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GP | CLUSTER

PROFILES:

Powys THB



A **technical guide** explaining the data sources and methods used in this profile, plus **interactive spreadsheets** providing the data in charts and tables, are available at:

www.publichealthwalesobservatory.wales.nhs.uk/gpclusters

www.arsyllfaiechycyhoedduscymru.wales.nhs.uk/clystyrauofeddygonteulu

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1 Background and aim

Together for Health,¹ the strategy for health care in Wales, places primary and community services at the heart of health care delivery. The strategy emphasises the importance of prevention, early diagnosis and high quality services, with patient feedback as a key driver for continuous service improvement.

This approach progresses the vision described in *Setting the Direction*,² the Primary and Community Services Strategic Delivery Programme. This identified the key role for primary care services in creating a more sustainable health and social care model for the future, with less reliance on institutional forms of care.

A key element of this service model is locality networking, where local services work collaboratively to inform service planning and are responsible for delivery within a population of 30,000 to 50,000 patients. Health boards in Wales have worked with general practitioners (GPs) to identify groupings known officially as GP clusters. GPs in the clusters play a key role in supporting the ongoing work of a locality network (in some areas these are known as neighbourhood networks). GP clusters are charged with working together and with partners to meet local need. This has been made possible by the Quality and Outcomes Framework Quality and Productivity approach, enabling GPs and their teams to review the care of their own patients and work with cluster colleagues to understand and improve local systems of care.

Access to high quality information is essential to ensure that this developing agenda can proceed with pace. These profiles aim to support GP clusters by providing information on a number of key indicators in relation to their registered populations. They are designed to provide an overview of key characteristics allowing comparison with other clusters in their health board and Wales. Section 2 provides further information together with a rationale for the inclusion of each indicator.

2 Indicators

The 'reach' of the cluster

This term is used to refer to the cluster's geographical coverage in terms of where registered patients reside. Clusters do not have specific geographical confines, however the cluster needs to work in partnership with other health and social care agencies as described in *Setting the Direction*,² who are confined to administrative, geographical boundaries such as a local authority or health board. Understanding the reach of the cluster will reveal the extent to which the combined registered population is drawn from across these administrative boundaries. This in turn will help the cluster decide who it may need to establish partnerships with. The profiles include a 'reach map' for each cluster showing the percentage of the population in each lower super output area (LSOA) registered with practices in the cluster. In some rural areas, LSOAs may be geographically large, meaning that the reach of the cluster may appear wider than it actually is.

Age and sex breakdown

The age and sex composition of the cluster's patients is an important determinant of the level of need for health care. Older persons are disproportionately affected by chronic conditions. The Welsh Health Survey³ reported that 82 per cent of respondents aged 65 years and over suffered from a chronic condition, of whom 54 per cent suffered from two or more. If current trends continue the number of people living with chronic conditions will continue to increase in the future, with people living longer and developing more than one

chronic condition.⁴ The profiles include a breakdown of the cluster's patients by age and sex, comparing the cluster with the health board average.

Deprivation

The link between deprivation and poor health is well recognised. People in the most deprived areas have higher levels of mental illness, hearing and sight problems, and long-term conditions, particularly chronic respiratory diseases, cardiovascular diseases and arthritis.⁵ The Public Health Wales Observatory has reported that healthy life expectancy in males is 19 years lower in the most deprived areas of Wales compared with the least deprived areas; in females the gap is 18 years.⁶ The phenomenon known as the *Inverse Care Law*,⁷ where the provision of care is inversely related to population need, has been shown to compound these inequities. It is therefore important to bear in mind the socio-economic characteristics of the cluster's patients when considering the planning and delivery of primary care. For each cluster the profiles show the proportion of its patients who reside in each fifth of deprivation as measured by the Welsh Index of Multiple Deprivation 2011.

Rurality

Population age structures in rural areas are older and often this is compounded by outward migration of younger people and inward migration of older people. Current projections indicate that the increase in the proportion of older people will be greater in rural areas. This will have a significant impact on local service needs and support systems across health and social care. As well as having an older age structure, the population in rural areas is by definition more dispersed leading to difficulties in respect of access to, or the provision of, services. In addition, primary care services are presented with challenges in respect of integrating the services provided for the individual, some of which are NHS based with the remainder emanating from local government.⁸ Travelling distances for health and social care staff limit time spent engaged in direct patient contact. This creates tensions between outreach services, which aim to deliver greater access for patients, and centralisation of services which deliver maximum patient contact. The profiles include summary information using the Office for National Statistics (ONS) rural/urban definition and a modelled private transport based travel time analysis based on distance to registered main practice.

Burden of chronic disease

The Welsh Government has reported that managing and treating people with chronic conditions is placing increasing pressures on the National Health Service (NHS) and other public services.⁴ This is particularly true of GP and hospital services, where there is an impact on emergency admissions, length of stay in hospital, quality of patient care and waiting times across the board.

The Welsh Government has quantified the extent of chronic conditions on the population in Wales:⁴

- one third of adults in Wales (an estimated 800,000) reported having at least one chronic condition;
- of people aged over 65 in Wales, two thirds reported having at least one chronic condition, and one third had multiple chronic conditions; and
- over three-quarters of people aged over 85 in Wales reported having a limiting long-term illness.

If current trends continue, the number of people living with chronic conditions will increase with people living longer and developing more than one chronic condition.

Those conditions with high numbers of emergency admissions across Wales that could be reduced through enhanced community care include:⁹

- chronic obstructive pulmonary disease, asthma, chest infections;
- angina, heart failure, hypertension;
- epilepsy, convulsions; and
- diabetes with complications.

The profiles include information on the recorded burden of disease for a modified set of conditions based on data quality and availability:

- chronic obstructive pulmonary disease;
- asthma;
- coronary heart disease;
- heart failure;
- hypertension;
- epilepsy; and
- diabetes.

3 Guide to using the GP cluster profile

The summary (section 5) provides an overview of the GP clusters within Powys Teaching Health Board, in terms of their demographic characteristics and chronic condition registers.

For more detailed information see section 6, where each of the GP clusters is covered individually. A brief guide to interpreting this information is provided at the beginning of the section.

Details of the methods used to produce the information within this profile can be found in the [technical guide](#).

It should be noted that GP clusters do not have physical boundaries since they are based on grouped practice lists rather than grouped residential areas. As a result, information produced for GP clusters cannot directly be compared to information produced for geographically-based boundaries such as local authorities or super output areas.

4 Your feedback and future work

This is the first time that demographic and chronic condition indicators have been presented at the GP cluster level and it is envisaged that ongoing work will be required to support these new entities. In order to assist with this the Observatory would like to gather views on this product as it is recognised that it may stimulate further ideas from the users on what information would support the GP clusters.

Feedback may be left via the Observatory Inbox:
publichealthwalesobservatory@wales.nhs.uk

Later in the summer (2013) with the help of project board members, we aim to undertake an evaluation of the profiles. Feedback from users working in health boards and in primary care will be crucial.

5 Summary

5.1 Demographic characteristics of clusters

Table 1 shows that there are three clusters operating within the health board, with total list sizes ranging from 28,730 (Mid Powys) to 64,690 (North Powys).

Table 1: Number of practices and total list size, GP clusters in Powys tHB, 2012

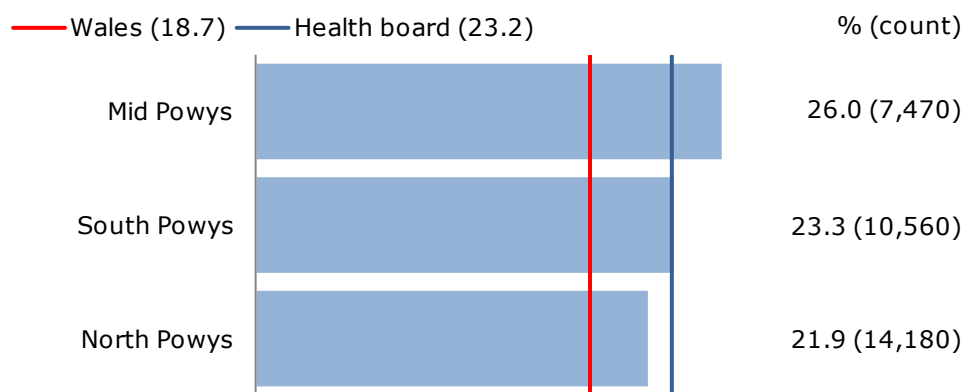
GP cluster	No. of practices	Total list size*
Mid Powys	5	28,730
North Powys	8	64,690
South Powys	4	45,250
Health Board	17	138,670
Wales	474	3,174,670

Produced by Public Health Wales Observatory, using WDS (NWIS) & GP registrations from England

