidance issued to GPs. Although patients may be excepted, they should still be the recipients of best clinical care and practice. Table 4.2 shows both the rate of exception reporting for key clinical indicators and the rate of achievement. It should be recognised that these are effectively two different measures; the % QOF indicator achieved measures achievement among all patients not excepted (or removed), whereas the % exceptions shows the rate of exception reporting, i.e. the proportion of patients not included when measuring achievement. This is why adding the two columns together will not equal 100%.

4.14 QOF data is updated annually and it is possible that differences in the rates of the conditions described above have changed over time, especially as this analysis is based on 2012 data. It is also important to note that cluster averages may mask differences at practice level that are important to recognise when planning services. Caution should therefore be exercised when inferring conclusions from the data described above.
Recommendation 6: The findings from this year's Annual Report should be presented to each of the primary care clusters in Powys and used to promote discussion about how best to use the current range of intelligence products produced to support primary care development.

Chapter 5: Secondary Care Activity

Key Messages:

- **Powys occupies the highest quintile of activity for 3 out of 19 elective care procedures. Powys is in the lowest quintile of activity for a further 8 procedures.**
- **Powys has a statistically significant lower rate of emergency department attendance and emergency admission than in Wales.**
- **The difference in the age-standardised emergency admission rates for hip fracture among 65+yrs in Powys and Wales is not statistically significant.**
- **The number of admissions for hip fracture in Powys has risen by 42% since 2002/03.**

Introduction

5.0 Health services face the constant challenge of meeting the health needs of their population within available resources. The amount of a particular procedure undertaken is influenced by a large number of factors including underlying clinical need, demand for services, supply of facilities and staff, as well as clinical practice. Variation in delivery of health services is inevitable, and may in some instances be necessary, e.g. to meet differing levels of underlying need. A major focus of attention with regard to variation has been on those procedures that are considered to be of limited effectiveness in some or all situations. Undertaking procedures where there is limited evidence of effectiveness has a number of negative impacts. Patients may have an unnecessary and potentially invasive procedure that may not actually address their clinical need. For the NHS, such procedures can incur unnecessary cost, unnecessary clinical risk, longer waiting times for elective surgery and a potential increase in occupied bed days. In the first part of this chapter variations in elective surgery for a range of procedures are described using the Atlas of Variation in Elective Surgical Procedures to understand patterns of variation in planned care in Powys.

5.1 The second part of this chapter also looks at variation, but through the lens of unscheduled or emergency care. In this section, the demand for emergency hospital care is reported, together with benchmarking analysis of some of the underlying factors that might influence demand for emergency services. This allows some degree of summary comparison of patterns of need and demand for emergency care. This is reported at local authority level. In the final part of this chapter work carried out by Public Health Wales Observatory looking at rates of emergency hospital admission due to hip fracture among 65+yr olds is analysed.

5.2 Much of the content of this chapter is based around the principles of Prudent healthcare. At least two of the four principles underpin the narrative set out below; do only what is needed and do no harm, and reduce inappropriate variation through evidence-based approaches. The tools described in this chapter are all based around variability and an assumption that all the interventions

and activity should be commissioned in accordance with evidence-based treatment policies. Where rates are comparatively high or low, this suggests that further work should be done to understand whether Prudent healthcare principles are being applied.

5i. Atlas of Variation in Elective Surgical Procedures 2014

www.wales.nhs.uk/sitesplus/922/page/73640

5.3 The interactive Atlas of Variation in Elective Surgical Procedures was published in 2014 to promote a better understanding of the continuing variation in elective procedures that occurs across all parts of Wales. The tool aims to facilitate discussion around these variations with a view to minimising waste and harm. The Atlas uses local authorities as the basis for presenting and comparing information.

