

Chapter 5: Distribution of health needs in Wales

The aim of this section is to identify health needs within Wales. Thus, available measures are initially explored as raw counts of mortality and morbidity: unstandardised, as each case is an indicator of a health need. However, there is an obvious tendency for areas with high populations to demonstrate high levels of health need, particularly if they contain a relatively high proportion of older people. Hence, some of the datasets have been subsequently standardised according to the age and sex structures of the populations of each area, which enables excessively high, and excessively low, rates of disease to be identified.

In addition to exploring health need using current figures available, it is helpful to look at changes over time and comparisons between areas, using as small an areal unit as is practicable. For these comparisons to be effected, data need to be collected and compiled over consistent areal units. Such units are commonly those designated for administrative purposes in local government and for the NHS. It is a source of some frustration that electoral and health boundaries are far from constant, for example, Local Authority districts and wards have been changed both between the 1981 and 1991 Censuses of Population and subsequent to the 1991 Census. In Wales, substantial changes were made to form the boundaries of the new Unitary Authorities (UAs) which are not direct aggregations of 1991 Census wards.

Mechanisms exist to transform datasets between one set of units and another: for example, to map 1981 Census data using 1991 ward boundaries. However, whenever this occurs there is a loss of accuracy and data quality is compromised, although considerable efforts are made to minimise this. There are two further geographical considerations.

The modifiable areal unit problem arises whenever arbitrary boundaries such as administrative units are employed. Essentially, measures calculated for these areas can change substantially depending upon how the boundaries are constructed (see, for example, the work of Openshaw and Taylor, 1979; Green and Flowerdew, 1996). Adjusting the boundaries can have substantial effects on calculated indicators.

Further, statistical modelling generally assumes that observations are independent. However, it is often the case that processes can be operating at a local scale, with the result that the independence is compromised, *ie* places which are near to one another are more likely to share similar characteristics than places which are further away, and this can affect the data which are collected. Spatial autocorrelation techniques (Goodchild, 1987) can be used to assess whether this appears to be in evidence.

To supplement the tabulation of results, some data are geographically mapped in this section to facilitate visual exploration. In this way, areas with similar health measures can be seen and geographically close areas with similar rates are more easily identified. The data for the areas are grouped into four or five class intervals and each class is shaded. The darker the shading, the higher the absolute count of cases, or disease rate. Hence, a cluster of areas with dark shading will indicate a geographical concentration of a high occurrence of mortality or morbidity.

Data are available at a variety of spatial scales, generally limited by the requirement that individuals should not be identifiable. The data here are explored at as disaggregated a scale as is feasible. The base level is that of 1991 Census wards (the UA boundaries are superimposed but are not necessarily coterminous). A reasonable expectation would be that

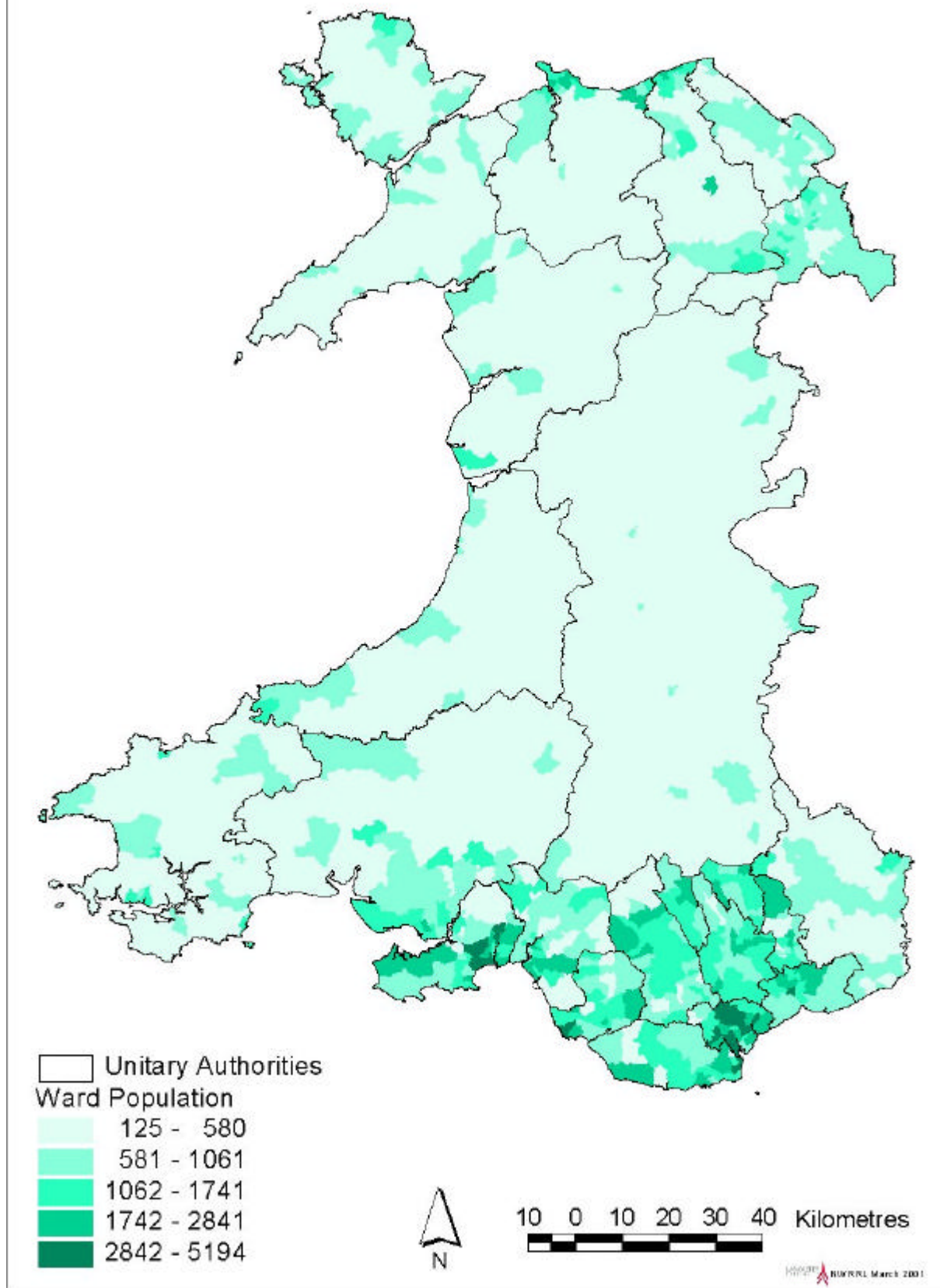
the major causes of both mortality and morbidity would follow the distribution of the population at risk. As a guideline, the ward populations for those aged 55 and over are shown as Map 1. Here, the areas of dark green on the map show the relatively high ward populations in Cardiff, Swansea, south Wales and the northern coastal towns. This generally indicates urban areas.

However, different diseases have different geographies, even where the age and sex structures of the wards are similar. An example is the contrast between lung cancer, where high rates will be evident in urban areas with high levels of deprivation, and skin cancers, which are apparent both in rural areas and some more affluent urban areas.

Mortality from heart disease (1998) can be seen in Map 2a (for males) and Map 2b (for females). These maps show the total number of deaths for 1996 to 1998. High values can be seen where they are expected, *ie* in south Wales and north-east Wales. However, there are comparatively low values for female mortality in Pembrokeshire and Powys. Maps 2c and 2d show data for the same years but these have been standardised by a subset of older age categories to produce comparable rates for the ward population structures. Hence, 100 is the 'average' rate over Wales. Clearly the excessive rates, shaded dark green, are more widely dispersed, particularly over south-west Wales and through central areas. The pattern is similar for females showing that, for example, there is no evidence of unusually high rates in Cardiff.

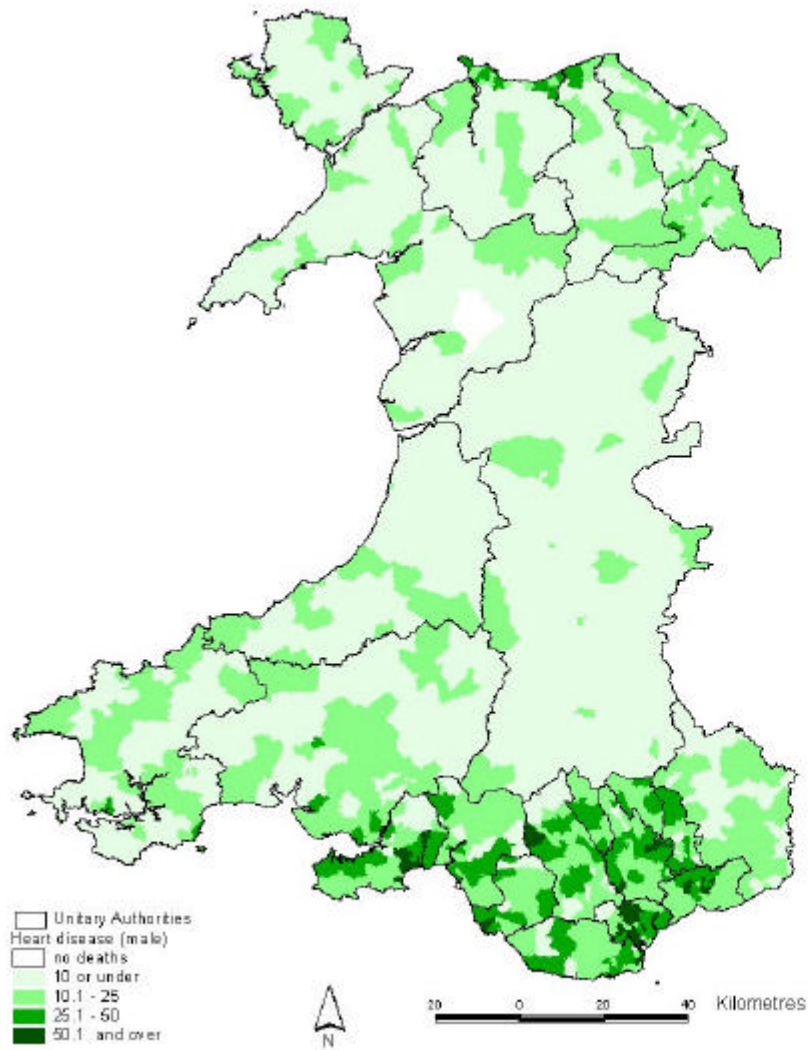
Mortality from respiratory disease (Map 3) follows a broadly similar pattern to heart disease, though more concentrated perhaps due to occupational risk, *ie* with much lower totals in central Wales.

Map 1: Total population aged 55+ by ward (1991)

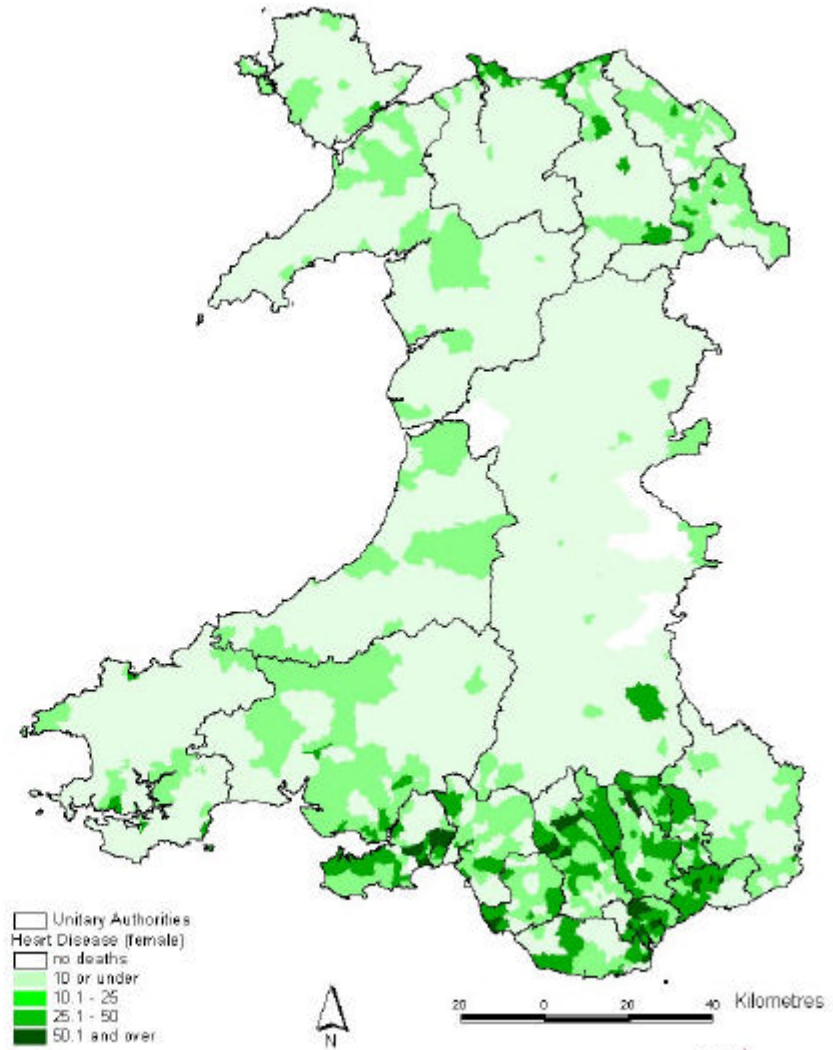


Source: Derived from the 1991 Census

Map 2a: Total male mortality from heart disease 1996-98 (ward counts)

