CHAPTER FIVE

POVERTY, DEPRIVATION AND HEALTH IN WEST CORNWALL

INTRODUCTION

This chapter uses data from the 1991 Census and other sources to explore the relationship between health and poverty in Cornwall. The relationship between poverty and poor health has been well documented over recent years, and there are now a number of studies of both mortality and morbidity which show the increased risk of suffering poor health found amongst those living in circumstances of poverty or deprivation (Townsend *et al* 1992; Gordon *et al* 1995). Such studies have highlighted higher rates of mortality and morbidity amongst specific groups who are more at risk of poverty - the low paid, people in lower occupational groups, people who are unemployed, and lone parents, for example - and also higher rates of mortality and morbidity amongst groups living in deprivation - for example, the higher rates of ill-health amongst people living in poor housing conditions (Byrne *et al* 1986; Phillimore 1989). This relationship has been found for both physical health and for mental health (Benzeval and Judge 1990).

One of the most recent studies of poverty and deprivation in Britain - the second Breadline Britain Survey carried out in 1990 - found that those people suffering from multiple deprivation were one and a half times as likely to have a long standing illness and twice as likely to suffer from a disability as those who were not so deprived (Townsend 1995). However, the majority of studies on poverty and health have either focused on urban poverty, or have taken larger cross-national samples which cannot distinguish between urban and rural situations. Whilst we might expect there to be an association between poverty or deprivation and health in rural areas there is less data available on poverty and ill-health in a rural area.

MEASURING DEPRIVATION, POVERTY AND HEALTH IN RURAL AREAS

Studies which have explored the relationship between deprivation and health in rural areas have largely concluded that the health of rural populations is better overall than that of urban populations, and that inequalities in health due to deprivation are less marked than in urban areas (Watts *et al* 1994; Phillimore and Reading 1992). However, there are a number of difficulties in measuring poverty and deprivation in rural areas - particularly when relying on indicators developed for use in urban studies, as noted earlier (see Chapter 1). There is also the problem of the way in which the term ‘rural’ is applied in different studies - there is not a consistent definition of what constitutes a rural area for the purposes of such research. One reason why people in rural areas appear to experience better health is the different distribution of wealth across the rural population, so that both the deprivation and the poor health experienced by some sectors of the population are obscured within the larger group (Phillimore and Reading 1992).

However, there are further problems with health data. In particular, mortality statistics, which are often used to measure inequalities in health, are inadequate. Not only is mortality an extreme measure of ill-health, but there is good reason to suppose that the factors contributing to poor health during life - chronic long-term illness, for example - are not those which contribute to early death. It is important, for this reason, to use other measures which are based on the experience of ill-health during the course of a lifetime rather than measures based on death. In addition, as life expectancy has improved, measures which rely on mortality are based on a decreasing number of events, in particular when looking at premature mortality (under retirement age), and this is more of a problem when examining data for small areas with smaller populations. An alternative measure is that of morbidity or ill-health, using a range of indicators including individual's own perceptions of their health status, as in the 1991 Census and the annual General Household Survey, for example. Surveys of the value of self-reported health measures have demonstrated a high degree of correlation between such subjective measures and objective or medical observations on health status (Wannamethee and Shaper 1991). The discussion in this chapter is largely based on this self-reported health status from the 1991 Census, in relation to a range of measures of deprivation.

Whether poor people in rural areas experience a greater, equal or reduced risk of illness or premature death when compared with their urban counterparts, is, however, not really the issue. The more important question is the extent to which poor people in rural areas suffer poorer health in comparison with their more affluent neighbours in that area, and the extent to which this effect can be overcome by service provision and anti-poverty strategies.

Health risks in rural areas are not distributed evenly (Phillimore and Reading 1992; Watts *et al* 1993), but appear to be affected by the experience of poverty, alongside other factors which may be unique to living in a rural area. The risk of mental illness, for example, appears to be greater for some groups in rural areas - new mothers, people who are carers, farmers, older people and young people - and this increased risk is the product of a variety of stresses - caring in an isolated locality, for example, with fewer services to reduce the burden of caring, and fewer opportunities to socialise with others (Ephraim *et al* 1993; Sherlock 1993).