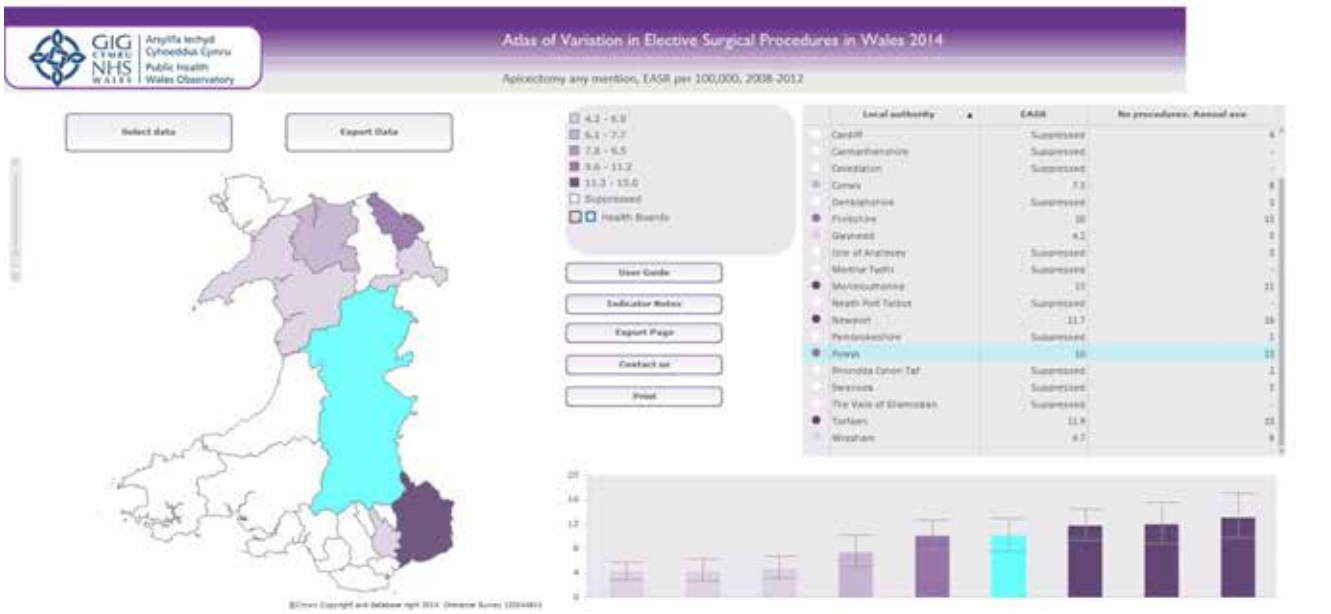
5.4 The Atlas provides an update on a 2010 report by Public Health Wales called 'Variation in Elective Surgical Procedures Across Wales'14. It should be noted that not all analyses are comparable with the previous work due to changes in coding. The codes used for each indicator are included in the indicator notes (available at: http://www.wales.nhs.uk/sitesplus/922/page/73640). The authors note that understanding the potential reasons for variation by engaging with clinicians is essential in using the information contained within the Atlas at the local level.

5.5 The interactive atlas enables users to select indicators, view them on a map and chart and highlight local authority areas. Outputs can be exported and printed, and the analysed data can be downloaded in Excel format. Embedded within the Atlas are:

- Indicator notes: outlining the metadata for a specific indicator. The information includes caveats, source, relevant codes and period.
- Excel files with the annual average, rates and upper and lower confidence intervals by local authority for each indicator.
- A user guide giving details on how to use the atlas, including how to select, export and manipulate the display.

Figure 5.1 provides an illustration of the way in which the Atlas presents information to users.

Figure 5.1: Atlas of Variation in Elective Surgical Procedures webpage.



5.6 The Atlas presents European age standardised admission rates based on the 1976 European Standard Population. This is the same as was used in the previous report on variation in elective procedures published in 2010. This is to ensure that, where appropriate, comparisons can be made with the previous work. Of the 19 indicators included in the tool, 12 are considered comparable to the previous work but the remaining seven are not due to changes in the way these indicators

are coded. This is discussed later in this section.

5.7 For some procedures, there is considerable variation between local authorities. This can be attributed to a number of factors, including:

- Differences amongst the local population;
- Geographical accessibility of services;
- Differences in how services are provided;
- Other variations in clinical practice, not defined by underlying need for clinically indicated interventions.

5.8 It is important to recognise that any analysis cannot distinguish between procedures undertaken that meet relevant guideline criteria and those that do not. It should be noted that rates significantly higher than the all Wales average should not automatically be considered a cause for concern. The classification simply reflects variation that requires further exploration and dialogue with clinicians.