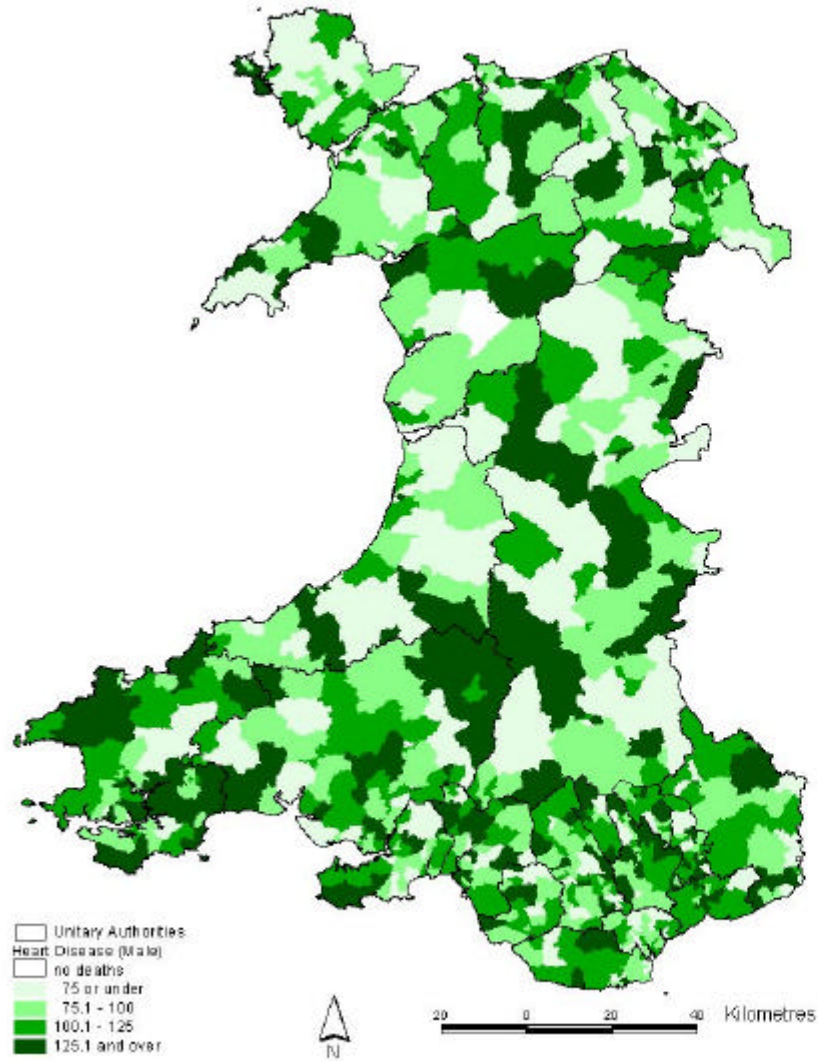


Map 2b: Total female mortality from heart disease 1996-98 (ward counts)

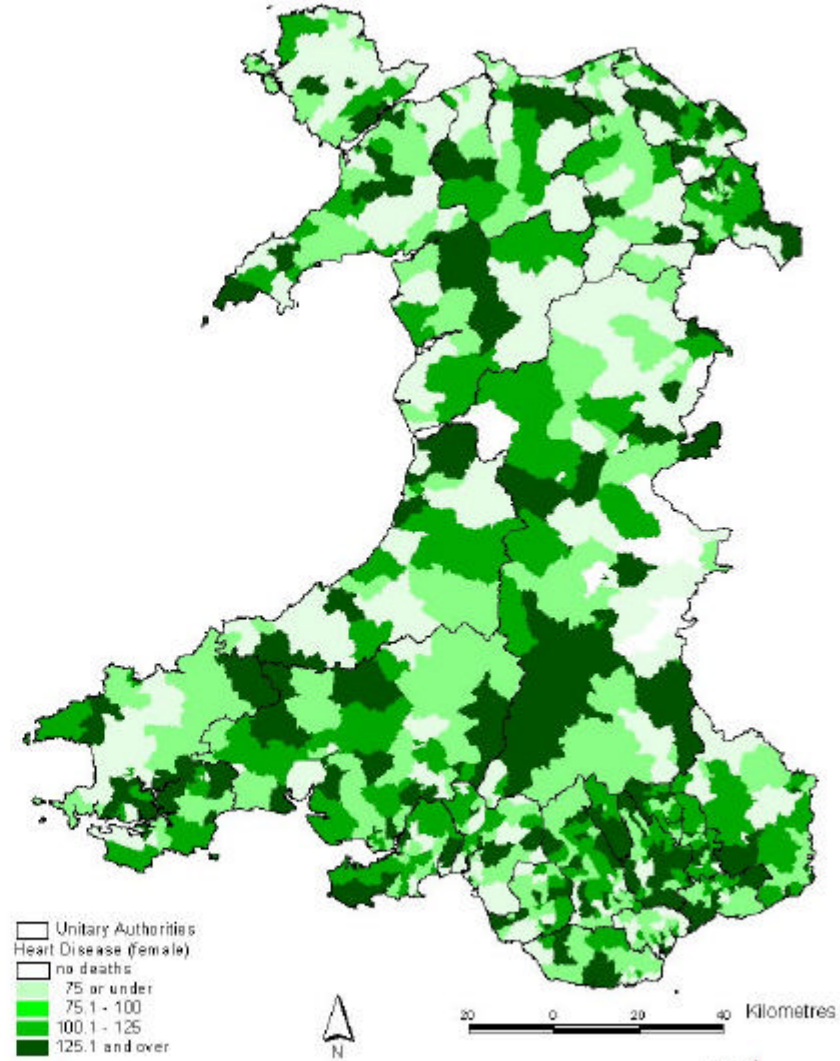


Source: Registrar General

Map 2c: Standardised male mortality rates from heart disease (1996-98) by 1991 census ward

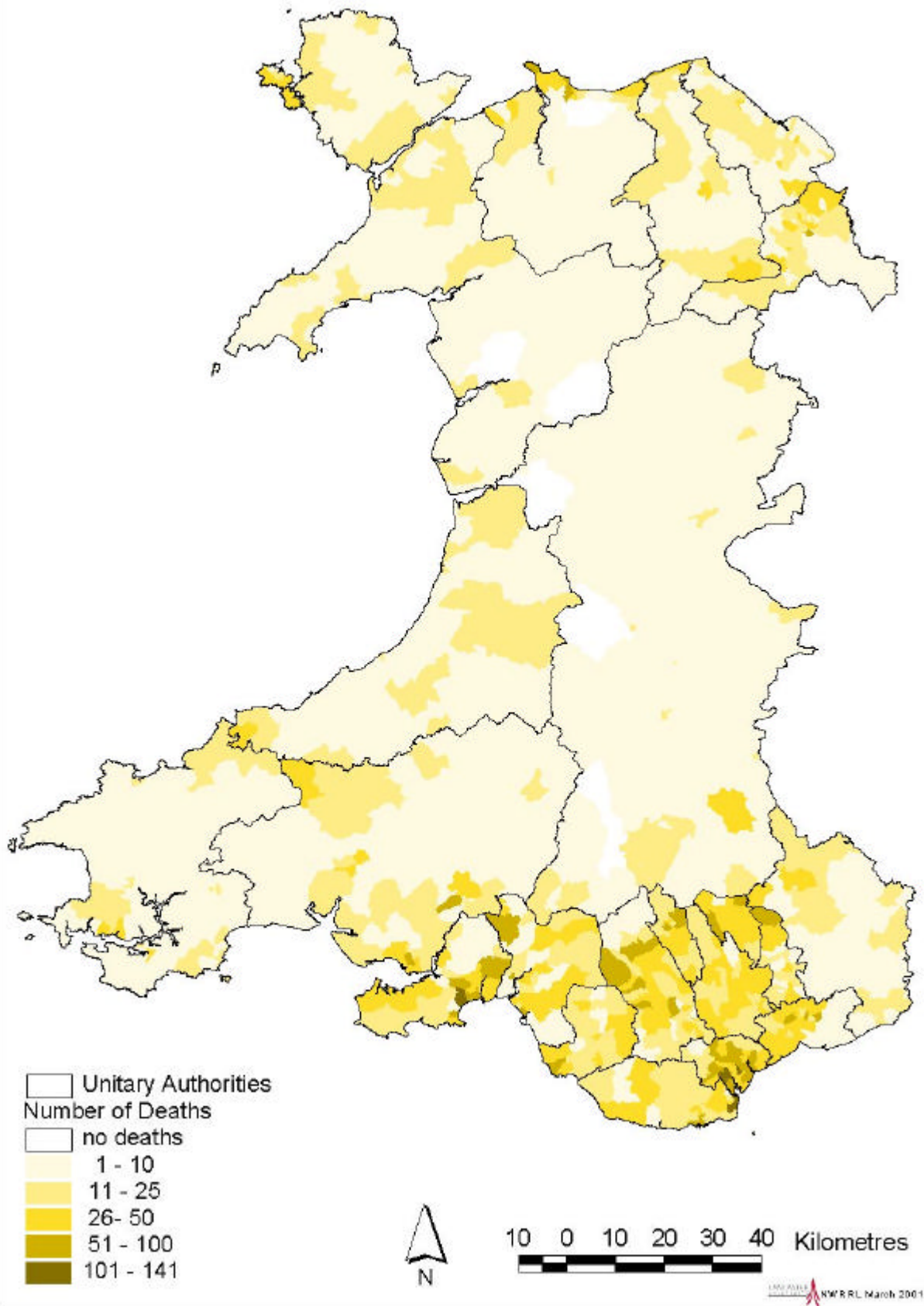


Map 2d: Standardised female mortality rates from heart disease (1996-98) by 1991 census ward



Source: Registrar General

**Map 3: 1996-98 Mortality from respiratory diseases
(ward counts)**



Source: Registrar General

Cancer (within Wales)

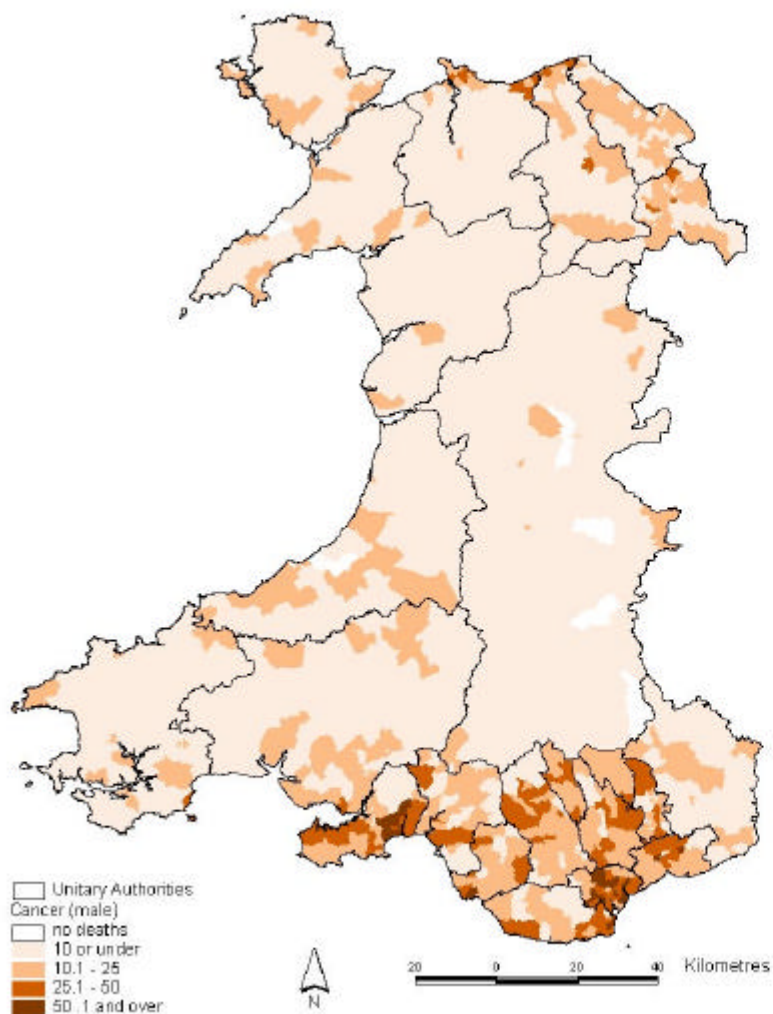
As approximately one in three people will develop cancer before the age of 75, it is a major health concern, forming a substantial burden on health services, in addition to those of the sufferers and their families. Across Wales, there are some 20,000 cases per year, resulting in 80,000 hospital admission episodes and 8000 deaths (Welsh Cancer Intelligence and Surveillance Unit). Three aspects of cancer statistics can be explored: mortality, incidence and survival.

Mortality from cancers between 1996 to 1998 are mapped at ward level. Maps 4a and 4b show the total numbers of cancer deaths for males and females, with Maps 4c and 4d showing the standardised rates for comparison, which are again more widely dispersed. The geographical distribution of cancer mortality is not the same as that of cancer incidence. The distributions in Maps 4a and 4b can be compared with Map 5, which shows cancer incidence (total number of registrations) for the four year period from 1994 to 1997. Incidence seems relatively high in Ceredigion and Pembrokeshire and lower in Monmouthshire.

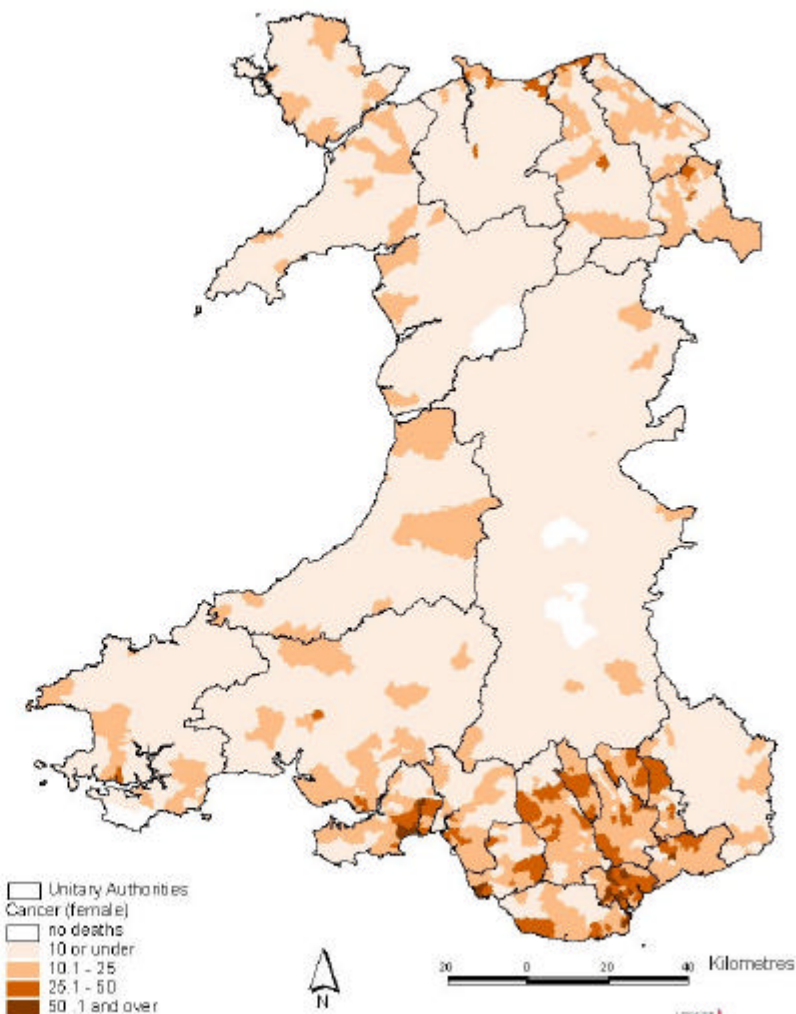
Incidence for the more common sites of cancer have also been mapped. The highest incidence for male lung cancer (Map 6a) is in south and north-east Wales, whereas female lung cancer is more evident in south-east Wales. Male and female incidence of colorectal cancer is more consistent (Maps 7a,7b). Female breast cancer is more dispersed than either lung or colorectal cancer, notably in Carmarthenshire and Ceredigion. Map 8a shows total incidence, whereas Map 8b illustrates the standardised rates.