*Rounded to nearest 10 for ease of reading

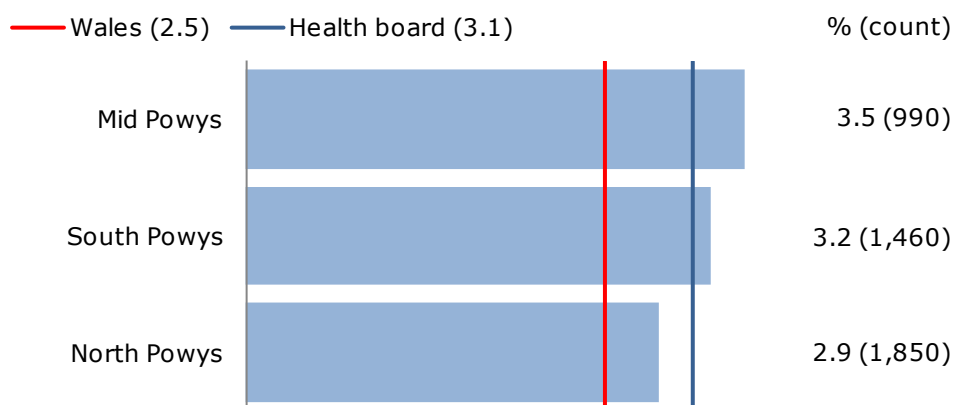
Older people

Figure 1: Percentage of patients aged 65+, GP clusters in Powys tHB, 2012



Produced by Public Health Wales Observatory, using WDS (NWIS) & GP registrations from England (PCTs/CCGs)

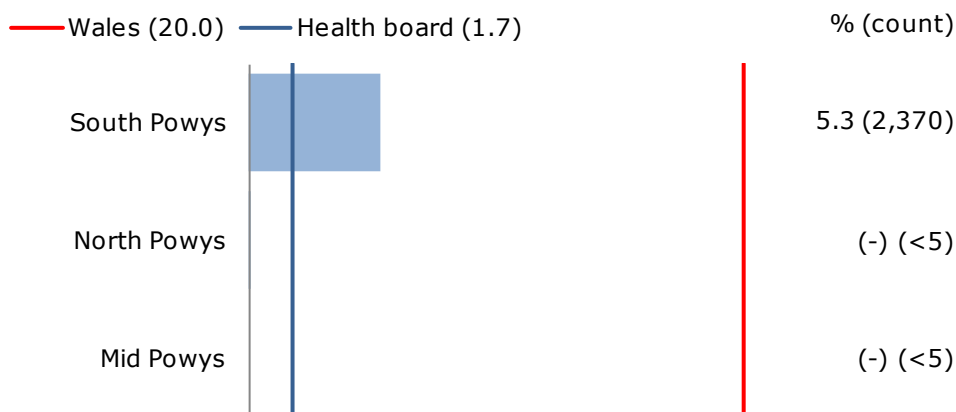
Figure 2: Percentage of patients aged 85+, GP clusters in Powys tHB, 2012



Produced by Public Health Wales Observatory, using WDS (NWIS) & GP registrations from England (PCTs/CCGs)

Deprivation

Figure 3: Percentage of patients living in the most deprived fifth of areas in Wales (using Welsh Index of Multiple Deprivation 2011), GP clusters in Powys tHB, 2012

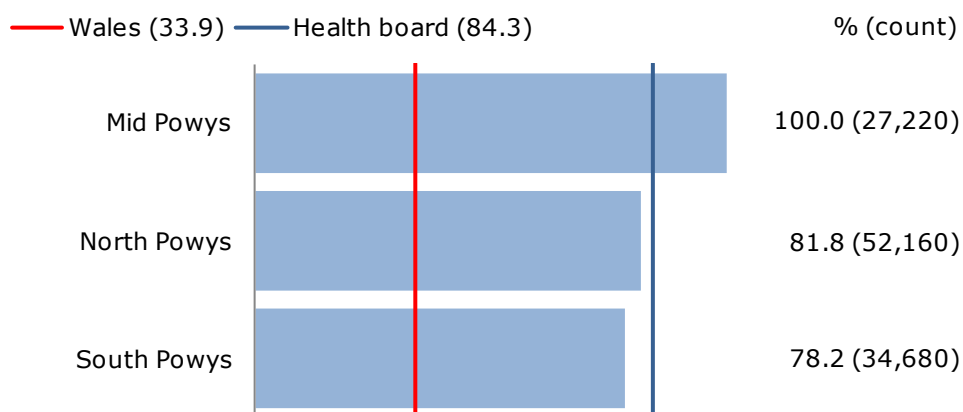


Produced by Public Health Wales Observatory, using WDS (NWIS), WIMD (WG)

Deprivation in the resident population across the health board is shown at LSOA level in figure 5.

Rurality

Figure 4: Percentage of patients living in areas classified as rural (using 2004 Office for National Statistics definition), GP clusters in Powys tHB, 2012


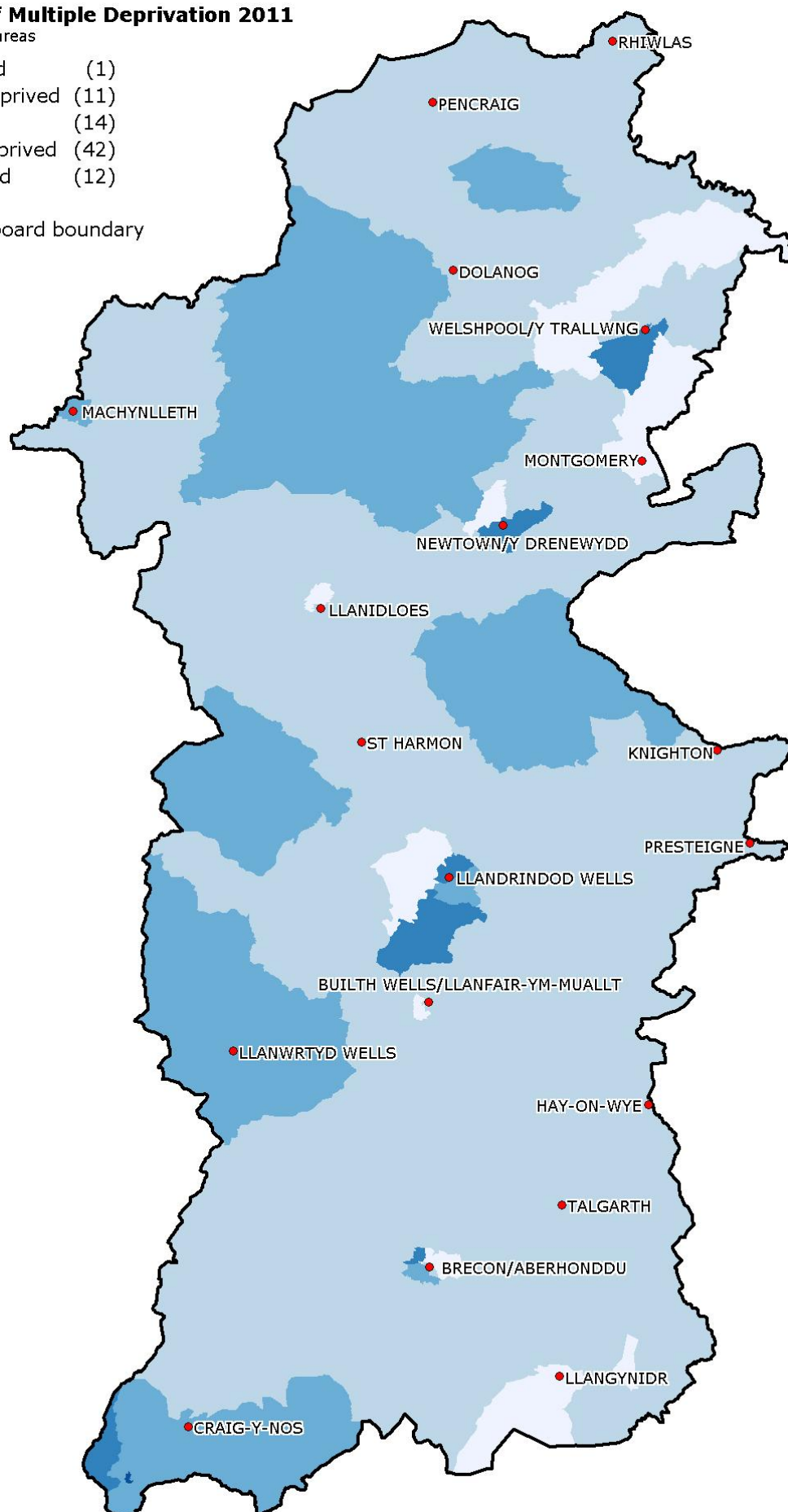


Produced by Public Health Wales Observatory, using WDS (NWIS), rural/urban classification 2004 (ONS)

Figure 5: LSOA deprivation fifths within health board area, WIMD 2011, all residents**Welsh Index of Multiple Deprivation 2011**

Lower super output areas

- Most deprived (1)
- Next most deprived (11)
- Medium (14)
- Next least deprived (42)
- Least deprived (12)

 Health board boundary


5.2 Chronic condition registers

Tables 2 to 4 use data from the Audit+ data repository to show the chronic condition registers within GP clusters across the health board. Data is submitted to Audit+ on a voluntary basis and only three practices in Wales have opted out of installing the Audit+ software. For more information on this see the [technical guide](#). There are some technical and organisational issues that mean that we have not been able to collect data from all practices even if the software is installed. On average, the repository receives around a 90 percent return rate from all the practices that have installed Audit+. The composition of practices submitting data does vary from submission to submission. Within this health board data are not included for one practice with a total list size of 6,900[‡]. This data source is only used to support the disease burden sections.