5.9 The data for each of the indicators has been sourced from the Patient Episode Database for Wales and/or NHS Wales Informatics Service (NWIS). Patients resident in Powys local authority area who travelled over the border to England for treatment will therefore be captured in the statistics described below.

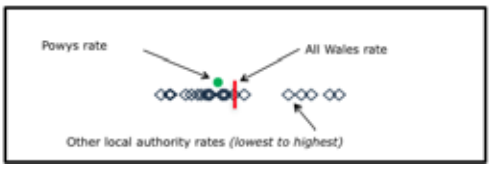
5.10 The Public Health Wales Observatory welcomes feedback on this report via its online feedback form at: http://www.wales.nhs.uk/sitesplus/922/feedback/.

Findings

5.11 The Atlas lists a basket of 19 planned procedures in its analysis. The findings from the Atlas for each of the procedures is summarised in Tables 5.1 and 5.2.

Table 5.1: Atlas of Variation in Elective Surgical Procedures summary results (1).

Legend:



Indicator	Powys rate	Powys rate (95% CI)	Wales rate			Most recent data		
			Lowest LA	All Wales	Highest LA	Lowest	Middle	Highest
1. Elective tonsillectomy procedures, EASR per 100,000, 2008-12	95.7	(87.2-104.7)	88.8	123.3	193.7			
2. Elective drainage of middle ear and grommet insertion procedures, EASR per 100,000, 2008-12	71.4	(64.2-79.2)	35.9	75.5	146.9			
3. Elective varicose vein procedures, EASR per 100,000, 2008-12	68.6	(62.3-75.3)	31.4	58.7	95.8			
4. Elective haemorrhoid intervention procedures, EASR per 100,000, 2008-12	28.2	(24.3-32.5)	14.7	45.4	101.0			
5. Elective apicectomy procedures*, EASR per 100,000, 2008-12	10.0	(7.5-12.9)	4.2	3.8	13.0			
6. Elective dilation and curettage procedures, EASR per 100,000, 2008-12	13.6	(9.9-18.2)	5.5	61.0	179.0			
7. Elective hysterectomy procedures, EASR per 100,000, 2008-12	181.3	(167.5-195.9)	141.7	176.8	251.4			
8. Elective removal of wisdom teeth procedures, EASR per 100,000, 2008-12	184.7	(172.7-197.4)	32.2	87.0	212.3			
9. Elective cholecystectomy procedures, EASR per 100,000, 2008-12	115.6	(107.5-124.1)	98.0	115.2	142.1			
10. Elective Caesarean procedures, EASR per 100,000, 2008-12	8.2	(7.5-8.9)	8.2	10.5	16.3			

** Some local authorities were suppressed due to small numbers*

Source: Public Health Wales Observatory, using PEDW (NWIS) & MYE (ONS)

Table 5.2: Atlas of Variation in Elective Surgical Procedures summary results (2).

Indicator	Powys rate	Powys rate (95% CI)	Wales rate			Most recent data
			Lowest LA	All Wales	Highest LA	Lowest Middle Highest
11. Elective removal of skin lesion procedures, EASR per 100,000, 2008-12	281.0	(268.6-293.8)	219.0	319.1	568.3	
12. Elective orthodontic operation procedures, EASR per 100,000, 2008-12	20.7	(17.1-24.8)	6.9	14.6	28.1	
13. Elective surgical removal of ganglia procedures, EASR per 100,000, 2008-12	26.9	(22.9-31.4)	10.0	21.8	28.5	
14. Elective lumbar spine procedures, EASR per 100,000, 2008-12	40.1	(35.5-45.1)	32.1	47.2	63.4	
15. Elective blepharoplasty procedures, EASR per 100,000, 2008-12	6.0	(4.5-7.8)	5.4	8.7	15.1	
16. Elective circumcision procedures, EASR per 100,000, 2008-12	109.7	(97.6-122.8)	70.5	107.3	151.8	
17. Elective rhinoplasty procedures, EASR per 100,000, 2008-12	8.4	(6.0-11.3)	6.2	11.5	24.5	
18. Elective pinnaplasty procedures, EASR per 100,000, 2008-12	6.1	(4.2-8.6)	5.6	8.8	16.6	
19. Elective excision of hallux valgus procedures, EASR per 100,000, 2008-12	77.6	(71.4-84.3)	24.5	58.9	97.8	