Table 5.1 indicates the most recent *survival* figures available for specific cancers by Health Authority. North Wales and Morgannwg would seem to have rather better five year survival rates than the other authorities.

Map 4a: Total male mortality from cancer 1996-98 (ward count)

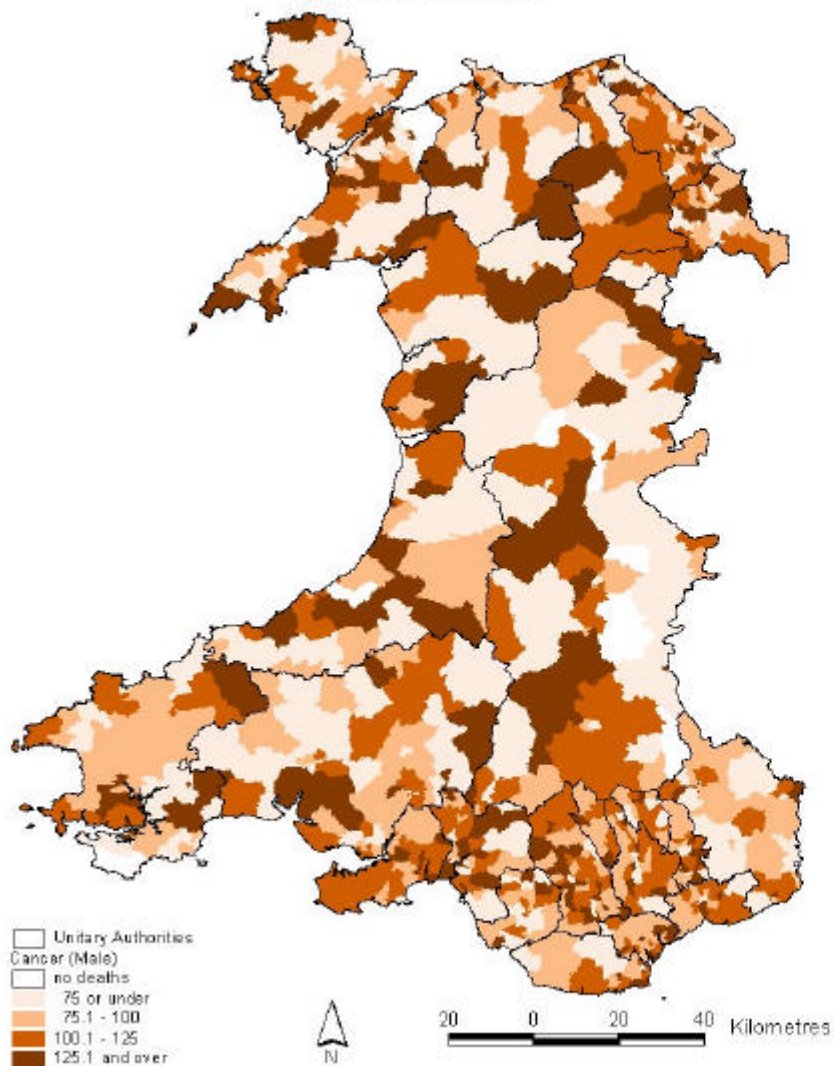


Map 4b: Total female mortality from cancer 1996-98 (ward count)