POVERTY AND HEALTH IN CORNWALL

What then is the evidence relating to poverty and health inequalities in Cornwall? Earlier chapters have explored poverty and deprivation in Cornwall - the depth of poverty, the groups most affected and the nature of that poverty. The annual reports from the Department of Public Health, (Cornwall and Isles of Scilly Health Authority) have for a number of years documented the evidence relating to deprivation in Cornwall and the impact of this deprivation on health in the county. In 1994, for example, the report noted that areas of high deprivation in Cornwall had poorer health than those less deprived, with increased rates of premature mortality, greater numbers of teenage pregnancies, and the report made a number of recommendations regarding the focus of health resources.

In addition, surveys specially carried out by the Department of Public Health have revealed important data on the lifestyle and morbidity of the Cornish population, concluding that whilst there are wide variations in the health of the population - in particular, in terms of physical health - there are greater problems in terms of patterns of morbidity in the poorest areas in the county rather than more affluent areas. In addition, the distribution of unhealthy behaviour in terms of poor eating habits, lack of exercise and consumption of alcohol and tobacco largely matches the distribution of deprivation in the county, and this adds to the health needs of these populations.

This chapter builds on the information contained in these reports to present a detailed analysis of health data from the 1991 Census, using the census question on limiting long-term illness, and where appropriate mortality figures. The chapter explores firstly the figures for mortality and morbidity at District and ward level in Cornwall using the Breadline Britain index of deprivation, and then looks at the distribution of ill-health at ward level for those aspects of deprivation which are most closely associated with poor health.

The Distribution of Health at Ward Level: Carrick, Kerrier and Penwith

In our first summary report on poverty and health in West Cornwall (see Appendix One) we noted that all three of the West Cornwall districts contained wards which suffered high levels of poverty and also that two of the districts, Kerrier and Penwith, had a Standardised Illness Ratio (SIR) which was poorer than the SIR, or average, for England and Wales, whilst the SIR for Carrick was in fact better than the SIR for England and Wales.

Table 5.1: Standardised Illness Ratios for the Three West Cornwall Districts and their Ranking in Relation to the 366 Local Authority Districts of England

District	*SIR*	*Rank*
Kerrier	106	80
Penwith	103	95
Carrick	92	169

However, if we rank the districts in terms of the percentage of households in each district with a household member with a long term illness, the picture changes:

Table 5.2: Proportion of Households in Kerrier, Penwith and Carrick with Long Term Illness and their Ranking in Relation to the 366 Local Authority Districts of England

District	*Households with long term illness (%)*	*Rank*
Kerrier	27.8%	51
Penwith	28.2%	44
Carrick	25.6%	92

As this table shows, ranking the local authority districts in terms of the proportion of ill households moves the three districts in West Cornwall higher up the ILC scale - that is, towards the poorest end of the ranking. One reason for this difference is that there is a greater proportion of older people in Cornwall, in comparison with the UK as a whole (see Chapter 2, Table 2.2.) and older people have higher rates of illness than the younger population. However, Tables 5.1 and 5.2 viewed together also suggest that the three West Cornwall districts may contain a wider distribution of health than in other areas, which would act to inflate the SIR at the District level, bringing it closer to the average figure, whilst smaller areas within the district with poorer health as a result of greater deprivation are obscured.

Within districts, however, it may be that the households experiencing poverty and deprivation are concentrated in particular wards. It is useful, therefore, to look at these smaller areas for both health and poverty measures in order to explore the likely relationship between these indicators.

Figure 5.1 shows the distribution of ill-health across Cornwall at ward level, with those wards with above average SIRs and those which are below. The map shows, in particular, a concentration of poor health in some areas - the cluster around Camborne and Redruth the most noticeable, perhaps, with a further concentration in North Cornwall around Camelford and Tintagel. Figure 5.2 shows the proportion of households containing someone with a limiting long-term illness in each ward. The two maps together show similar concentrations of poor health across the county, although there are wards which are amongst the worst in terms of the proportions of their population with long term illness who have SIRs below 100.