All procedures are counted using an 'any mention' analysis. More information can be found in the Indicator notes available at: http://www.wales.nhs.uk/sitesplus/922/page/73640

Source: Public Health Wales Observatory, using PEDW (NWIS) & MYE (ONS)

5.12 There are just three procedures in Tables 5.1 and 5.2 where activity rates in Powys are in the highest quintile of local authorities. These are apicectomy, removal of wisdom teeth, and surgical removal of ganglia. (Apicectomy is a dental procedure whereby a tooth's root tip is removed and a root end cavity is prepared and filled). At the other end of the distribution, Powys is in the lowest quintile for the following procedures:

- Tonsillectomies
- Haemorrhoid procedures
- Dilation and curettage
- Elective Caesarean procedures
- Lumbar spine procedures
- Blepharoplasty (eyelid) procedures
- Rhinoplasty (nose) procedures
- Pinnaplasty (ear) procedures

5.13 As stated previously, a value judgement cannot automatically be made about relatively high or low rates. The analysis simply illustrates variation, and specifically procedures where there is a degree of variation that may warrant further examination. The Atlas also does not provide confidence intervals for the Wales rate(s) making it impossible to assess the statistical significance of the extent of any variation from the national average. Recommendation 7: Rates of elective surgical procedures in Powys are generally lower than in Wales. The two main exceptions to this are apicectomy procedures and wisdom teeth removal where rates are relatively high. The comparative rates in Powys and Wales should be re-assessed, and the factors contributing to this pattern investigated by commissioners to ensure evidence-based referral pathways are in place in Powys.

5.14 There are 12 procedures where coding has remained consistent and a comparison can be made between activity in 2004-08 and 2008-12. These are listed in Table 5.3 below.

Table 5.3: Variation in rates of selected elective procedures, PTHB, European age-standardised rate (EASR) per 100,000.

Variation in rates of selected elective procedures provided to residents of Powys Teaching Health Board, European age-standardised rate (EASR) per 100,000

Procedure	2004-2008 Count*	2004-2008 Rate	2008-2012 Count*	2008-2012 Rate (95% CI)	Statistical significance (2008-12 95% CI compared to 2004-08 rate)
Grommet insertion	88	83	77	71 (64 to 79)	Significantly lower
Varicose vein	104	74	96	69 (62 to 75)	Comparable
Haemorrhoids	55	37	42	28 (24 to 32)	Significantly lower
Apicectomy	9	7	13	10 (8 to 13)	Significantly higher
Dilation and curettage	16	22	10	14 (10 to 18)	Significantly lower
Hysterectomy	146	192	140	181 (167 to 196)	Comparable
Cholecystectomy	162	107	175	116 (107 to 124)	Significantly higher
Caesarean section	85	6	109	8 (7 to 9)	Significantly higher
Ganglia	27	20	37	27 (23 to 31)	Significantly higher
Blepharoplasty	14	7	12	6 (4 to 8)	Comparable
Circumcision	62	107	65	110 (98 to 123)	Comparable
Pinnaplasty	8	7	7	6 (4 to 9)	Comparable

Source: Public Health Wales Observatory, using PEDW (NWIS) and MYE (ONS)

** annual average number of procedures*

CI = confidence interval

5.15 The rates shown in Table 5.3 are age standardised, therefore any changes in activity cannot be driven by an ageing population. The procedure rate has significantly increased for apicectomy, cholecystectomy, caesarean section, and removal of ganglia, whereas activity has significantly decreased for grommet insertion, and removal of haemorrhoids. For the remaining procedures there has been no significant change. The reasons behind a significant increase or decrease in activity require further investigation for each individual procedure before any conclusions can be drawn about the implications of the pattern of change.

5ii. Interactive Atlas of Variation in Unscheduled Care

www.wales.nhs.uk/sitesplus/922/page/75838

5.16 The Interactive atlas of variation in unscheduled care (2014) presents indicators from across the unscheduled care system in Wales, relating to both the need for services and their utilisation.