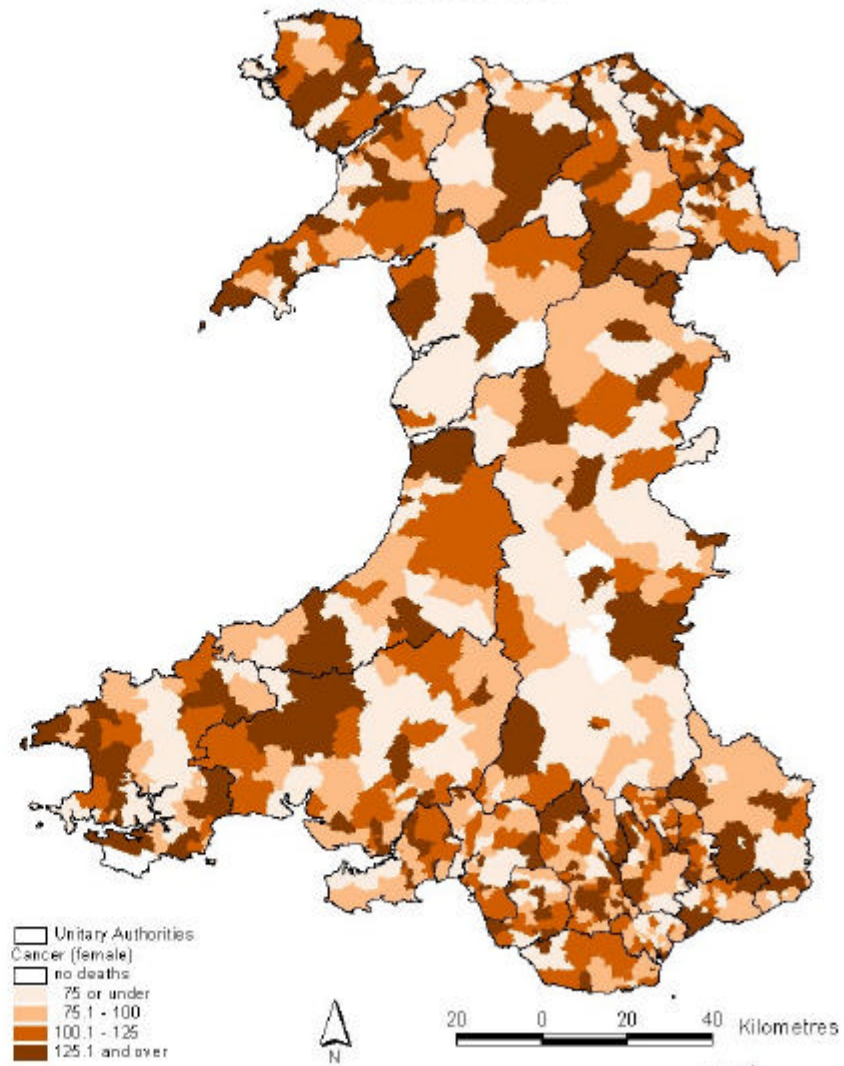


Source: Registrar General

**Map 4c: Standardised male mortality rates from cancer (1996-98)
by 1991 census ward**

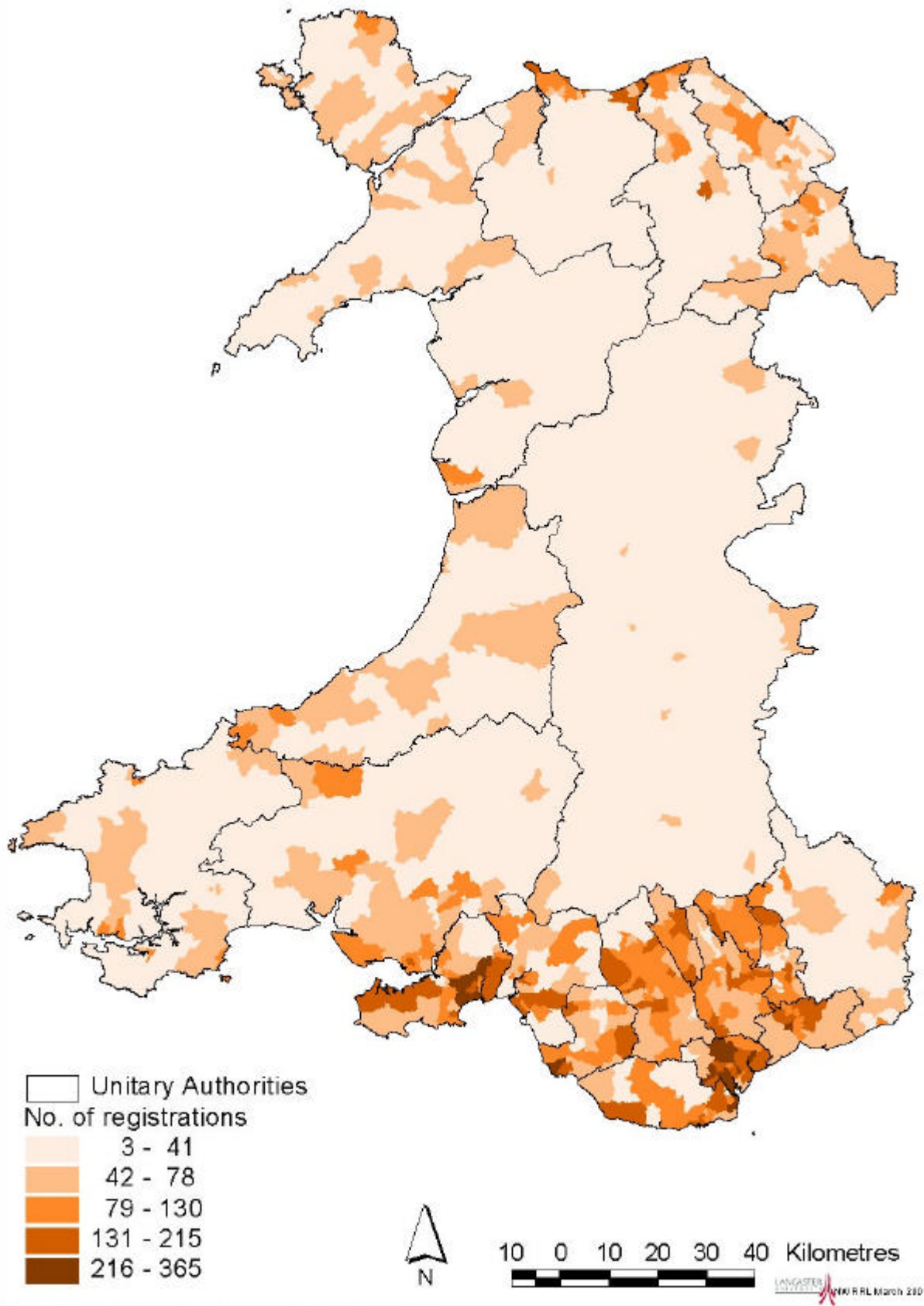


**Map 4d: Standardised female mortality rates from cancer (1996-98)
by 1991 census ward**



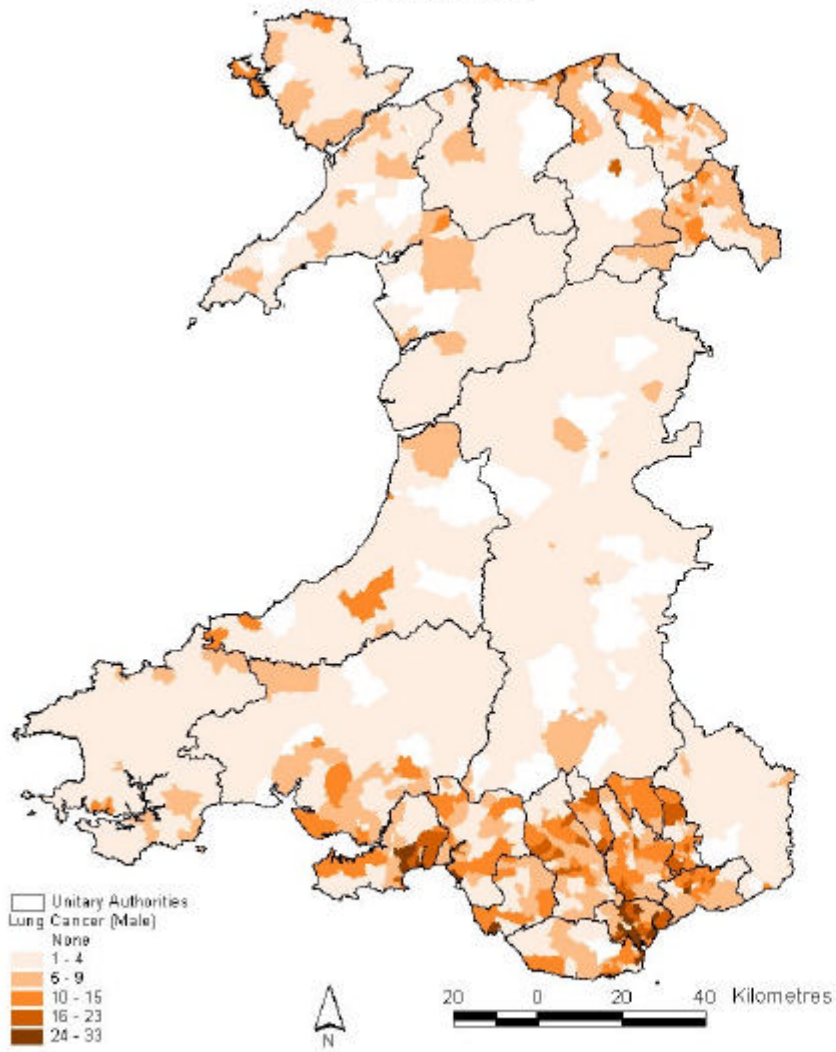
Source: Registrar General

**Map 5: Total cancer registrations (1994-97)
by 1991 census ward**

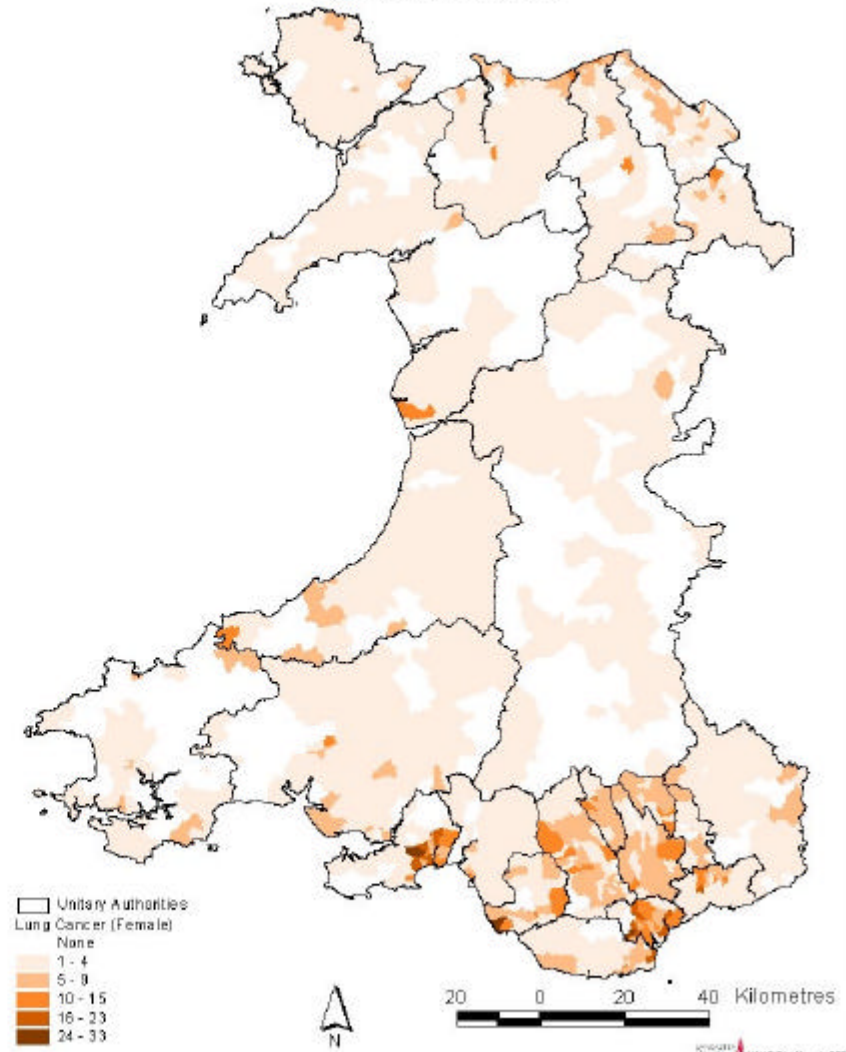


Source: Welsh Cancer Intelligence and Surveillance Unit

**Map 6a: Male lung cancer registrations (1994-97)
by 1991 census ward**

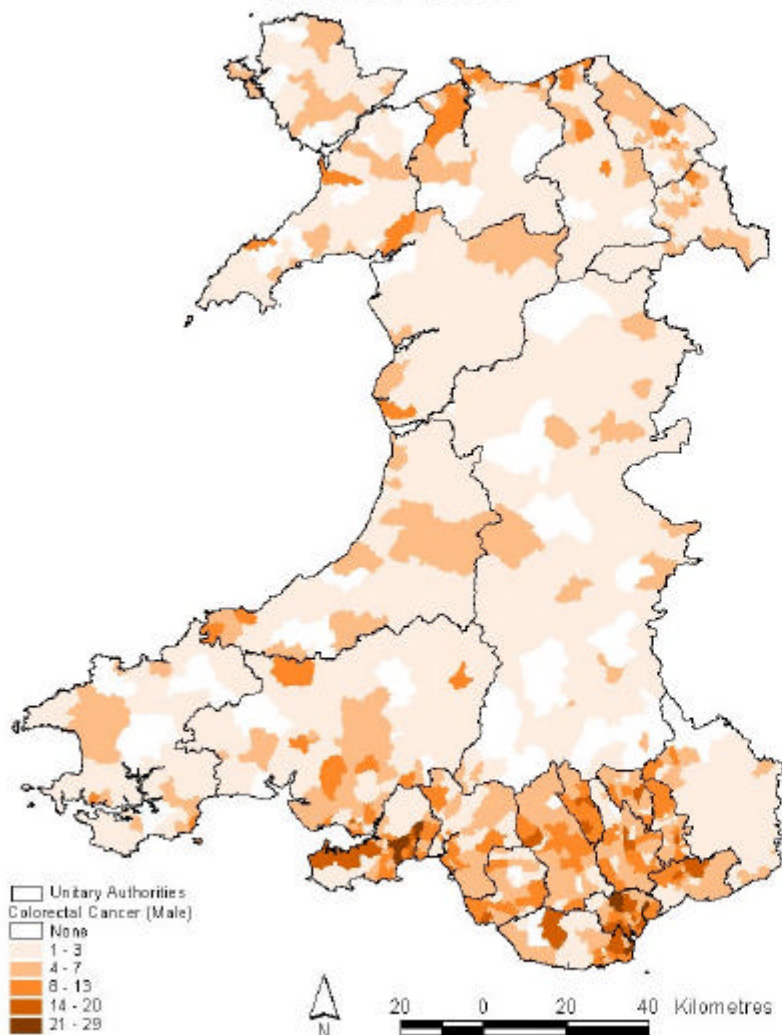


**Map 6b: Female lung cancer registrations (1994-97)
by 1991 census ward**

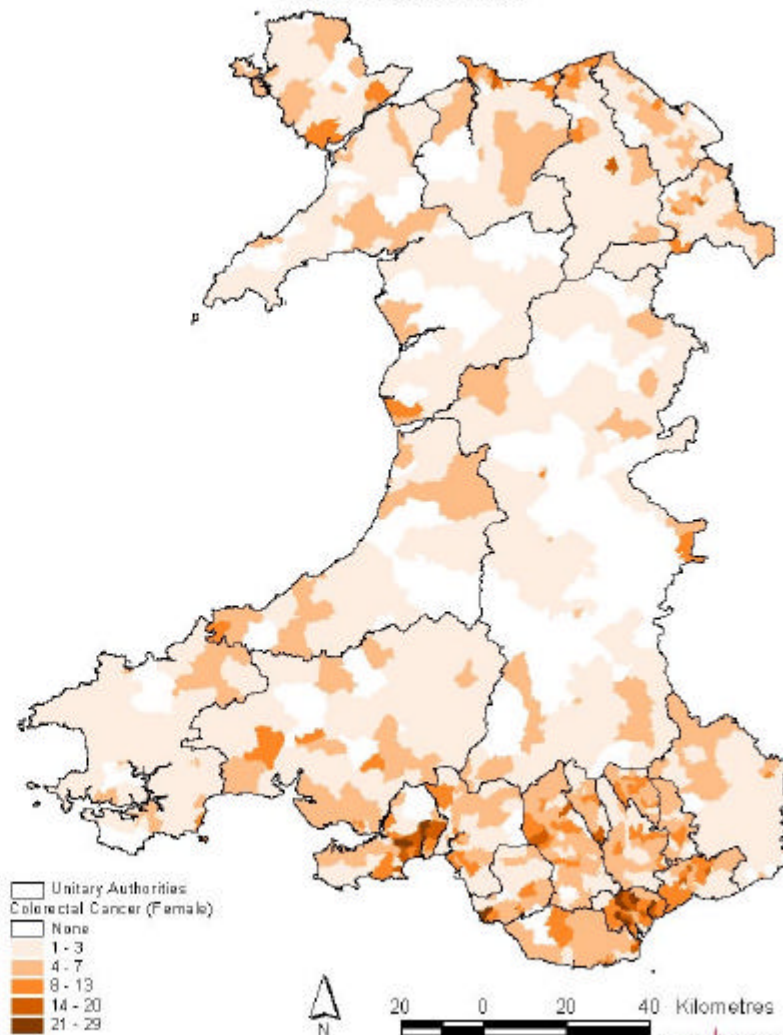


Source: Welsh Cancer Intelligence and Surveillance Unit.

**Map 7a: Male colorectal cancer registrations (1994-97)
by 1991 census ward**

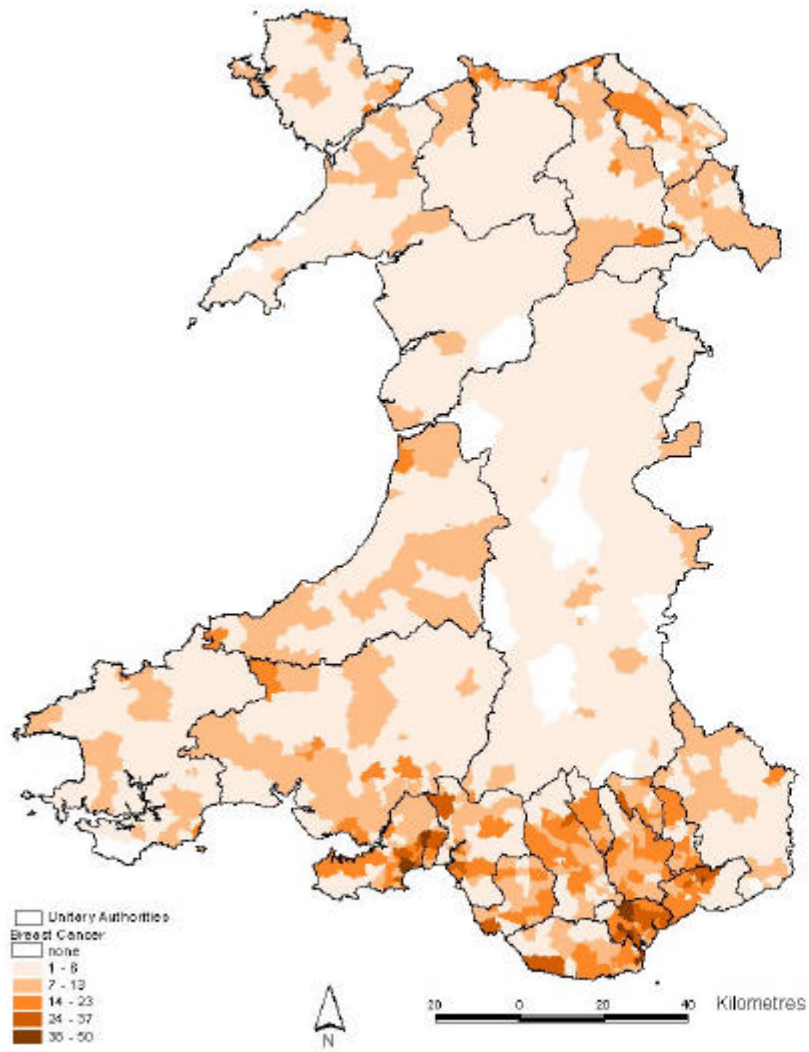


**Map 7b: Female colorectal cancer registrations (1994-97)
by 1991 census ward**

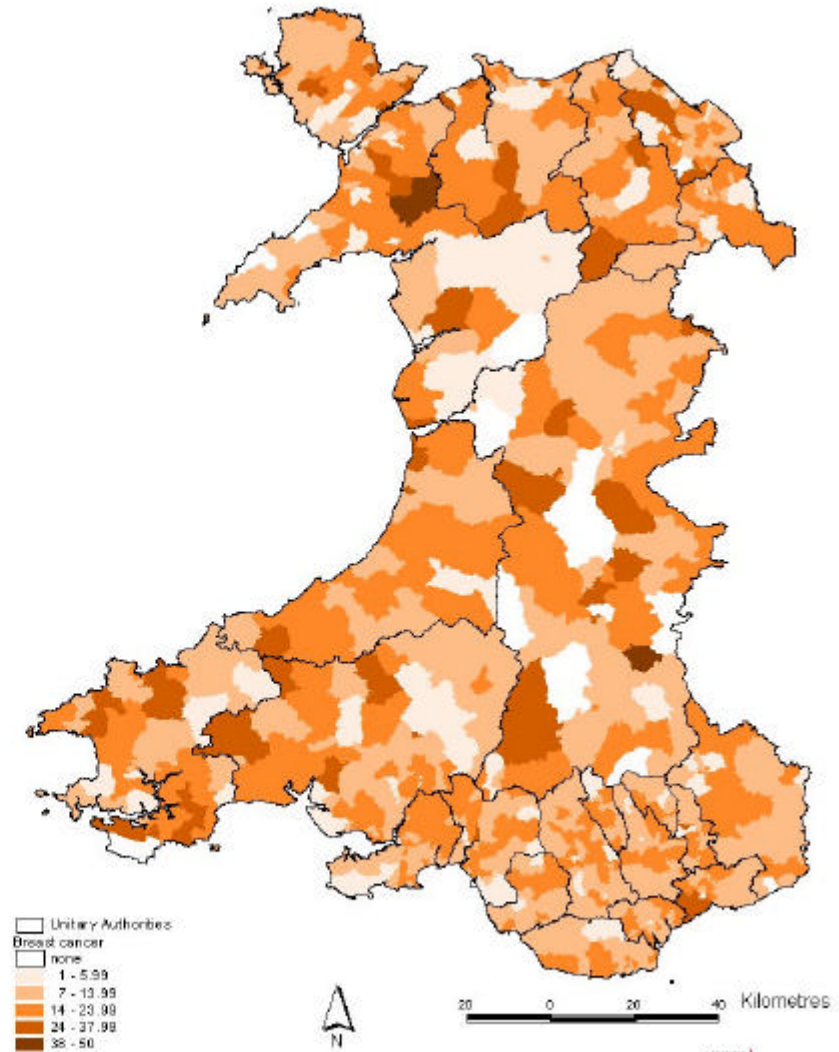


Source: Welsh Cancer Intelligence and Surveillance Unit

Map 8a: Breast cancer registrations (1994-97) by 1991 census ward



Map 8b: Breast cancer registration rates (1994-97) by 1991 census ward



Source: Welsh Cancer Intelligence and Surveillance Unit.

Table 5.1: Cancer survival rates

		Relative Survival	
		1 year (%)	5 year (%)
Breast – Female	Gwent	83	62
	Bro-Taf	82	60
	Dyfed-Powys	85	66
	North Wales	85	67
	Morgannwg	87	67
	All Wales	85	65
Lung – Male	Gwent	23	9
	Bro-Taf	22	10
	Dyfed-Powys	20	8
	North Wales	21	10
	Morgannwg	20	8
	All Wales	22	9
Lung - Female	Gwent	22	7
	Bro-Taf	22	10
	Dyfed-Powys	23	12
	North Wales	25	11
	Morgannwg	24	11
	All Wales	24	11
Colorectal - Male	Gwent	59	37
	Bro-Taf	57	35
	Dyfed-Powys	56	34
	North Wales	61	43
	Morgannwg	65	43
	All Wales	60	39
Colorectal - Female	Gwent	60	38
	Bro-Taf	60	42
	Dyfed-Powys	59	38
	North Wales	61	43
	Morgannwg	63	44
	All Wales	61	42

Note: based on 1985-89 registrations, ages 0 to 84.