It should be noted that these figures can only report on cases of those conditions which have been diagnosed and recorded. For example, there will be a certain number of undiagnosed cases of diabetes or hypertension within all practice populations. This has two key implications:

- The information presented is more likely to underestimate than overestimate the 'true' prevalence of the conditions within the GP cluster.
- A higher number of patients on the register may reflect greater efforts on the behalf of GPs within the cluster to identify patients with the condition.

The [technical guide](#) provides further information about the strengths and weaknesses of Audit+ data.

Table 2 shows the actual number of patients on selected chronic condition registers. This information, together with the percentage of patients on each register (see table 3), is clearly useful for service planning purposes.

Table 2: Number of patients on selected chronic condition registers, GP clusters in Powys tHB, 2012

GP cluster	Number of GP cluster patients on register*						
	Asthma	Hypertension	CHD	COPD	Diabetes	Epilepsy	Heart Failure
Mid Powys	1,790	4,790	1,150	610	1,500	210	320
North Powys	3,710	8,860	2,320	1,160	2,710	390	450
South Powys	2,990	8,110	1,880	980	2,550	270	570
Health Board	8,480	21,750	5,350	2,750	6,760	880	1,340
Wales	206,430	474,760	124,460	64,820	161,470	22,490	28,680

Produced by Public Health Wales Observatory, using Audit+ (NWIS)

*Rounded to nearest 10 for ease of reading

[‡] Rounded to nearest 100 for ease of reading

Table 3 shows the percentage of patients on selected registers in each GP cluster. The data is not age-standardised, so clusters with higher proportions of older patients would be expected to have higher percentages of patients with conditions associated with old age. The data therefore shows the recorded burden of disease within each cluster, without taking the age profiles of different clusters into account.

Table 3: Percentage of patients on selected chronic condition registers, Powys tHB, 2012, *to indicate the recorded burden of disease across clusters*

GP cluster	Percentage of GP cluster patients on register						
	Asthma	Hypertension	CHD	COPD	Diabetes	Epilepsy	Heart Failure
Mid Powys	6.3	16.9	4.0	2.1	5.3	0.7	1.1
North Powys	6.4	15.4	4.0	2.0	4.7	0.7	0.8
South Powys	6.6	17.9	4.1	2.2	5.6	0.6	1.3
Health Board	6.5	16.6	4.1	2.1	5.1	0.7	1.0
Wales	6.7	15.3	4.0	2.1	5.2	0.7	0.9

Produced by Public Health Wales Observatory, using Audit+ (NWIS)

Table 4 shows the age-standardised percentage of patients on selected registers in each GP cluster. This enables comparisons of recorded disease burden to be made across GP clusters having taken their different age profiles into account.

Table 4: Age-standardised percentage of patients on selected chronic condition registers, Powys tHB, 2012, *to indicate the relative burden of recorded disease across clusters having taken age into account*

GP cluster	Age-standardised percentage of GP cluster patients on register						
	Asthma	Hypertension	CHD	COPD	Diabetes	Epilepsy	Heart Failure
Mid Powys	6.1	9.2	1.9	1.1	3.1	0.6	0.5
North Powys	6.1	9.6	2.2	1.2	3.1	0.6	0.4
South Powys	6.3	10.9	2.2	1.2	3.5	0.5	0.6
Health Board	6.2	10.0	2.1	1.2	3.3	0.6	0.5
Wales	6.4	11.1	2.6	1.4	3.9	0.7	0.6

Produced by Public Health Wales Observatory, using Audit+ (NWIS)

6 Information for individual GP clusters

In this section, information is provided for each of the GP clusters within Powys teaching HB in turn. Details of the methods used to produce this information, along with visual guides to interpretation of charts/maps, can be found in the [technical guide](#).

Notes for interpretation

- **Geographical 'reach' maps**

The areas shaded on the map are called 'Lower Super Output Areas' (LSOAs). These are geographically-defined areas used to show statistical information, with an average population of around 1,500. Each LSOA is shaded according to the percentage of its population that is registered with the GP cluster in question. In some rural areas, LSOAs may be geographically large, meaning that the reach of the cluster may appear wider than it actually is.

- **Age/sex breakdown**

The horizontal bars show the percentage of patients within each age/sex category. The shaded element shows the GP cluster percentage, with the outline providing the comparative health board percentages.

- **Deprivation charts**

The horizontal bars show the percentage of patients within each deprivation fifth, along with the actual number of people in brackets.

The vertical dotted lines show the comparative percentage of the overall health board registered population within each fifth.

- **Rurality charts**

The horizontal bars show the percentage of patients within each rural/urban category, along with the actual number of people in brackets.

The vertical dotted lines show the comparative percentage of the overall health board registered population within each category.

- **Chronic condition registers tables/charts**

There are two sections to this graphic:

1. Actual recorded burden of disease

This is the percentage of the GP cluster's patients who are on the chronic condition registers. These numbers are not age-standardised, so clusters with higher proportions of older people would be expected to have higher percentages of people with conditions associated with old age. The data therefore shows the actual recorded burden of disease within each cluster, rather than the relative level of disease across clusters.

2. Adjusted recorded burden of disease

This shows the variation of GP cluster values for each condition after standardisation, to adjust for different age structures, and normalisation to allow plotting of different conditions on a single scale. As such it is not possible to make magnitude comparisons between conditions, for this the actual age-standardised rates can be seen in table 4. Within a particular condition, the chart shows whether the cluster is higher or lower than its peers and also whether it is in the middle 50 per cent of values in Wales.

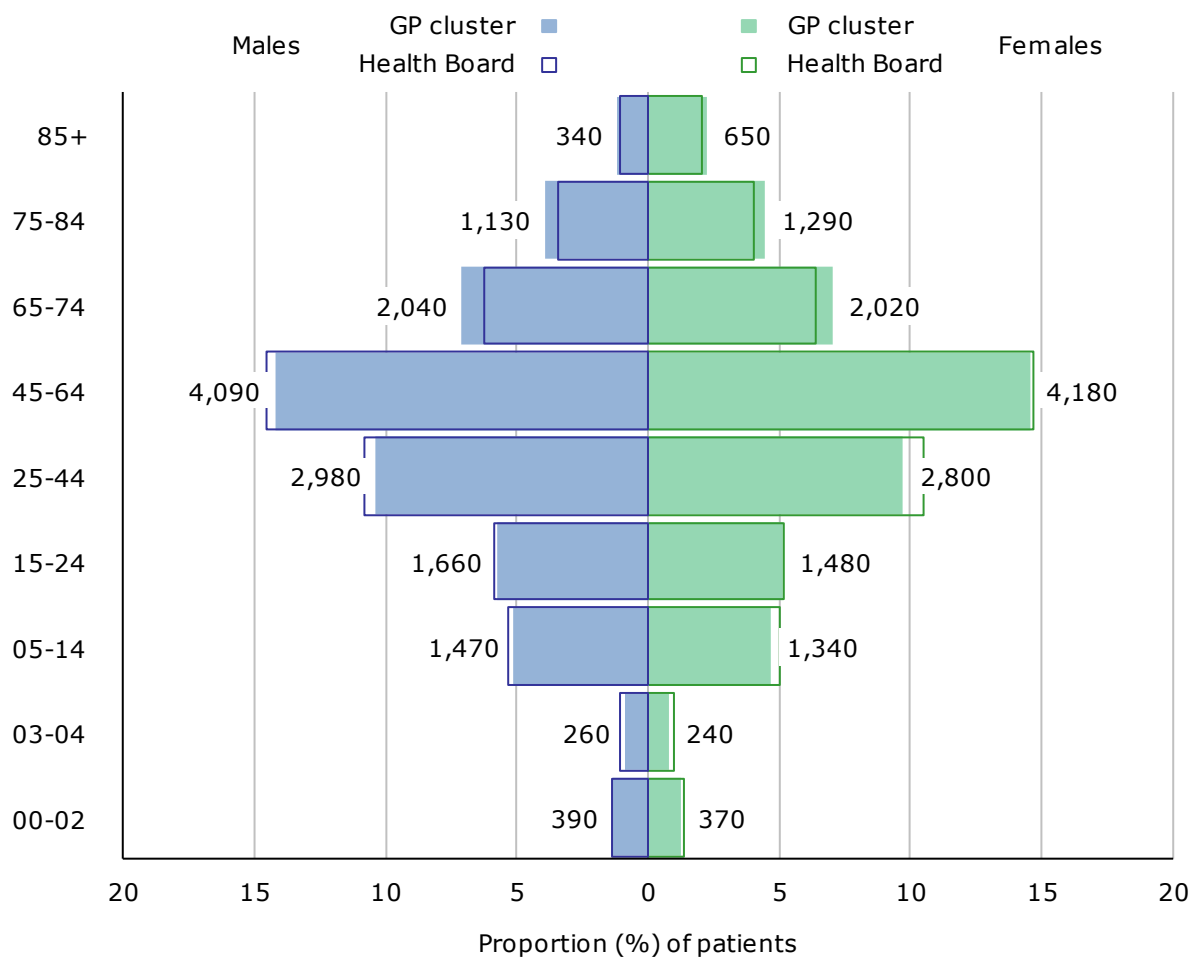
6.1 Mid Powys

Geographical 'reach' map

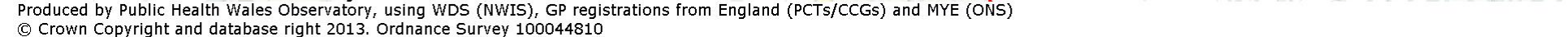
The map fits better on a landscape page and has therefore been inserted on the next page.