5.17 The Atlas aims to stimulate discussion, improve understanding and inform decision-makers on local factors and their influence on the unscheduled care system. It represents one of a number of different work streams being undertaken by Public Health Wales which seek to support the NHS and Welsh Government response to unscheduled care pressures.

5.18 The figures shown are intended to represent the actual burden in each area, and therefore no adjustments have been made for the differing age structures of local authority populations. However, the use of crude rates means that it is not possible to compare rates between areas X and Y if these areas have differing age structures, for example due to a large student population or a high proportion of older people. Also, since the data are drawn from routine datasets based on area of residence, the impact of temporary visitors has not been accounted for.

5.19 Most indicators are based on the resident population of local authority areas. However, the indicators showing prevalence of obstructive pulmonary

disease and uptake of flu vaccination are based on the location of GP practices, regardless of where their patients live. This means that a (relatively small) percentage of patients will be counted in the local authority where their GP is sited, rather than in the local authority where they live. It is also important to note that the rate of attendance at emergency departments (Indicator 7) does not include attendances outside Wales. This will have the effect of artificially lowering the rate of emergency department attendance.

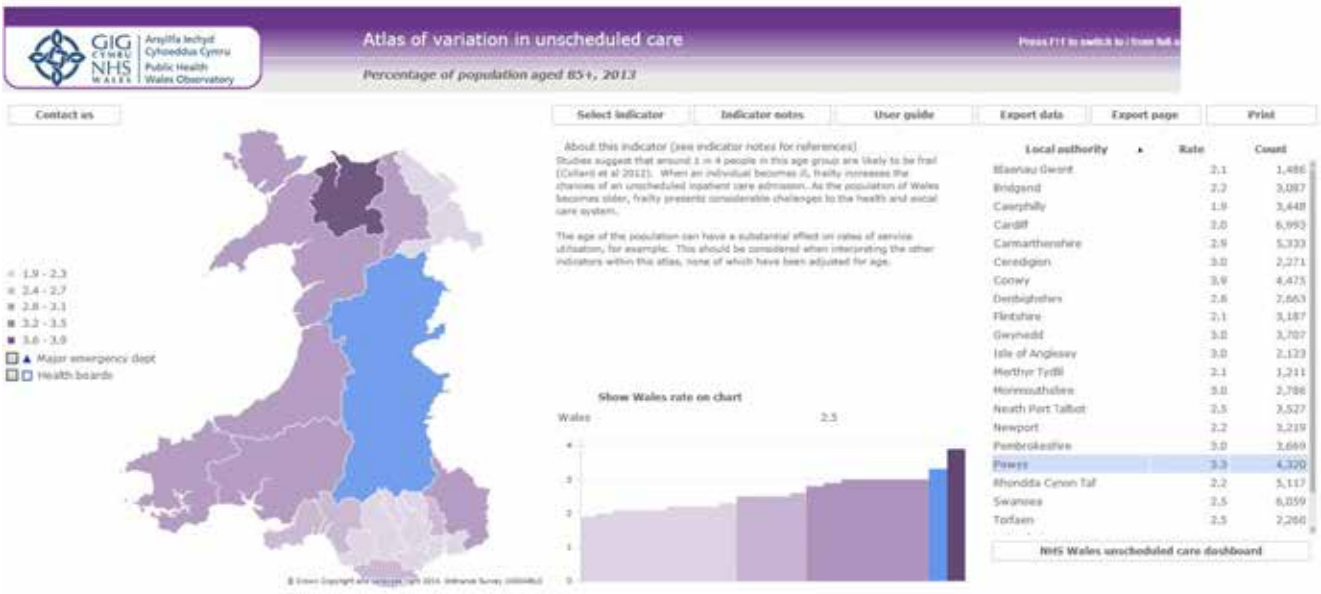
5.20 Users can select indicators, view them on a map and chart and highlight local authority areas. Outputs can be exported and printed and the analysed data can be downloaded in Excel format.

5.21 Embedded within the atlas are:

- Indicator notes outlining sources of data and caveats for interpretation;
- Excel file comprising the data shown in the atlas;
- A user guide giving details on how to use the atlas, including how to select, export and manipulate the display.