Source: Welsh Cancer Intelligence and Surveillance Unit, *per comm*.

Breast cancer screening

Two rounds of the three-year breast screening cycle (of women aged 50-64) are complete. There is considerable variation in screening uptake and of particular concern is Cardiff where, for both rounds, uptake was less than 70%. Rates are also relatively low in much of north Wales, plus Vale of Glamorgan, Neath Port Talbot and Rhondda, Cynon, Taff, where uptake is below 76%. Breast Test Wales is closely monitoring the situation by, for example, conducting research into screening uptake by women from ethnic minority groups.

Health status

Table 5.2 gives male and female life expectancies at UA level. The figures reveal five year differentials for males, from 76.1 in Ceredigion down to 70.1 in Merthyr Tydfil. The gap is slightly smaller for females, from 80.8 in Monmouthshire down to 76.7 in Merthyr Tydfil.

Table 5.2: Life expectancy at birth by Unitary Authority, 1995-97

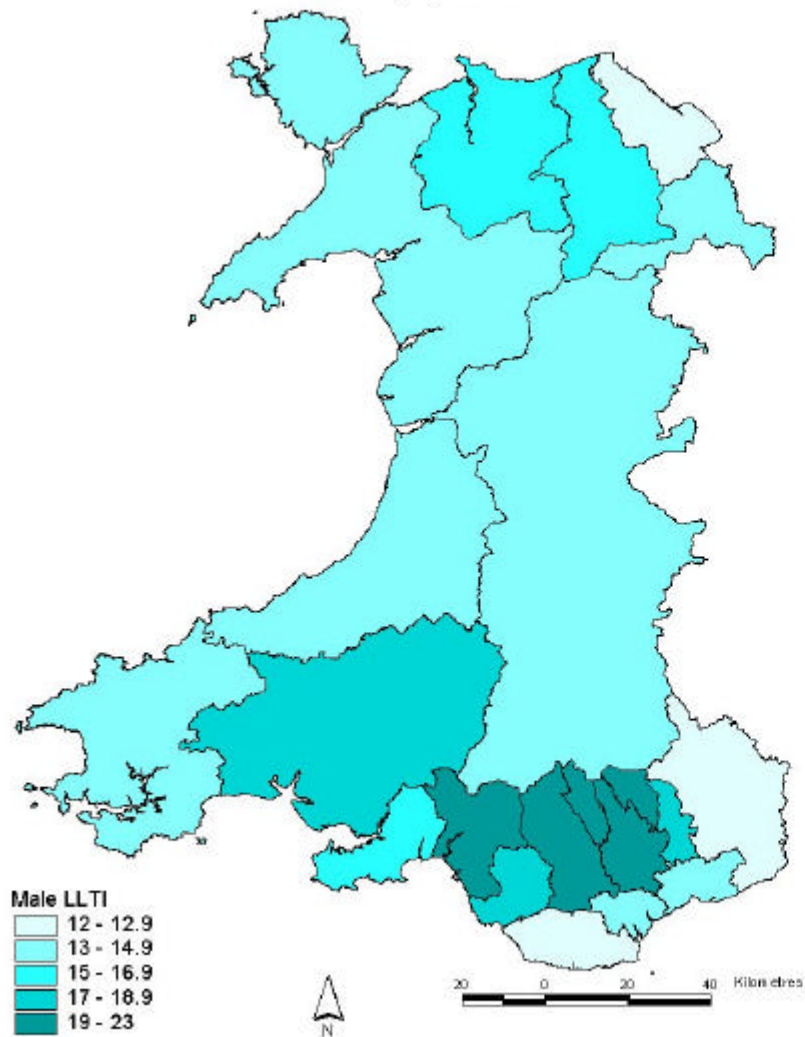
	Males	Females
Blaenau Gwent	72.5	77.5
Bridgend	73.2	79.3
Caerphilly	73.5	77.6
Cardiff	74.2	80.0
Carmarthenshire	73.7	78.9
Ceredigion	76.1	80.6
Conwy	74.9	80.3
Denbighshire	74.1	80.0
Flintshire	74.4	79.0
Gwynedd	75.2	80.6
Isle of Anglesey	74.6	79.7
Merthyr Tydfil	71.1	76.7
Monmouthshire	75.8	80.8
Neath Port Talbot	72.5	79.1
Newport	73.7	79.3
Pembrokeshire	74.3	79.7
Powys	75.5	80.2
Rhondda, Cynon, Taff	72.5	77.8
Swansea	74.1	79.2
Torfaen	73.5	78.4
The Vale of Glamorgan	74.9	79.8
Wrexham	73.5	78.5

Source: ONS (2001)

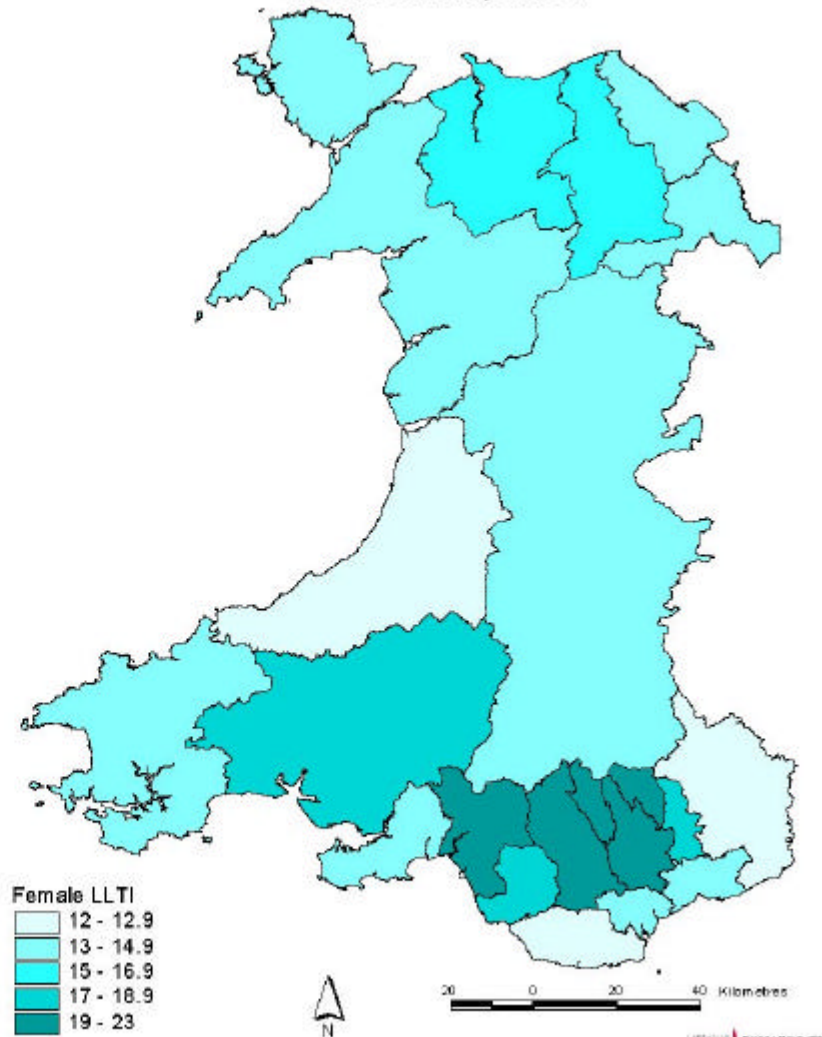
Statistics relating to morbidity are not routinely collected as comprehensively and consistently as those for mortality. One exception is the decennial Census whereby, in 1991, a question was asked relating to limiting long-term illness in households. The results are displayed in Maps 9a and 9b, showing the lowest rates for both males and females in Monmouthshire and The Vale of Glamorgan, and high rates for the cluster of UAs from Neath Port Talbot to Blaenau Gwent.

Conditions reported in the WHS 1998 are also mapped (see Maps 13a to 13n). This set of maps again illustrates health need, by displaying total counts. Heart disease seems concentrated in Rhondda, Cynon, Taff and Cardiff; high reported occurrences of respiratory illness include Swansea. Both heart and respiratory disease greatly exceed cancers, although poor outcomes for cancers may explain this, as the diseases were self-reported. Ceredigion is the only UA that is consistently in the lowest class for major diseases.

Map 9a: Male limiting long-term illness, proportions in households, April 1991

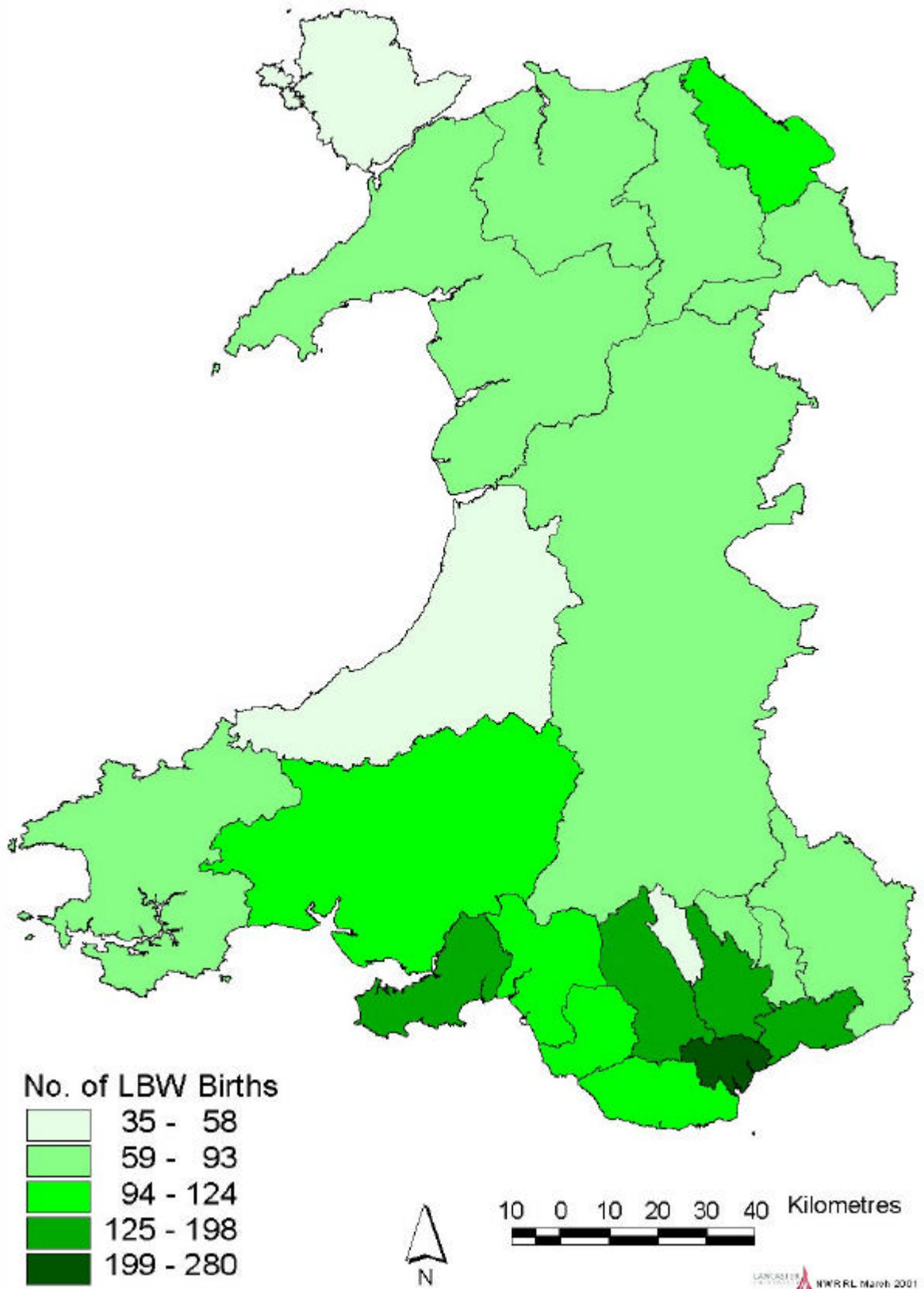


Map 9b: Female limiting long-term illness, proportions in households, April 1991



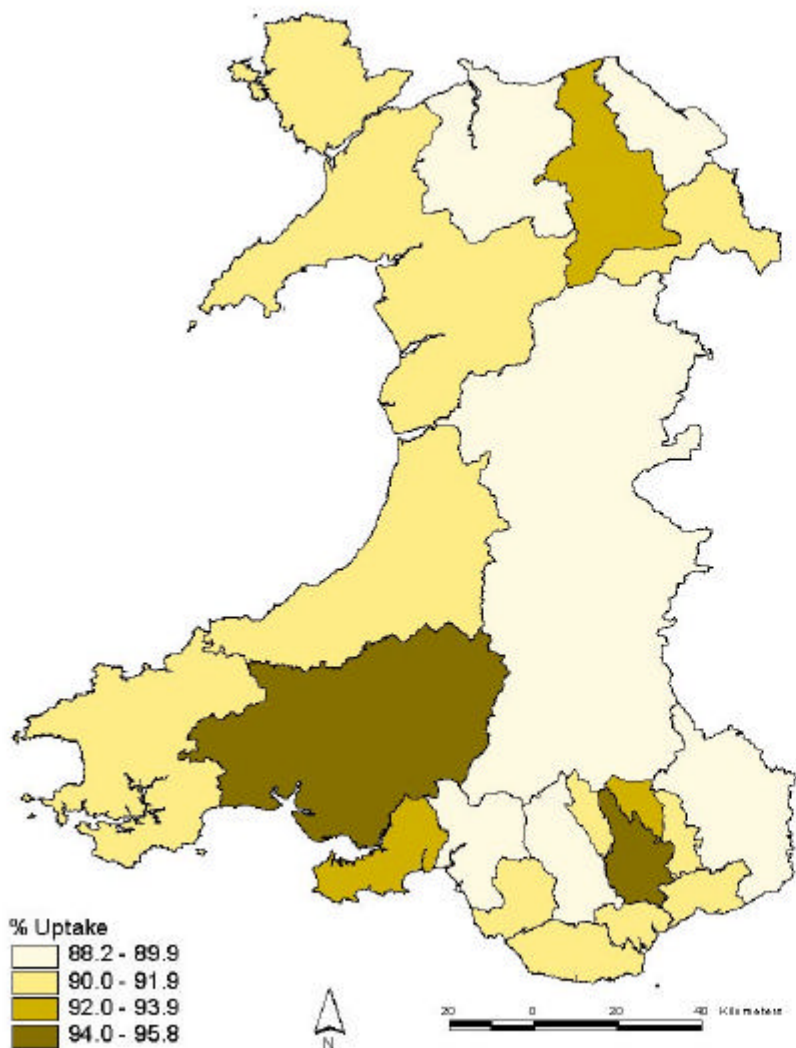
Source: Derived from the 1991 Census

Map 10: Low birthweight (<2500g) live births by UA (1999)