Age/sex breakdown of population

Figure 16: Percentage of patients by age and sex (with actual GP cluster counts shown next to bars), showing Mid Powys GP cluster and Powys tHB for comparison, 2012

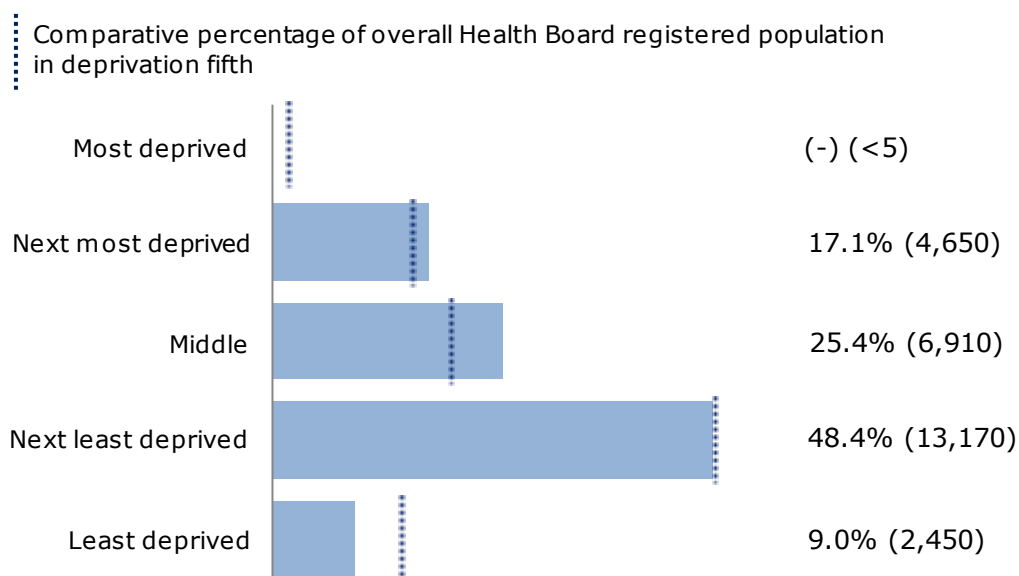


Produced by Public Health Wales Observatory, using WDS (NWIS) and GP registrations from England (PCTs/CCGs)



Deprivation

Figure 18: Percentage of patients (with count in brackets) by deprivation fifth in Mid Powys GP cluster, showing Powys tHB for comparison, 2012



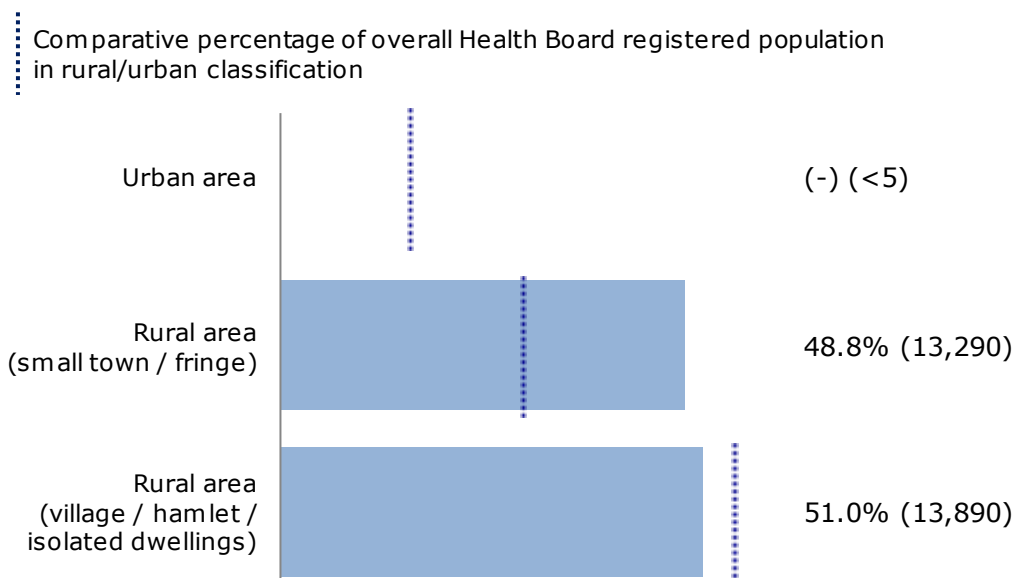
Produced by Public Health Wales Observatory, using WDS (NWIS), WIMD (WG)

N.B. Chart omits 50 patients with postcodes that could not be matched to an area of residence and therefore could not be classified

Rurality

i) Office for National Statistics rural/urban classification

Figure 19: Percentage of patients (with count in brackets) by rural/urban classification in Mid Powys GP cluster, showing Powys tHB for comparison, 2012



Produced by Public Health Wales Observatory, using WDS (NWIS), 2004 rural/urban definition (ONS)

N.B. Chart omits 50 patients with postcodes that could not be matched to an area of residence and therefore could not be classified

ii) Time taken to drive to registered practice

Table 7: Modelled percentage of patients living within specified driving times to their registered main practice in Mid Powys GP cluster

Time band (Minutes)	Number registered	Percentage
Less than 5	12,570	43.7
5 or more, less than 10	5,530	19.3
10 or more, less than 15	4,330	15.1
15 and over	6,290	21.9
*Unmatched postcode	10	0.0
Total†	28,730	

Produced by Public Health Wales Observatory, using WDS (NWIS), GP registrations from England (PCTs/CCGs) and Mapinfo Drivetime

*Postcode could not be matched to an area of residence and therefore could not be classified or drivetime was not available

†Total does not include counts of <5, totals may not match due to rounding

Chronic condition registers

Figure 20: Recorded and adjusted recorded burden of disease in Mid Powys GP cluster, showing other GP clusters in Powys tHB and Wales for comparison, 2012