Figure 5.2 provides an illustration of the way in which the Atlas presents information to users.

Figure 5.2: Atlas of variation in unscheduled care webpage.



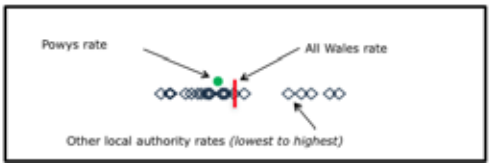
5.22 The Public Health Wales Observatory welcomes feedback on this web resource by email to: *publichealthwalesobservatory@wales.nhs.uk*

Findings

5.23 The findings from the Atlas of unscheduled care are summarised in Table 5.3. As previously mentioned, the Atlas presents information about demand or use of services and about population factors thought to influence potential need for unscheduled care. As stated previously, the rate of attendance at emergency departments (Indicator 7), does not include attendances outside Wales. This will have the effect of lowering the actual rate for Powys as residents attending A&E in England will not be counted in the figures. This does not apply to the rate of emergency admission however (Indicator 9) which is a complete record regardless of whether admission was in Wales or England.

Table 5.4: Atlas of variation in unscheduled care summary results.

Legend:



Indicator (see table footnotes for data sources)	Powys rate	Powys rate (95% CI)	Wales rate			Most recent data
			Lowest LA	All Wales	Highest LA	Lowest Middle Highest
1. Percentage of population aged 85+, 2013	3.3	-	1.9	2.5	3.9	
2. Percentage of population aged 65+ and living alone, 2011	6.9	(6.8 - 7.1)	4.5	5.8	7.6	
3. Percentage of working-age population receiving employment-related benefits, 2013	9.7	-	9.3	14	22	
4. Percentage of GP-registered population on chronic obstructive pulmonary disease register, 2013/14	2.2	(2.2 - 2.3)	1.4	2.2	3.2	
5. Percentage of adults reporting to be current smokers, 2012-2013	17.2	(14.8 - 19.5)	17.2	21.9	26.6	
6. Percentage of population aged 65+ not vaccinated against 'flu, 2013/14	33.0	(32.4 - 33.5)	23.7	31.7	39.1	
7. Rate of attendances at major emergency departments per 1,000 population*, 2013/14	64.3	(63.0 - 65.7)	64.3	239.9	388.5	
8. Average length of time (median, in hours) spent in major emergency departments*, 2013/14	2.6	-	1.7	2.5	3.4	
9. Rate of emergency hospital admissions per 1,000 population, 2013/14	94.4	(92.7 - (96.0)	86.5	111.5	138.8	
10. Average length of stay (mean, in days) for emergency hospital admissions, 2013/14	7.2	-	5.4	6.8	10.2	
11. Rate of delayed transfer of care for social care reasons per 1,000 population, 2013/14	9.2	(7.7 - 10.9)	0.2	4.7	12.0	
12. Rate of older people (aged 65+) supported in the community per 1,000 population, 2014	71.2	(68.3 - 74.2)	46.2	74.5	130.8	

** Attendances to major emergency departments in Powys don't include those attending emergency departments outside Wales*

'' – '' Confidence intervals unavailable

Source(s):

1. Mid-year population estimates (ONS) 2. 2011 Census (ONS) 3. Welsh Index of Multiple Deprivation indicator data (WG) 4. Quality and Outcomes framework data (WG) 5. Welsh Health Survey (WG) 6. Vaccine Preventable Disease Programme uptake report (PHW) 7. Emergency Department Data Set (NWIS) and mid-year population estimates (ONS) 8. Emergency Department Data Set (NWIS) 9. Patient Episode Database for Wales (NWIS) and mid-year population estimates (ONS) 10. Patient Episode Database for Wales (NWIS) 11. StatsWales (WG) 12. StatsWales (WG)

5.24 The two indicators of need for unscheduled care where Powys displays relatively high rates are the percentage of population aged 85+ and the percentage of population 65+ and living alone. Conversely, Powys is relatively low for the percentage of the working age population claiming benefits and the percentage of the population reporting to be current smokers. The rate of both emergency department attendance and emergency inpatient admission is significantly lower than the Wales average. (N.B. Emergency department attendances will be affected by missing data from England).