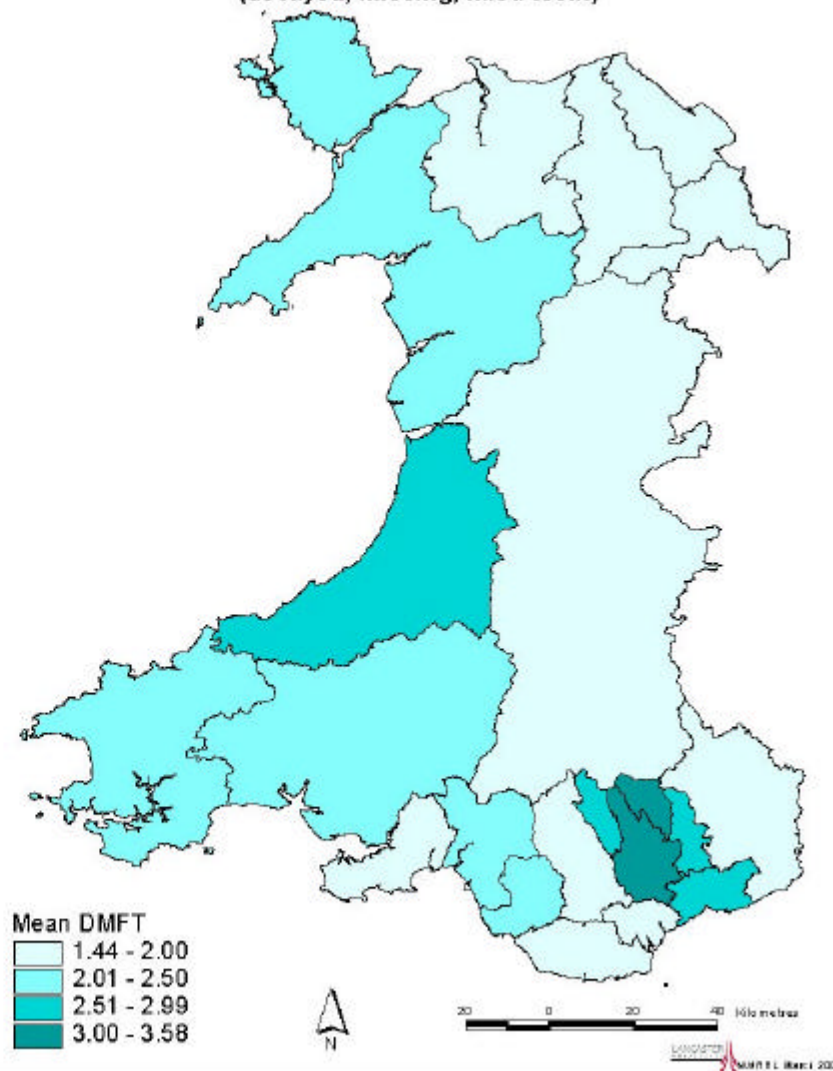


Source: National Assembly for Wales

Map 11: Child immunisation rates - MMR by UA (1998)

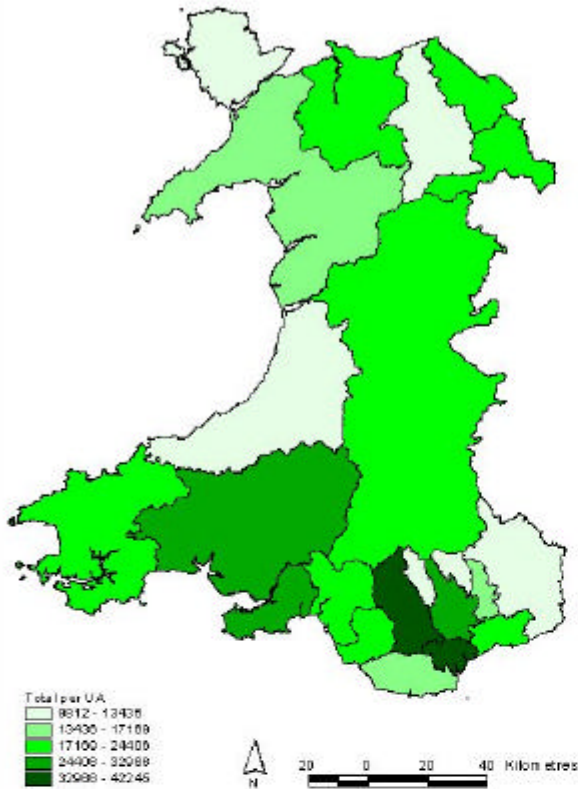


Map 12: Child dental health - DMFT by UA (1998)
(decayed, missing, filled teeth)

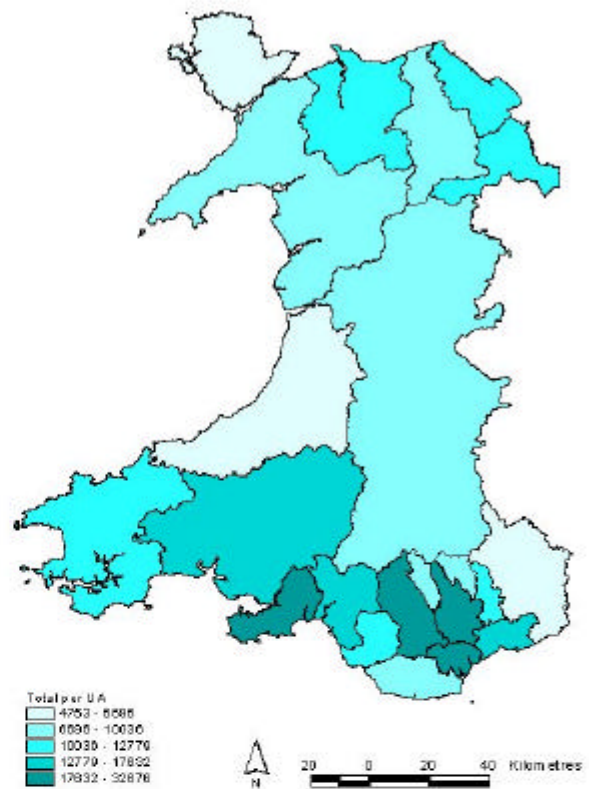


Source: National Assembly for Wales

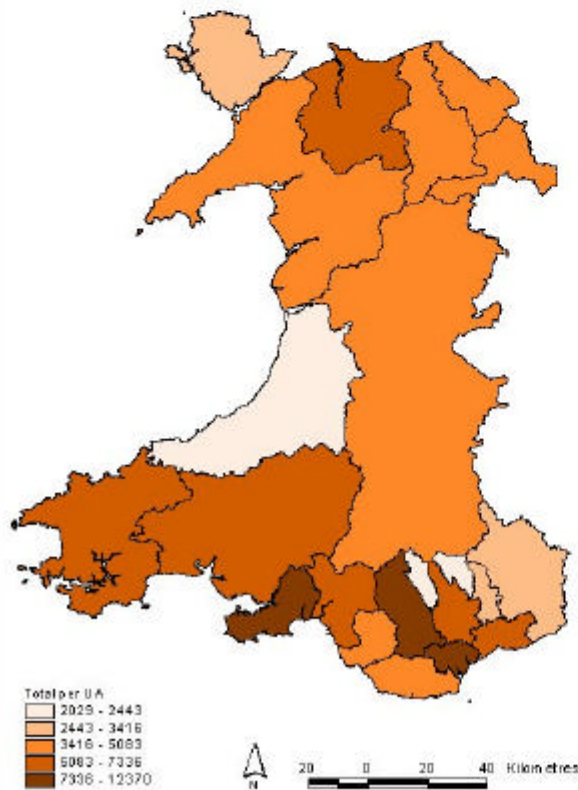
Map 13a: Estimated adults (aged 18+) ever treated for heart disease



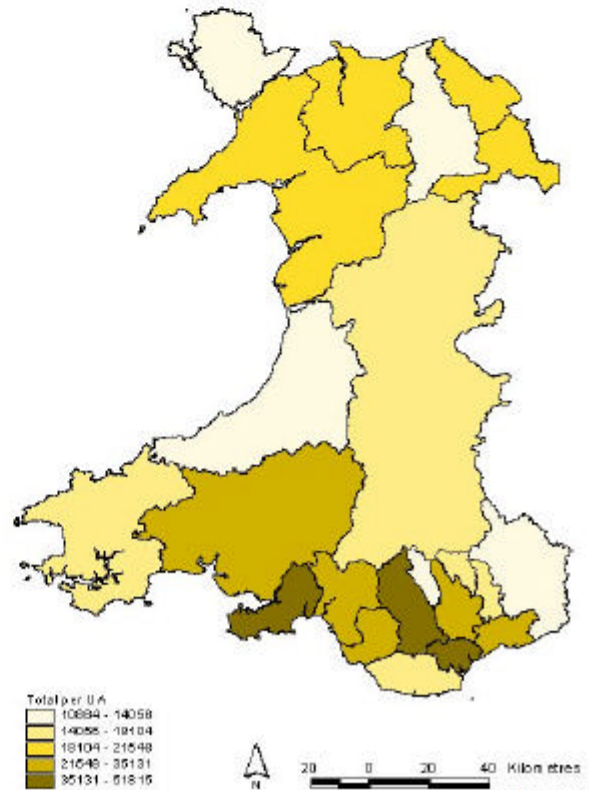
Map 13b: Estimated adults (aged 18+) currently with mental illness



Map 13c: Estimated adults (aged 18+) ever treated for cancer

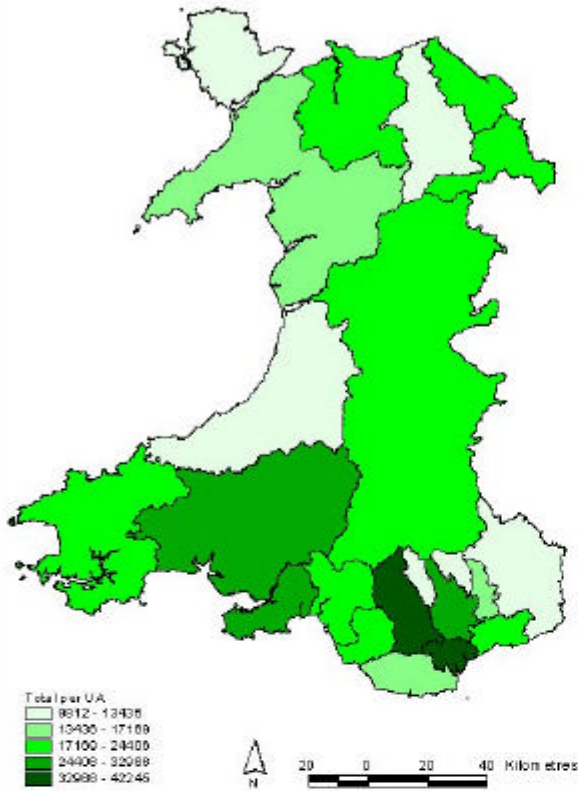


Map 13d: Estimated adults (aged 18+) with respiratory illness

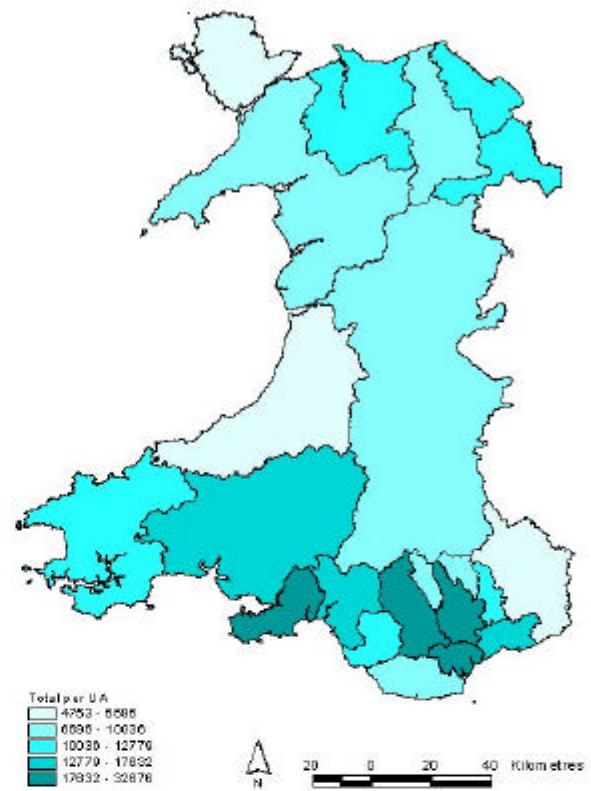


Source: Welsh Health Survey 1998

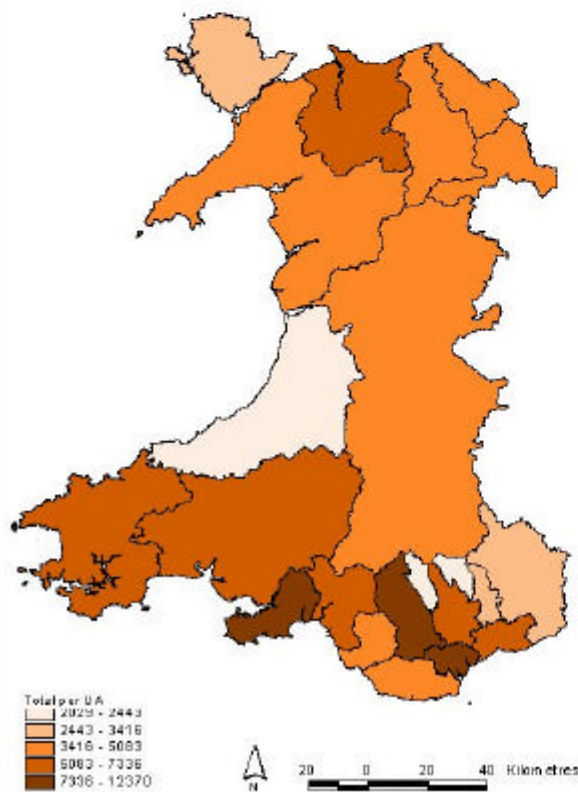
Map 13e: Estimated adults (aged 18+) with limiting long-term illness