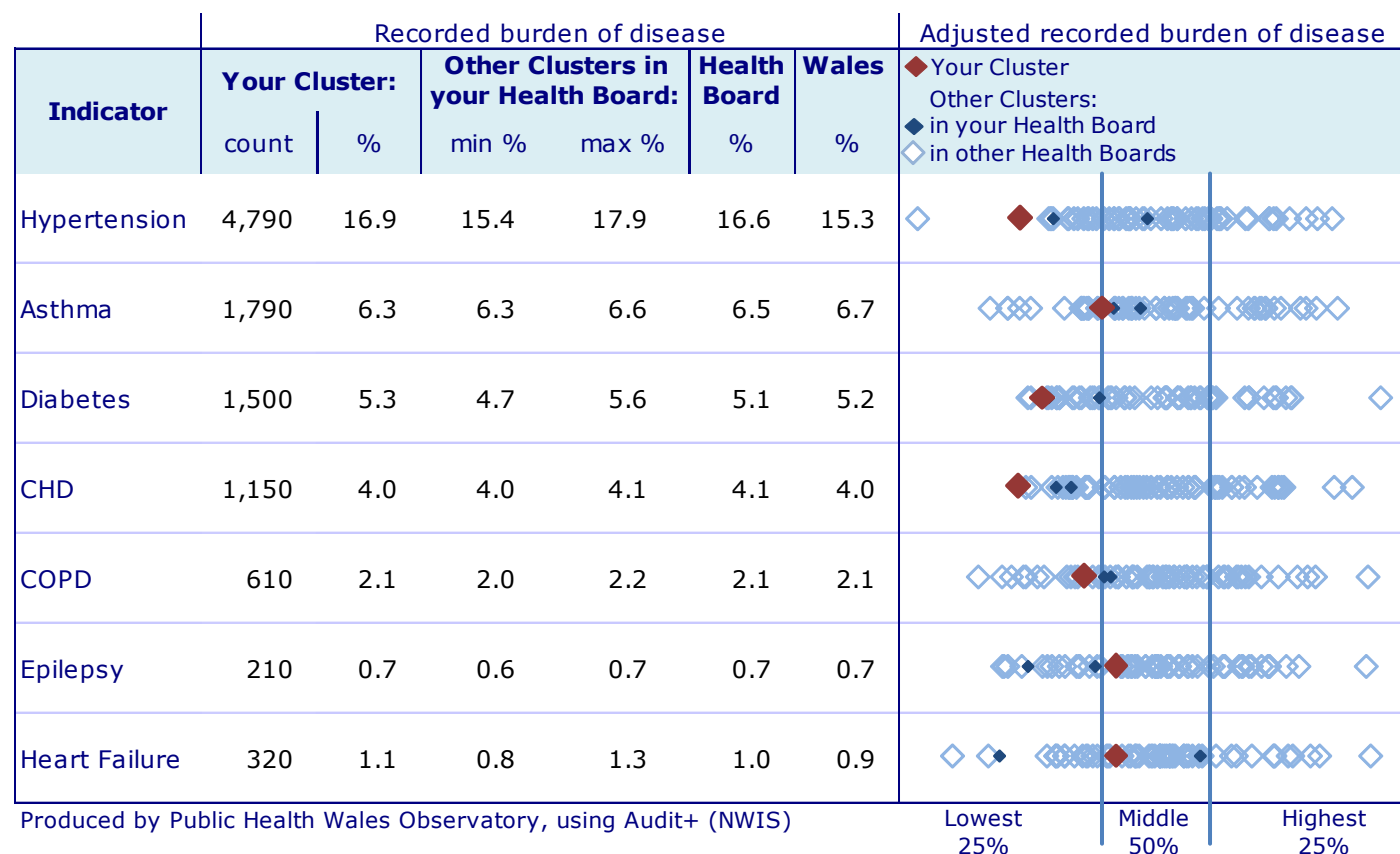
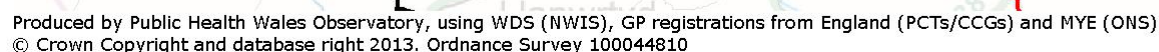
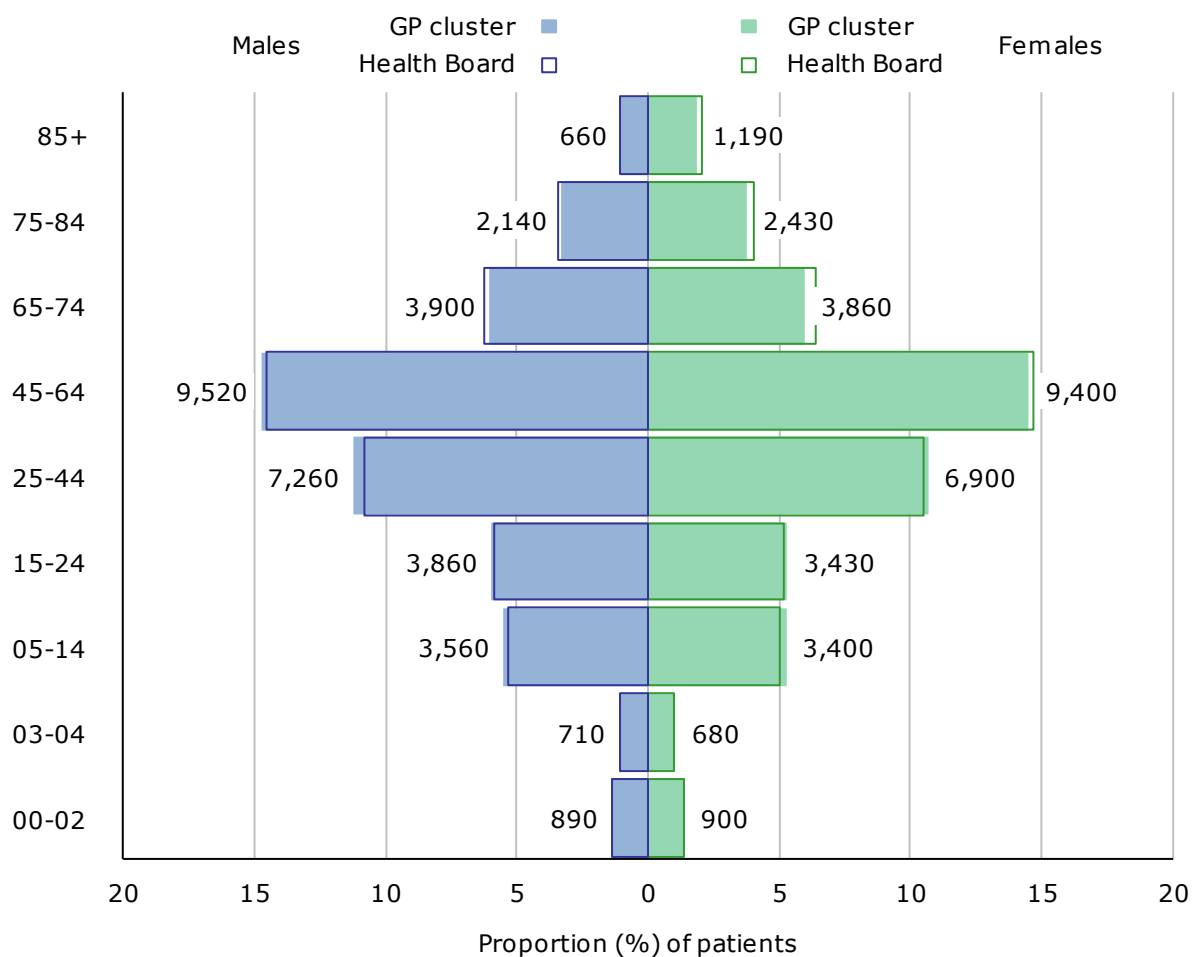


Figure 11: Percentage of population registered with practices in the North Powys GP cluster, 2012



Age/sex breakdown of population

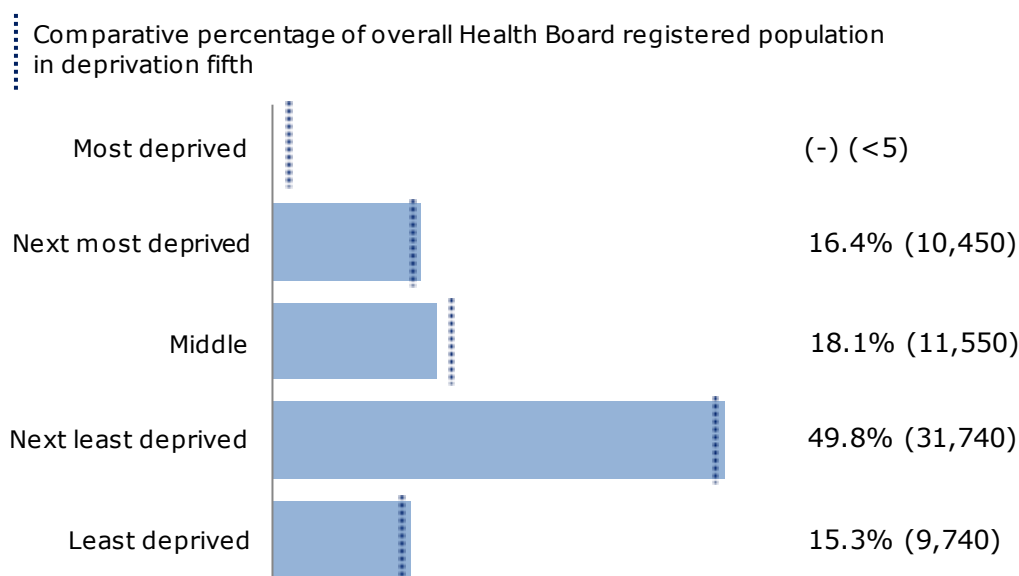
Figure 12: Percentage of patients by age and sex (with actual GP cluster counts shown next to bars), showing North Powys GP cluster and Powys tHB for comparison, 2012



Produced by Public Health Wales Observatory, using WDS (NWIS) and GP registrations from England (PCTs/CCGs)

Deprivation

Figure 13: Percentage of patients (with count in brackets) by deprivation fifth in North Powys GP cluster, showing Powys tHB for comparison, 2012