5.25 The degree to which a low rate of emergency attendance/admission is a positive or negative finding requires further exploration to understand whether there is any impact on patient outcomes. Better anticipatory care and patient self-management may be contributing to the low

rate, or it may reflect a need for unscheduled care services that is not being met. Further exploration of patient outcomes and data completeness would need to be undertaken to judge the impact of a low rate of unscheduled care activity on the Powys population.
Recommendation 8: Rates of unscheduled care activity in Powys are relatively low. Although this is not necessarily a negative finding, Powys Teaching Health Board should seek assurance that these relatively low rates are not associated with adverse clinical outcomes in the Powys population.

5iii. Emergency admissions for hip fracture among 65+yrs

http://howis.wales.nhs.uk/sitesplus/922/page/60421 (Intranet only)

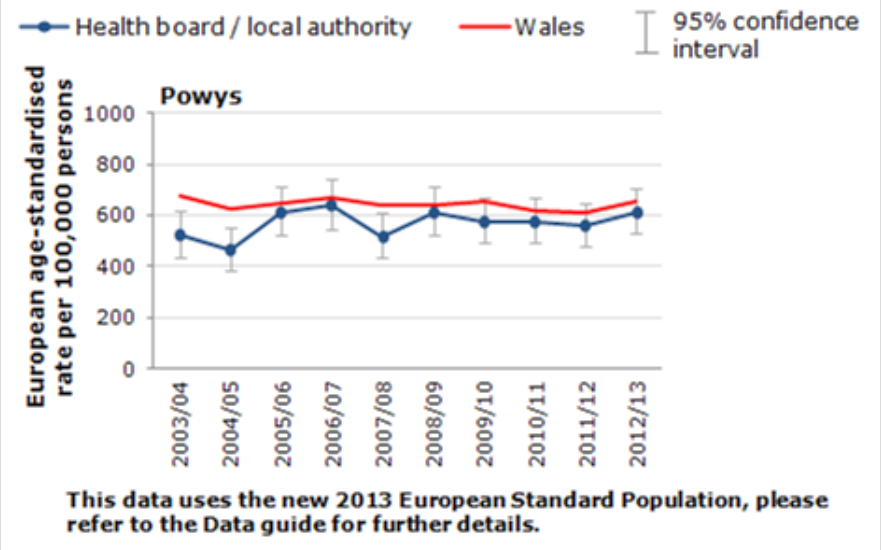
5.26 The Public Health Wales Observatory has published data on emergency admissions for hip fractures for Wales (excluding emergency transfers). The analysis is based on information from the Patient Episode Dataset for Wales (PEDW). The data enables users to see a comparison of local authorities and health boards for the most recent year (2012/13) and also a 10 year trend covering financial years 2003/04 to 2012/13.

5.27 The results shown are based on emergency admitting episodes in those aged 65yrs and over with a primary diagnosis of hip fracture in the diagnostic record of the admitting episode. This analysis is admissions-based; therefore multiple spells are counted where an individual is admitted more than once.

Findings

5.28 Figure 5.3 shows the trend in emergency admissions for hip fracture in Powys and Wales since 2003/04. The rates shown in the chart are adjusted for age differences in the two populations. The figures in each individual year show a general relationship of no statistically significant difference between local and national admission rates.

Figure 5.3: Emergency hospital admissions with a primary diagnosis of hip fracture, European age-standardised rates per 100,000 (EASR), persons aged 65 and over, PTHB, local authority and Wales financial years 2003/04-2012/13



Source: Public Health Wales.

5.30 Despite the age standardised rate not altering dramatically, in simple numerical terms, the number of admissions has risen during the period covered in Figure 5.3. There were 193 emergency admissions in Powys due to hip fracture in 2012/13, which represents a 42% increase on the number of admissions in 2003/04. Across Wales as a whole, the rise was more modest, equating to just a 12% increase over the same ten year period. A consideration of the rate alone masks this very real increase in demand for services following hip fracture, and is something that needs to be actively considered when planning future services.