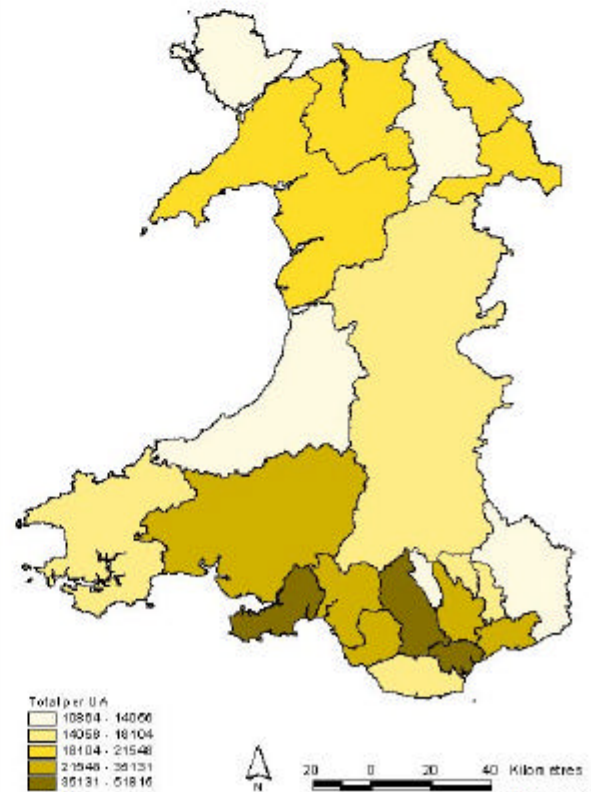
Map 13f: Estimated adults (aged 18+) currently with diabetes



Map 13g: Estimated adults (aged 18+) currently with back pain

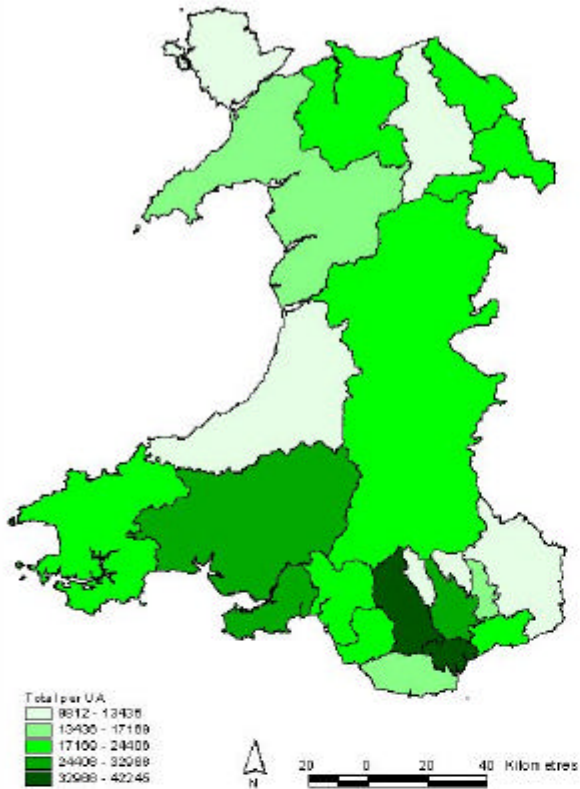


Map 13h: Estimated adults (aged 18+) currently with arthritis

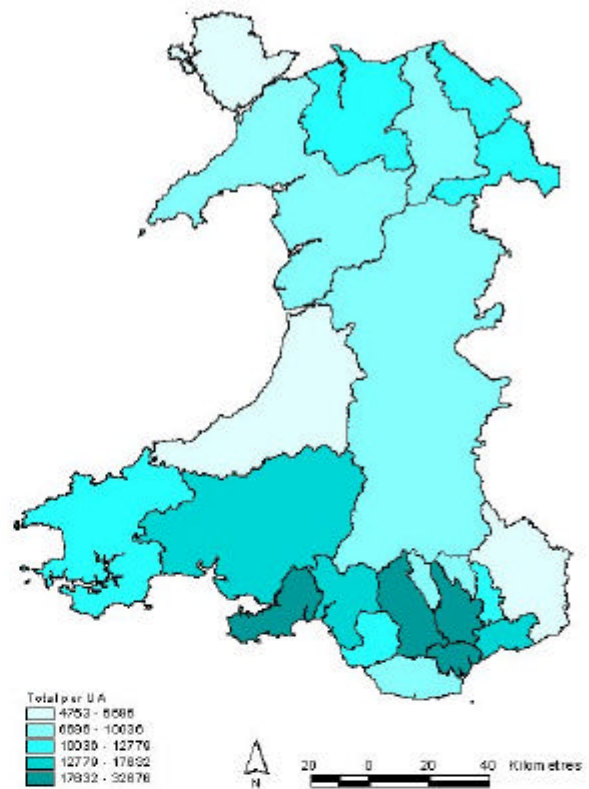


Source: Welsh Health Survey 1998

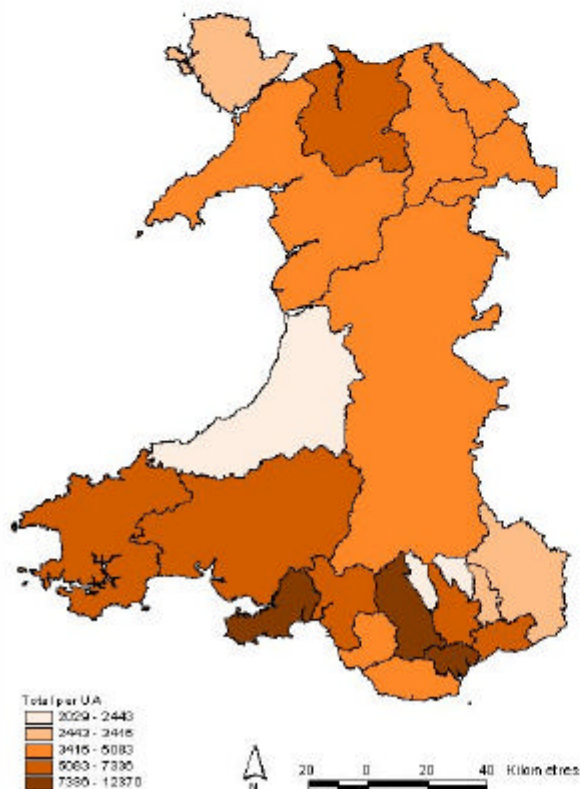
Map 13i: Estimated adults (aged 18+) with less than 20 of own teeth



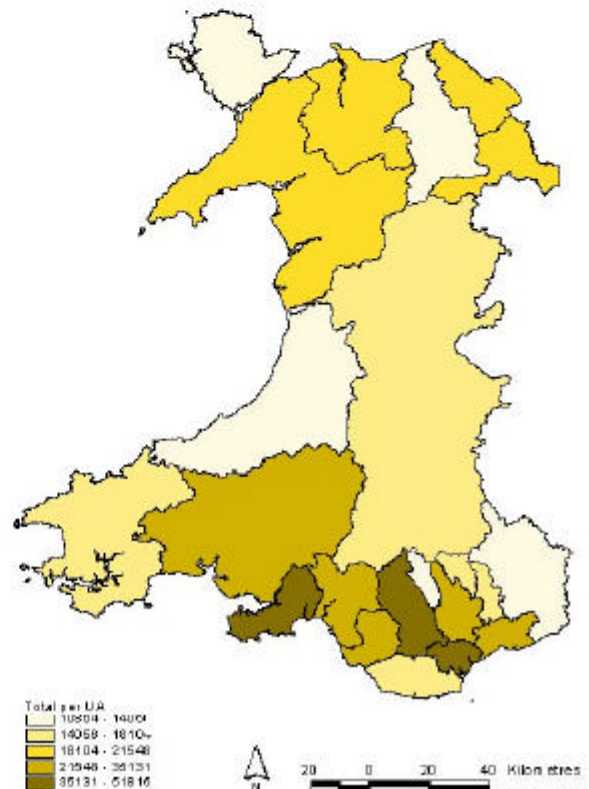
Map 13j: Estimated adults (aged 18+) currently with varicose veins



Map 13k: Estimated adults (aged 18+) with food poisoning in the last 3 months

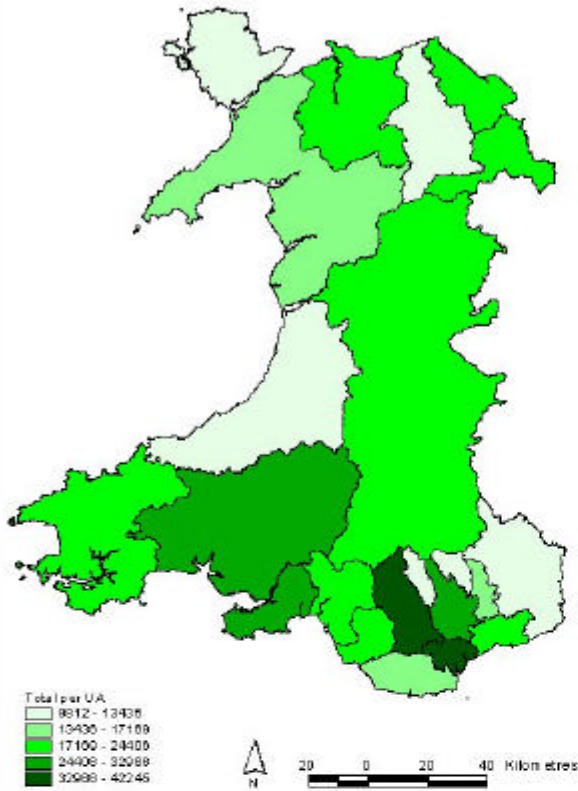


Map 13l: Estimated adults (aged 18+) treated for accident, injury or poisoning in the last 3 months