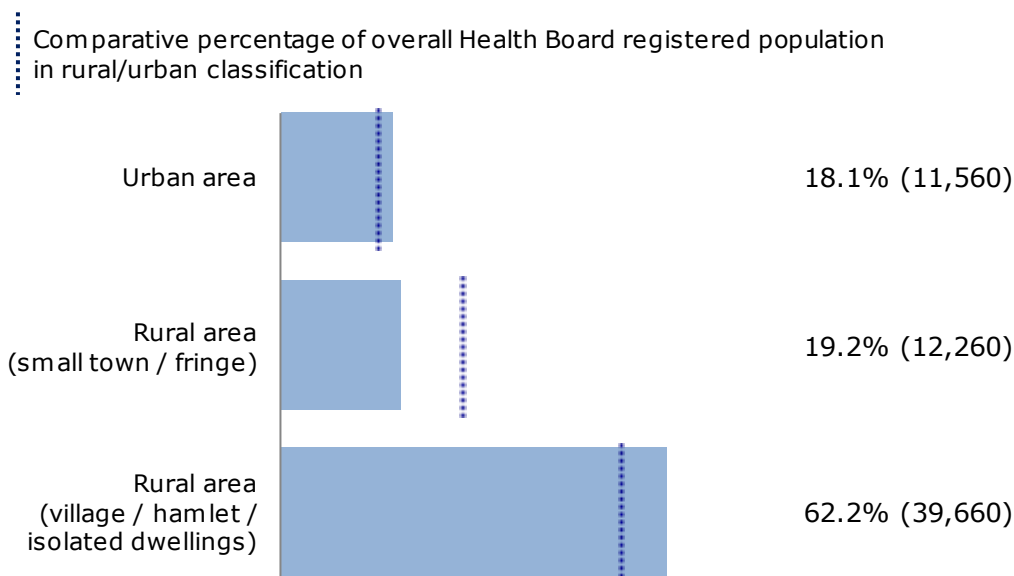
Produced by Public Health Wales Observatory, using WDS (NWIS), WIMD (WG)

N.B. Chart omits 280 patients with postcodes that could not be matched to an area of residence and therefore could not be classified

Rurality

i) Office for National Statistics rural/urban classification

Figure 14: Percentage of patients (with count in brackets) by rural/urban classification in North Powys GP cluster, showing Powys tHB for comparison, 2012



Produced by Public Health Wales Observatory, using WDS (NWIS), 2004 rural/urban definition (ONS)

N.B. Chart omits 280 patients with postcodes that could not be matched to an area of residence and therefore could not be classified

ii) Time taken to drive to registered practice

Table 6: Modelled percentage of patients living within specified driving times to their registered main practice in North Powys GP cluster

Time band (Minutes)	Number registered	Percentage
Less than 5	17,310	26.8
5 or more, less than 10	17,710	27.4
10 or more, less than 15	14,990	23.2
15 and over	14,650	22.6
*Unmatched postcode	40	0.1
Total†	64,690	

Produced by Public Health Wales Observatory, using WDS (NWIS), GP registrations from England (PCTs/CCGs) and Mapinfo Drivetime

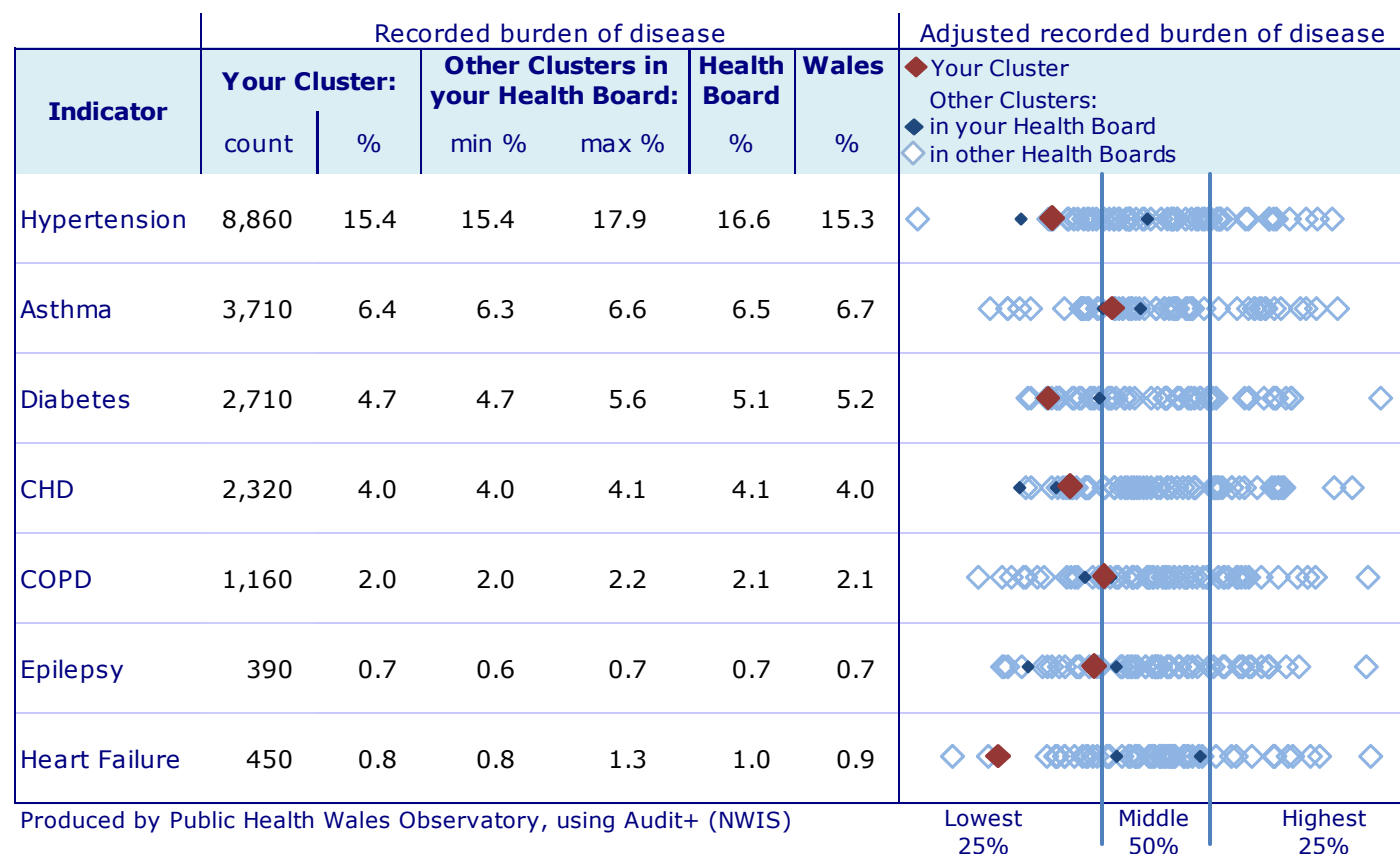
*Postcode could not be matched to an area of residence and therefore could not be classified or drivetime was not available

†Total does not include counts of <5, totals may not match due to rounding

Chronic condition registers

Within this GP cluster data are not included for one practice with a total list size of 6,900[‡].

Figure 15: Recorded and adjusted recorded burden of disease in North Powys GP cluster, showing other GP clusters in Powys tHB and Wales for comparison, 2012