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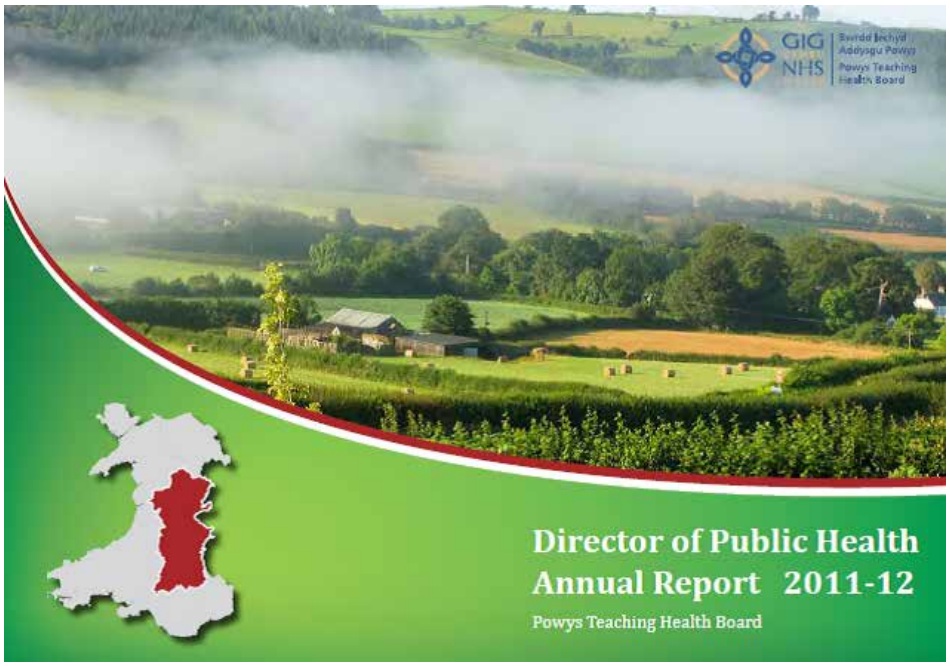

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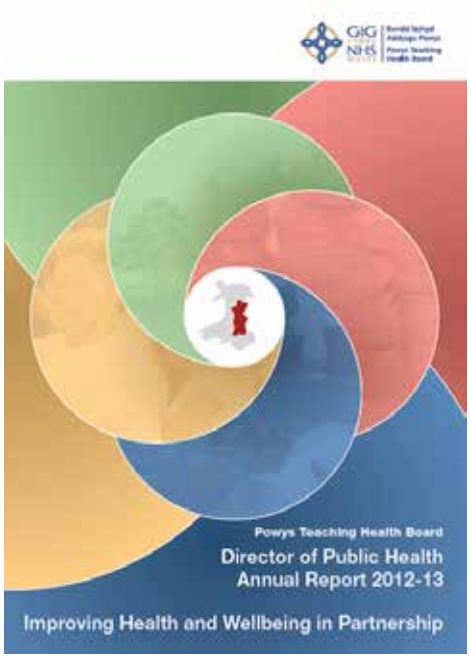

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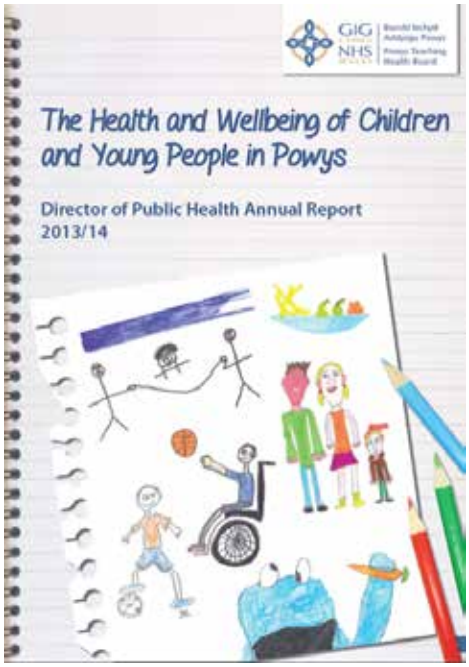

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7. Protecting Children from Harm
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