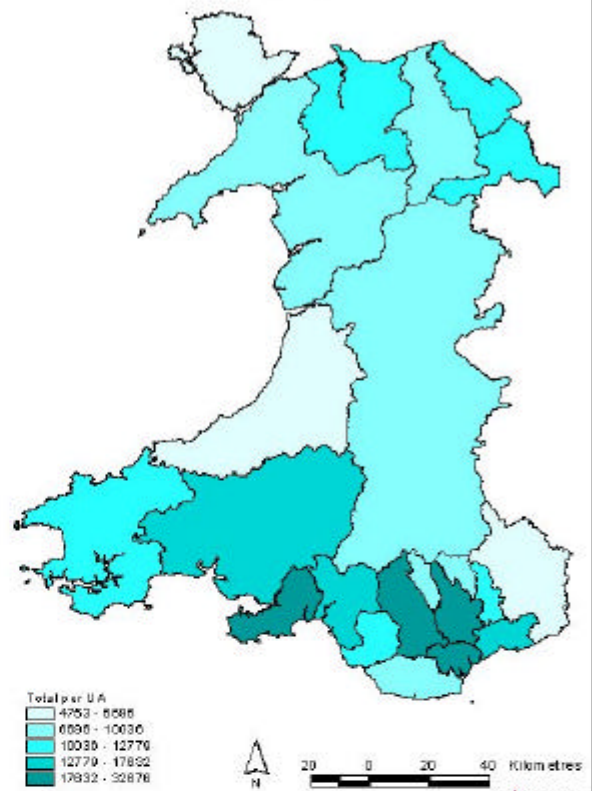


Source: Welsh Health Survey 1998

Map 13m: Estimated adults (aged 18+) with visual impairment

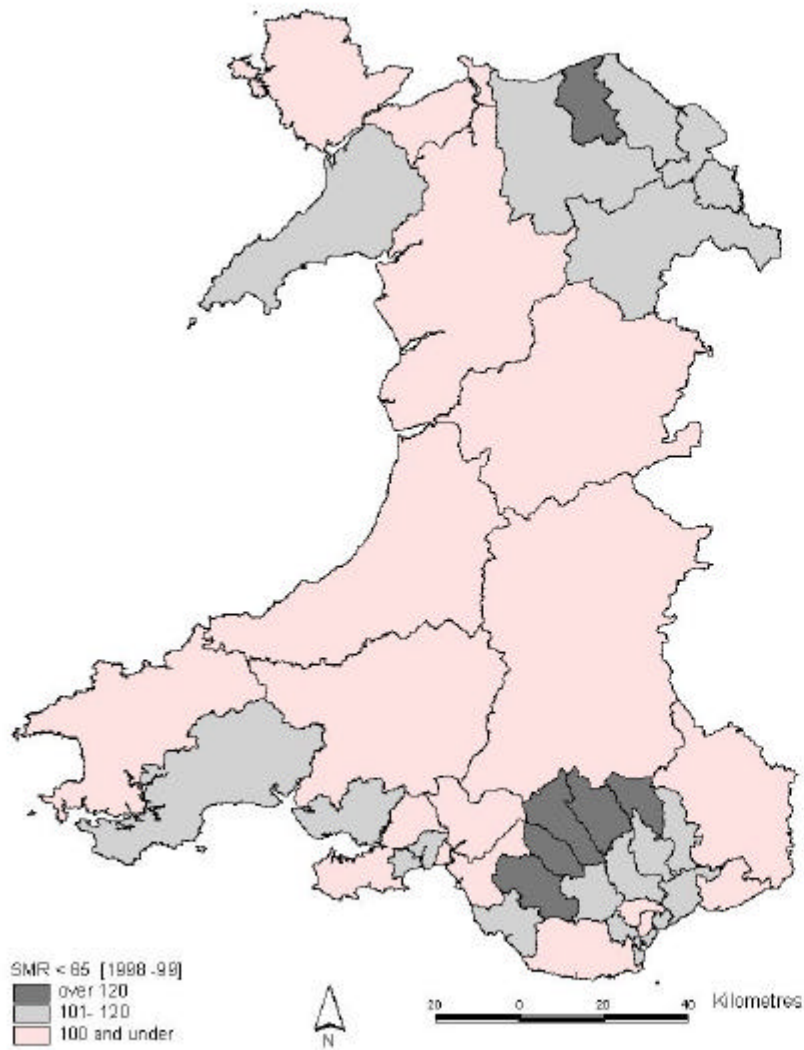


Map 13n: Estimated adults (aged 18+) with hearing impairment

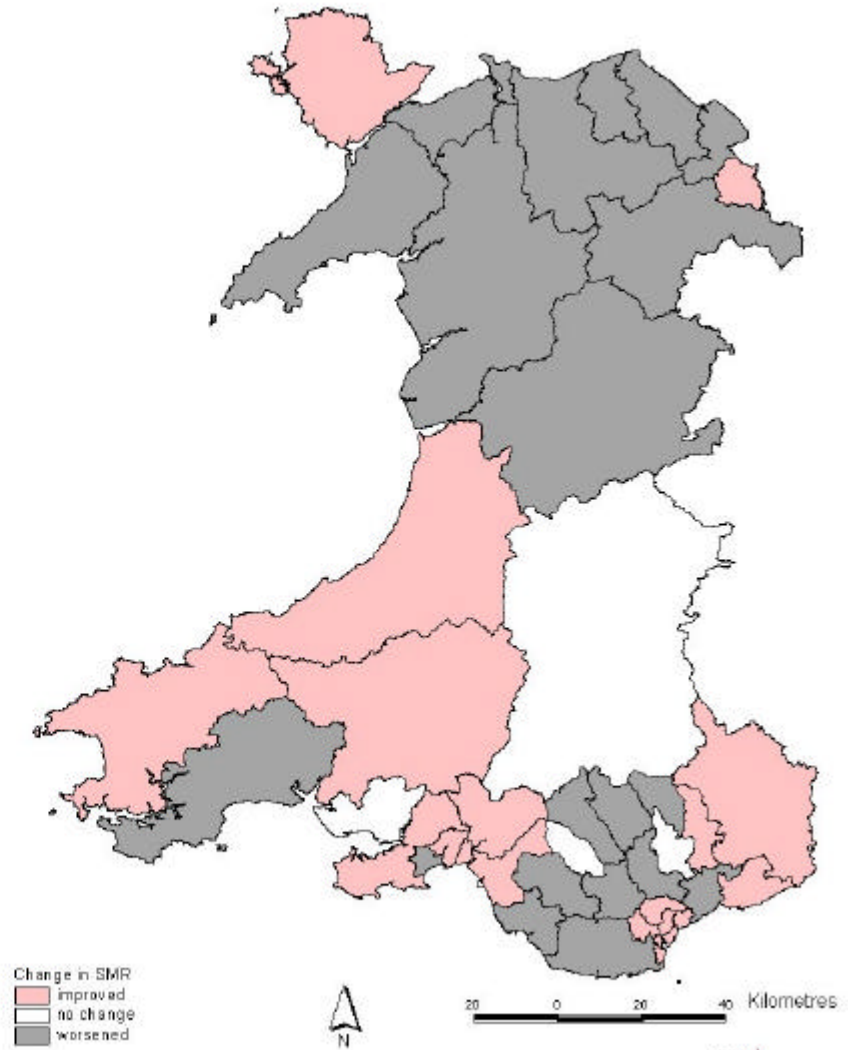


Source: Welsh Health Survey 1998

Map 14a: SMRs by constituency for those aged under 65 [1998 - 99]



Map 14b: Change in SMR by constituency from [1991-95] to [1998-99]



Source: Dorling D. et al. (2001)

Arthritis and back pain are major causes of morbidity, although they seldom appear on death certificates. They are closely linked with figures for limiting long-term illness and impose a considerable burden upon the health service.

Comparative scores for physical and mental health status derived from the 1995 and 1998 WHS show, for the most part, overall improvements over time (Table 5.3). However, improvements in physical health scores for males in Blaenau Gwent and Merthyr Tydfil are counterbalanced by a worsening in the female scores. This is also apparent in Blaenau in the mental health scores. A guideline for interpretation is that differences in scores of over 1.0 are likely to be statistically significant, hence there are significant variations across the Unitary Authorities.

Table 5.3: Physical and mental health status scores

	Physical health summary score				Mental health summary score			
	Males		Females		Males		Females	
	1995	1998	1995	1998	1995	1998	1995	1998
Isle of Anglesey	48.6	49.2	49.1	48.0	52.7	52.2	49.5	51.3
Gwynedd	49.0	49.4	48.0	48.2	52.4	51.5	49.9	49.7
Conwy	48.5	48.4	47.3	47.3	50.5	50.8	50.5	50.4
Denbighshire	48.1	49.1	47.2	47.9	51.0	51.5	50.0	49.6
Flintshire	49.6	49.3	49.1	48.4	51.7	51.5	49.2	48.3
Wrexham	48.8	50.0	48.8	48.4	50.3	50.4	48.4	48.8
Powys	48.1	49.1	47.2	48.9	51.1	51.0	49.1	49.5
Ceredigion	48.8	49.2	47.4	48.8	50.5	50.9	49.5	49.4
Pembrokeshire	48.7	48.7	47.6	48.1	51.4	51.5	49.4	50.0
Carmarthenshire	46.8	47.8	46.6	46.2	50.7	50.5	47.8	49.1
Swansea	48.7	48.6	46.8	47.0	51.1	51.1	48.4	48.7
Neath Port Talbot	47.2	47.5	46.3	45.2	50.8	50.7	47.6	48.4
Bridgend	47.8	48.0	47.9	48.0	51.2	50.8	47.7	47.4
Vale of Glamorgan	49.7	49.8	48.8	49.1	50.3	51.9	49.3	49.5
Cardiff	49.6	49.9	48.2	48.9	50.2	50.0	48.2	47.5
Rhondda, Cynon, Taff	47.2	48.4	46.5	47.1	49.6	49.9	46.8	47.2
Merthyr Tydfil	45.4	46.5	46.5	45.9	48.8	47.8	44.9	47.1
Caerphilly	47.3	46.9	47.7	46.1	49.7	49.4	47.3	46.8
Blaenau Gwent	45.3	46.6	47.3	45.2	49.1	49.5	47.6	45.6
Torfaen	48.4	48.0	47.3	47.7	50.8	49.7	47.8	46.4
Monmouthshire	49.6	49.2	48.6	48.8	51.8	51.1	48.7	50.0
Newport	49.5	49.0	47.6	47.7	50.4	50.1	48.6	47.4

Source: Welsh Health Surveys (1995; 1998)

Child health

Child health indicators, at UA level, have been mapped for:

- low birth weight (Map 10), which is an acknowledged indicator of poorer subsequent life chances;
- immunisation rates (MMR) (Map 11);
- dental health (Map 12), as measured by the mean DMFT score *ie* the numbers of decayed, missing or filled teeth.

There are substantially more low birth weight babies born in Cardiff than elsewhere; however, the rate for Cardiff is around the average for Wales. Some comparative birth statistics are shown in Table 5.4 below. Particularly high conception rates for girls aged under 16 are noticeable in Caerphilly and Blaenau Gwent.

Across all Unitary Authorities, child immunisation rates for all categories (diphtheria, whooping cough, polio, etc) are above 90%, with the exception of the rates for MMR immunisation which are below 90% in six UAs (the lowest rates being for Flintshire and Monmouthshire). Poor dental health is most evident in the large urban areas.

Table 5.4: Birth indicators

	Total births (1998)	% low birth weight (1998)	Under 16 conceptions 1995-97 average (rate)	Births to mothers under 20 (1998)
Isle of Anglesey	732	6.0	19 (4.9)	56
Gwynedd	1305	5.9	51 (8.0)	108
Conwy	1178	8.8	65 (11.6)	103
Denbighshire	1037	6.4	37 (7.7)	96
Flintshire	1795	6.7	74 (9.0)	125
Wrexham	1495	7.6	83 (11.1)	138
Powys	1269	5.8	43 (6.3)	90
Ceredigion	649	7.3	19 (5.2)	46
Pembrokeshire	1277	8.8	36 (5.3)	124
Carmarthenshire	1745	5.9	72 (7.6)	186
Swansea	2436	7.9	177 (14.0)	278
Neath Port Talbot	1455	8.2	73 (9.1)	160
Bridgend	1508	7.1	104 (14.3)	182
Vale of Glamorgan	1436	7.6	62 (8.8)	142
Cardiff	4063	8.3	165 (9.5)	405
Rhondda,Cynon,Taff	2824	8.4	211 (15.3)	374
Merthyr Tydfil	709	8.6	49 (13.6)	108
Caerphilly	2154	7.1	165 (16.1)	278
Blaenau Gwent	830	7.5	68 (16.6)	130
Torfaen	1086	7.9	64 (12.3)	138
Monmouthshire	868	6.0	28 (5.7)	46
Newport	1769	7.4	83 (10.5)	210

Source: Digest of Welsh Local Area Statistics (2000)

Health comparators

Table 1.9 (this report) gives rankings for 'worst health' to 'best health' constituencies across Britain, using under 65 SMRs (over the period 1991-95) as a measure of premature mortality. The authors of that work have conducted a similar analysis which allows a comparison over time, *ie* between the SMR for 1991-95 and those for the subsequent years 1996-97, and 1998-99. The results can be seen in Table 5.5 which shows SMRs over the three time periods. The constituencies are mapped in order of the most recent data. In Britain, there are 62 constituencies with 'worse' outcomes than the poorest SMR in Wales, for Merthyr Tydfil and Rhymney. Worthy of note are the better health chances enjoyed by the 89 constituencies ranking above Monmouth.

The 1998/99 SMRs for Wales can be seen in Map 14a. Map 14b highlights those constituencies where the SMRs do not show an improvement over the original figures. Improvements are apparent in Cardiff, Swansea and Wrexham but not in most of the north or the valley communities of south Wales.

Table 5.5: Welsh constituencies, 'worst health' and 'best health', using SMRs for those aged under 65

SMR rank	Constituency	SMR<65 1991-95	1996-97	1997-98
[1				
63	Merthyr Tydfil & Rhymney	121	140	130
71	Ogmore	114	118	128
102	Rhondda	124	126	124
108	Cynon Valley	121	114	123
112	Blaenau Gwent	114	117	123
114	Vale of Clwyd	107	117	122
143	Caerphilly	105	118	117
150	Carmarthen W & S Pembrokeshire	93	99	116
173	Clwyd West	93	103	113
185	Cardiff South and Penarth	116	123	112
199	Newport West	104	106	111
202	Swansea West	103	108	110
216	Torfaen	113	112	109
221	Cardiff West	115	102	109
235	Alyn and Deeside	102	91	108
240	Delyn	105	111	108
247	Pontypridd	101	101	107
248	Swansea East	115	113	107
262	Clwyd South	101	112	106
285	Bridgend	97	93	104
291	Llanelli	103	113	103
300	Wrexham	106	114	103
309	Islwyn	102	102	102
313	Caernarfon	98	85	102
321	Neath	113	121	100
323	Conwy	96	96	100
324	Merionnydd nant Conwy	94	94	100
335	Aberavon	111	114	99
337	Montgomeryshire	91	84	98
341	Newport East	107	105	98
342	Ynys Mon	106	89	98
361	Preseli Pembrokeshire	100	86	96
371	Brecon and Radnor	95	90	95
380	Vale of Glamorgan	92	99	94
437	Gower	91	87	89
473	Cardiff Central	95	102	86
490	Carmarthen East & Dinefwr	105	106	85
491	Ceredigion	95	85	85
538	Cardiff North	88	82	80
552	Monmouth	80	87	79
[641				

Source: Dorling *et al* (2001)

If we examine the highest UA rate: lowest UA rate ratio in Wales, for all age mortality rates from 1991-7, the highest rate is for Merthyr Tydfil (1200). The lowest rate is for Monmouthshire (870), giving an 'inequality ratio' of 1.4 (Fitzpatrick and Kelleher, 2000).

For Scotland, the equivalent is Glasgow City (1420): East Renfrewshire (920), which is 1.5. However, whereas the figure for Merthyr Tydfil produces 70 'excess deaths' (over the expected number if the mortality rate was the same as the UK figure), the 'excess deaths' figure for Glasgow City was 1040. The highest Local Authority figure in England was for Manchester at 1280; the lowest being East Dorset (700).

If the focus is restricted to the 15-44 age group, the inequality for Wales (males) is 1.6 (Merthyr Tydfil 150: Ceredigion 90), and for females 1.4 (Merthyr Tydfil 80: Ceredigion 50) but the inequalities are not as wide as those between the regions of England.

Health improvement

Recent research conducted at the Universities of Leeds and Bristol for the Joseph Rowntree Foundation (Mitchell *et al*, 2000) sought to estimate the potential impact of certain current government policies on premature death in Britain. These three policies are:

- *A modest redistribution of wealth.* A steady widening of the wealth gap between rich and poor took place in Britain between the 1980s and the 1990s. The growing differences in wealth between the rich and poor were mirrored by differences in their health, measured by mortality rates (where social class is used a proxy for wealth). The modest redistribution of wealth referred to here is one which would return the inequalities in mortality their 1983 levels.
- *Achieving full employment.* The definition of full employment used in this research adheres to the government's preferred definition in which, whilst people may be temporarily between jobs, no-one is in longer term receipt of unemployment benefit.
- *Eradicating child poverty:* To estimate the effect of achieving the government's aim of eradicating child poverty, the life chances of the 20% of children whose parents work in (had been working in, or were associated with) the most poorly paid occupations were raised to equal those of their peers not living in poverty. This is a slightly more conservative definition of eradicating child poverty than the government's but one which is more reliably tested.

The results for Britain as a whole, and for Wales, are as follows:

- Annually, some 7500 deaths in Britain amongst people younger than 65 (*including 414 in Wales*) could be prevented if inequalities in wealth narrowed to their 1983 levels.
- Some 2500 deaths per year in Britain amongst those aged less than 65, *including 134 in Wales*, would be prevented were full employment to be achieved.

- Some 1,400 lives amongst those under 15 would be saved per year in Britain, *including 85 in Wales*, if child poverty were eradicated.

This gives a total of 633 potential lives saved in Wales, annually, were these policies to be achieved. Lives would be saved in those areas which currently have the highest rates of mortality. The redistribution of wealth would have the greatest absolute effect (in terms of numbers of lives saved) because it would improve the lives of the largest number of people. Eradication of child poverty has the greatest relative effect (in terms of the proportion of lives saved).

Clearly, whilst the health of the population in parts of Wales is not as poor as in parts of Scotland, there is a large proportion of the UAs where health measures are well below average for the UK, and showing few signs of improvement. Health gains will not become apparent in the short, or even the medium term; remedies must be substantial, and sustained over the long term.