[‡] Rounded to nearest 100 for ease of reading

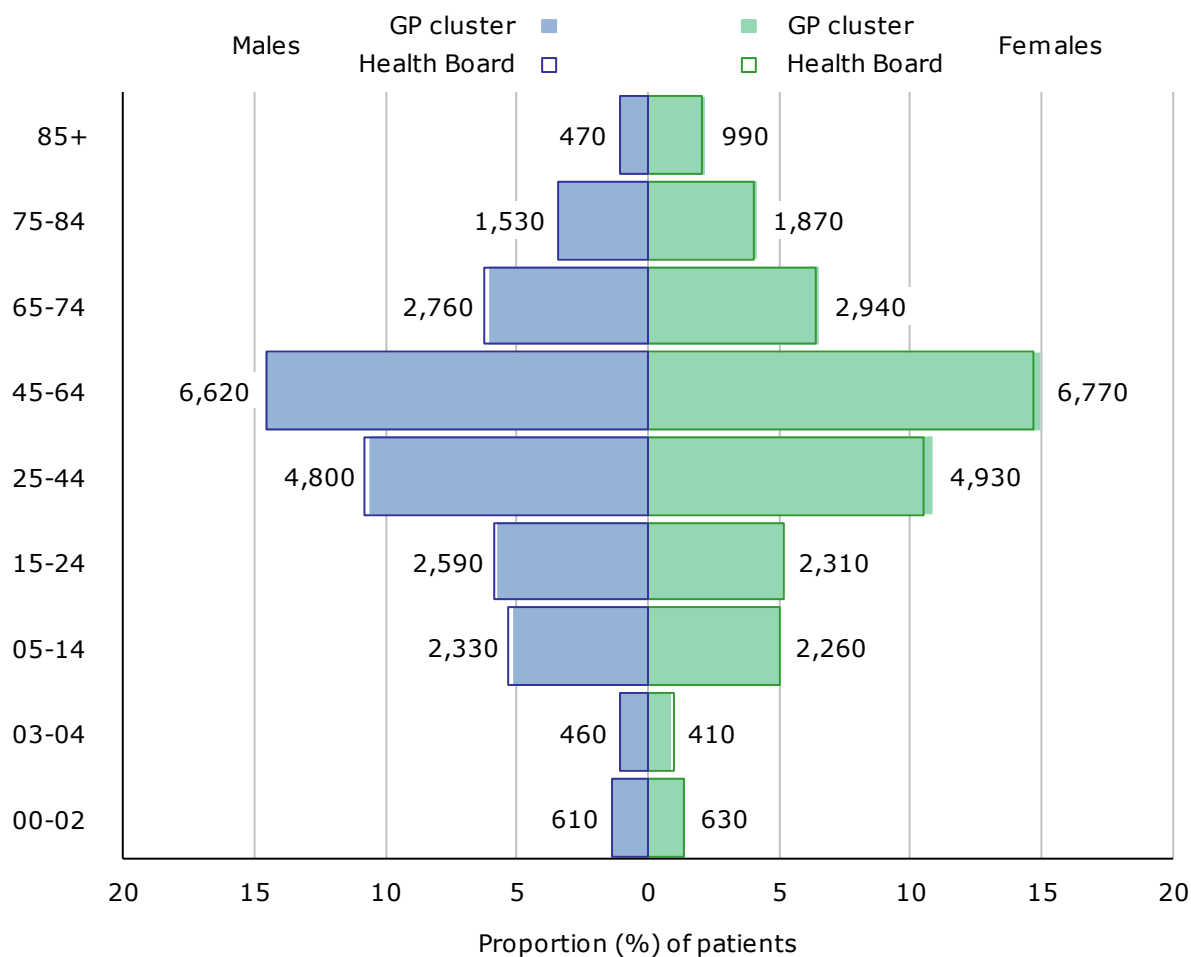
6.3 South powys

Geographical 'reach' map

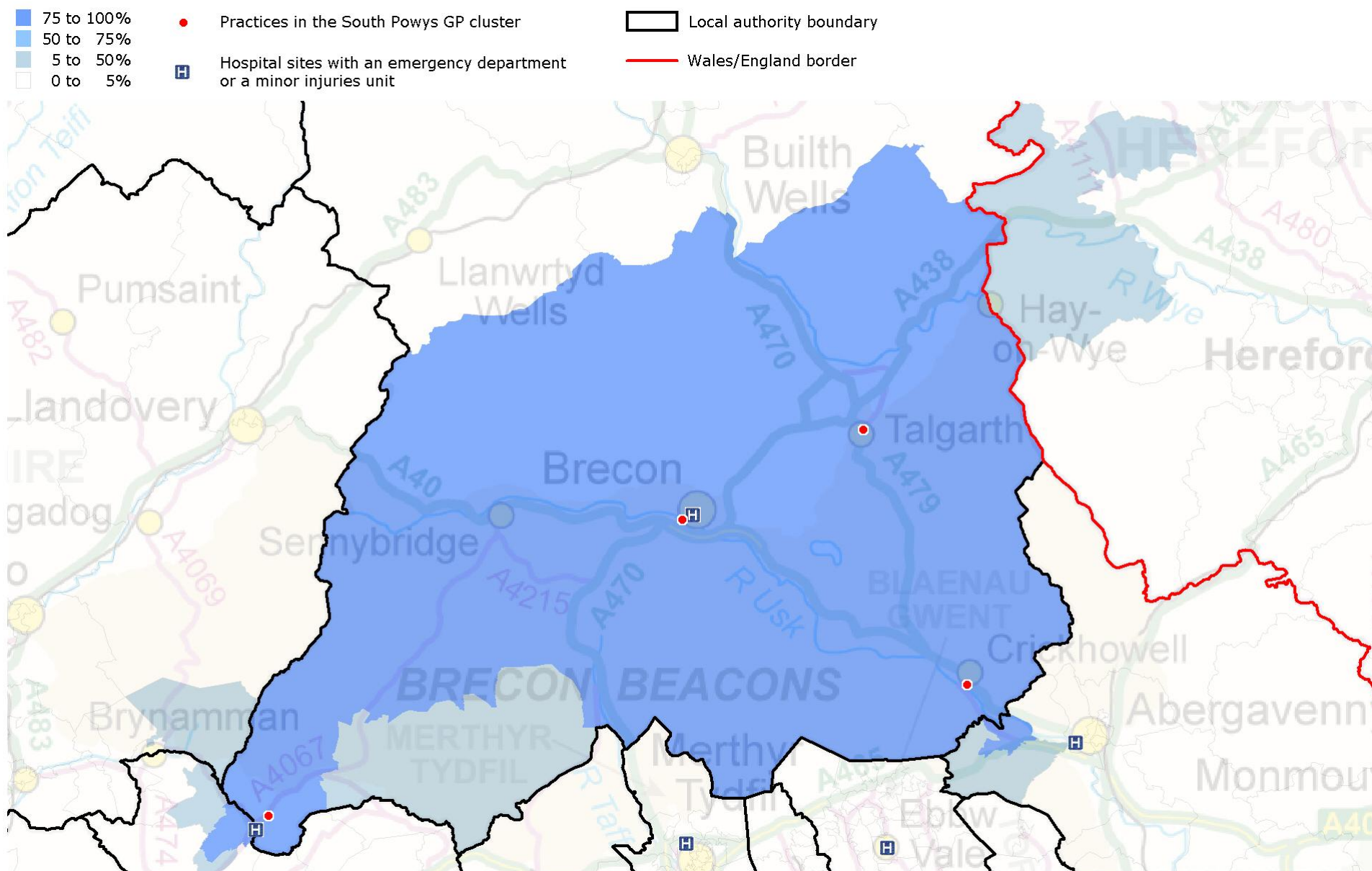
The map fits better on a landscape page and has therefore been inserted on the next page.

Age/sex breakdown of population

Figure 16: Percentage of patients by age and sex (with actual GP cluster counts shown next to bars), showing South Powys GP cluster and Powys tHB for comparison, 2012



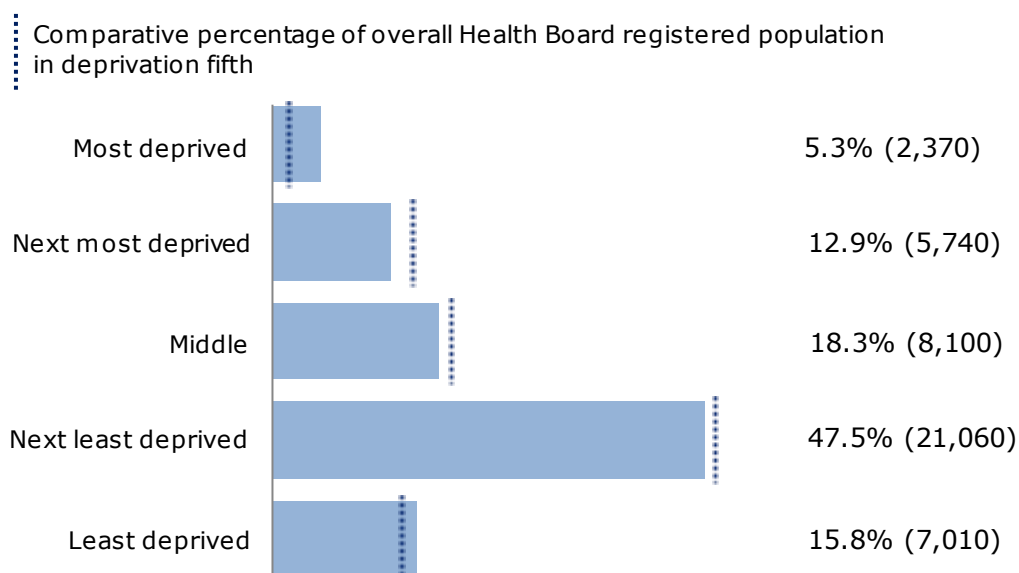
Produced by Public Health Wales Observatory, using WDS (NWIS) and GP registrations from England (PCTs/CCGs)

Figure 17: Percentage of population registered with practices in the South Powys GP cluster, 2012

Produced by Public Health Wales Observatory, using WDS (NWIS), GP registrations from England (PCTs/CCGs) and MYE (ONS)
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Deprivation

Figure 18: Percentage of patients (with count in brackets) by deprivation fifth in South Powys GP cluster, showing Powys tHB for comparison, 2012



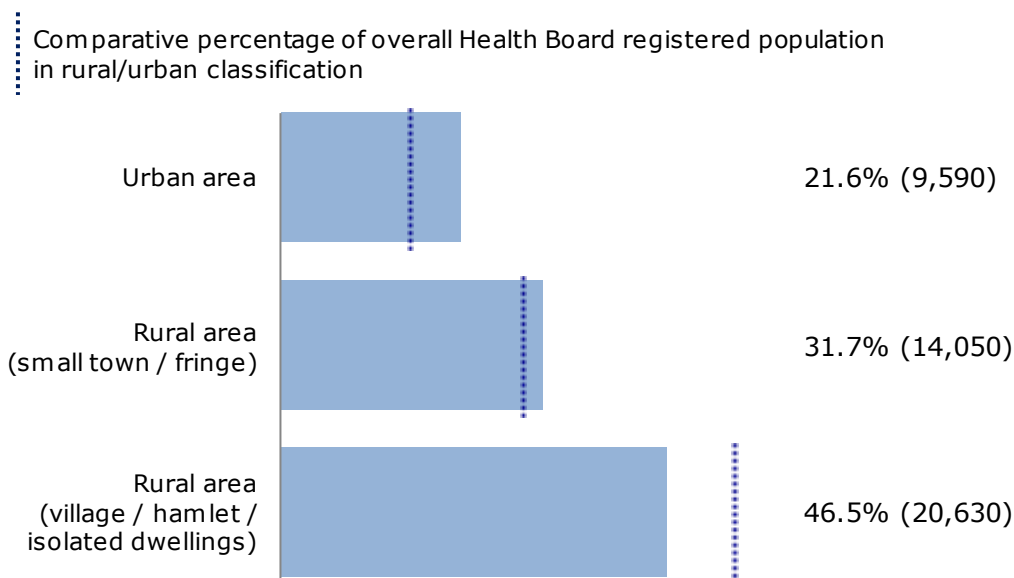
Produced by Public Health Wales Observatory, using WDS (NWIS), WIMD (WG)

N.B. Chart omits 60 patients with postcodes that could not be matched to an area of residence and therefore could not be classified

Rurality

i) Office for National Statistics rural/urban classification

Figure 19: Percentage of patients (with count in brackets) by rural/urban classification in South Powys GP cluster, showing Powys tHB for comparison, 2012



Produced by Public Health Wales Observatory, using WDS (NWIS), 2004 rural/urban definition (ONS)

N.B. Chart omits 60 patients with postcodes that could not be matched to an area of residence and therefore could not be classified

ii) Time taken to drive to registered practice

Table 7: Modelled percentage of patients living within specified driving times to their registered main practice in South Powys GP cluster

Time band (Minutes)	Number registered	Percentage
Less than 5	18,610	41.1
5 or more, less than 10	13,630	30.1
10 or more, less than 15	7,570	16.7
15 and over	5,390	11.9
*Unmatched postcode	60	0.1
Total†	45,250	

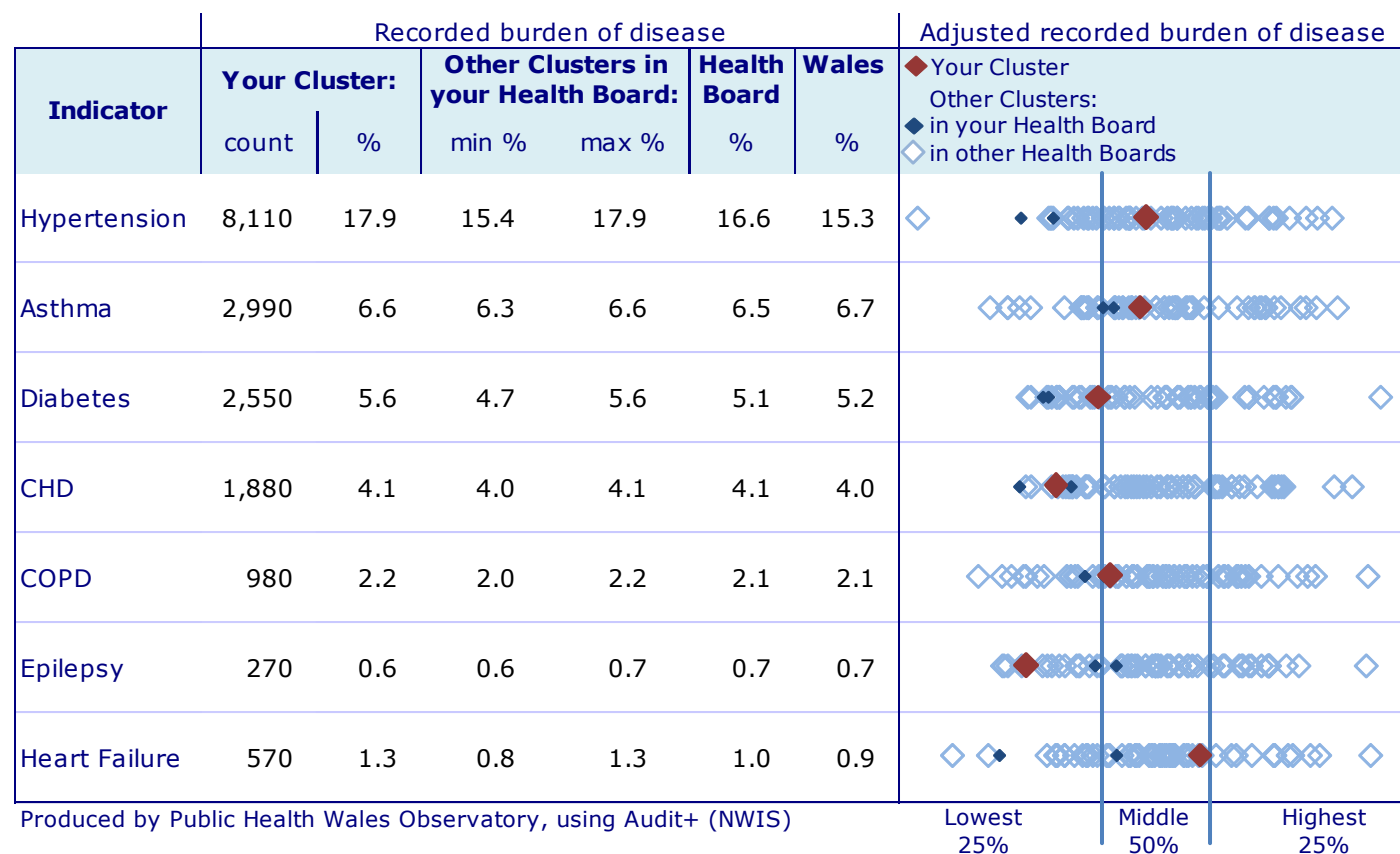
Produced by Public Health Wales Observatory, using WDS (NWIS), GP registrations from England (PCTs/CCGs) and Mapinfo Drivetime

*Postcode could not be matched to an area of residence and therefore could not be classified or drivetime was not available

†Total does not include counts of <5, totals may not match due to rounding

Chronic condition registers

Figure 20: Recorded and adjusted recorded burden of disease in South Powys GP cluster, showing other GP clusters in Powys tHB and Wales for comparison, 2012



7 References

1. Welsh Government. *Together for Health. A Five Year Vision for the NHS in Wales*. Cardiff: WG; 2011. Available at:
<http://wales.gov.uk/docs/dhss/publications/111101togetheren.pdf>
2. Welsh Government. *Setting the Direction. Primary & Community Services Strategic Delivery Programme*. Cardiff: WG; 2010. Available at:
<http://wales.gov.uk/docs/dhss/publications/100727settingthedirectionen.pdf>
3. Welsh Government. *Welsh Health Survey 2011*. Cardiff: WG; 2012. Available at:
<http://wales.gov.uk/docs/statistics/2012/120919healthsurvey2011en.pdf>
4. Welsh Government. *Chronic Conditions*. [Online]. Cardiff: WG; 2006. Available at:
<http://wales.gov.uk/topics/health/nhswales/majorhealth/chronicconditions/?lang=en>
5. National Public Health Service for Wales. *Deprivation and Health: A Report by the National Public Health Service for Wales*. Cardiff: NPHS; 2004. Available at:
[http://www2.nphs.wales.nhs.uk:8080/hiatdocs.nsf/c944d98bdfffc718802570050043d5cd/2eaebe01733430f8802576ea004bc063/\\$FILE/Deprivationreport10Dec04.pdf](http://www2.nphs.wales.nhs.uk:8080/hiatdocs.nsf/c944d98bdfffc718802570050043d5cd/2eaebe01733430f8802576ea004bc063/$FILE/Deprivationreport10Dec04.pdf)
6. Public Health Wales Observatory. *Measuring inequalities 2011: trends in mortality and life expectancy in Wales*. Cardiff: Public Health Wales; 2011. Available at:
www.publichealthwalesobservatory.wales.nhs.uk/inequalities
7. Hart JT. The Inverse Care Law. *Lancet* 1971; i:405-12.
8. Welsh Government. *Rural Health Plan. Improving integrated service delivery across Wales*. Cardiff: WG; 2009. Available at:
<http://wales.gov.uk/docs/dhss/publications/100118ruralhealthplanen.pdf>
9. Welsh Government. *High Impact Service Changes. Delivering high quality, cost-effective care in the Community*. Cardiff: WG; 2011. Available at:
<http://wales.gov.uk/docs/dhss/publications/110216changesen.pdf>