Figure 5.1: SIRs for Wards in Cornwall

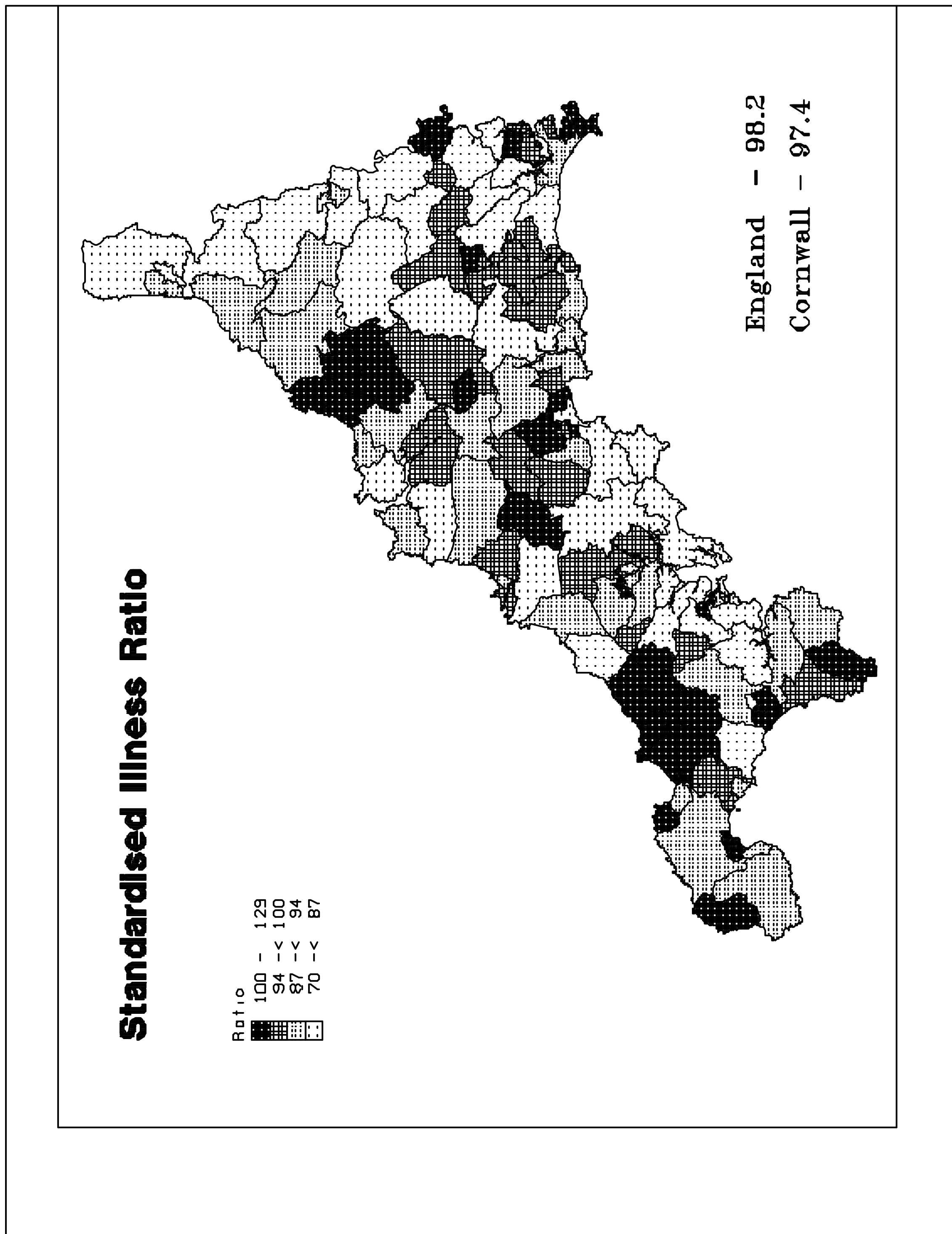
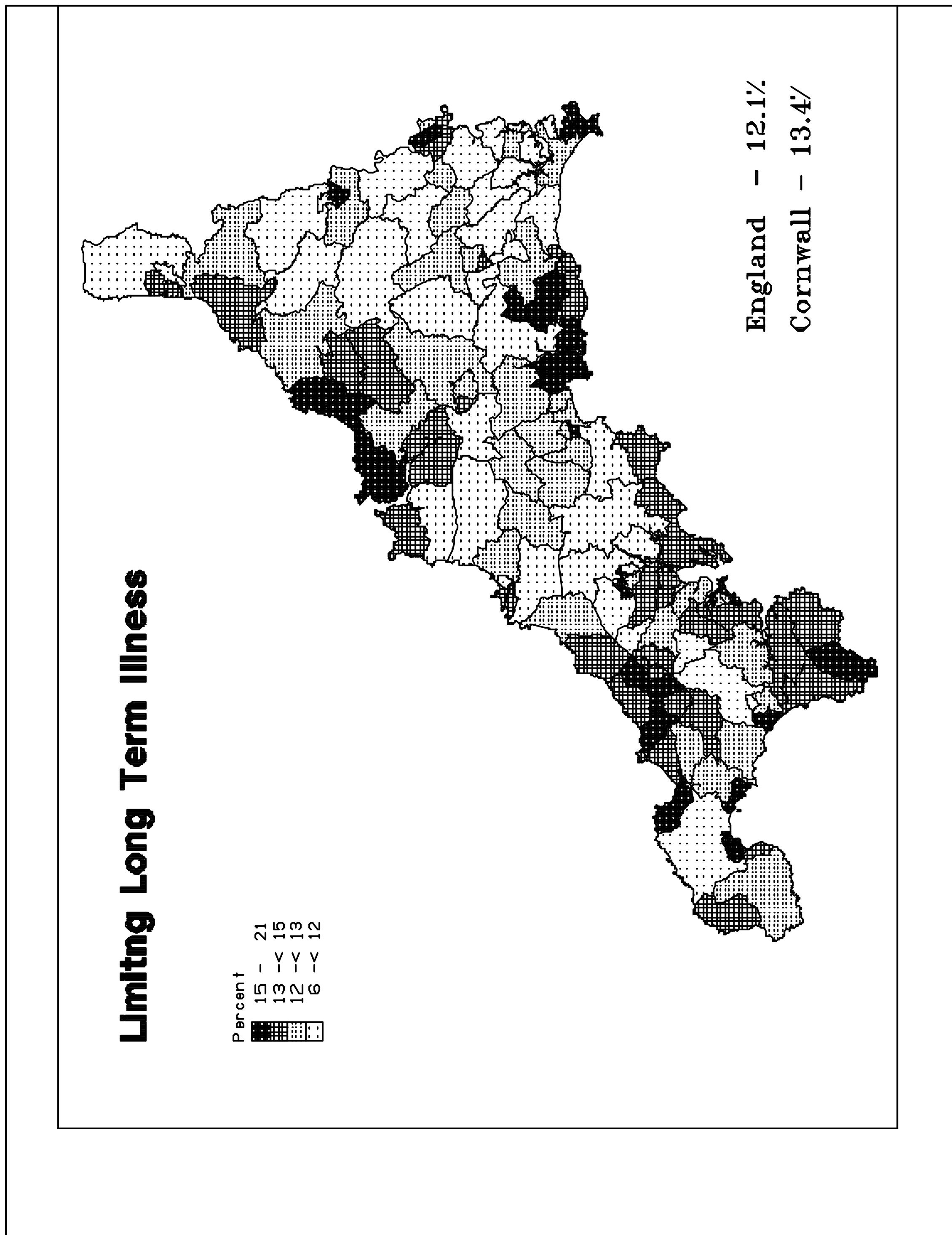


Figure 5.2: Households with Someone with a Limiting Long-Term Illness



If we rank the wards in Cornwall according to the percentage of poor households in the ward - using the Breadline Britain index of poverty - then, as Table 5.3 shows, the three Districts in West Cornwall between them contain nine of the ten poorest wards in the whole county. One of the wards - the poorest in the county - lies in Carrick, three of the poorest are in Kerrier and five are in Penwith, with one ward in North Cornwall.

These wards also tend to have higher rates of morbidity and mortality in comparison with other wards. Morbidity is measured here using a Standardised Illness Ratio based on responses to the 1991 census question on health, using the Forrest and Gordon method of standardising (Forrest and Gordon 1993). The standardised illness ratio (SIR) shows the extent to which any one of the wards in Cornwall deviates from the national average which is standardised as 100. Thus, an SIR of more than 100 represents poorer health in that ward in comparison with other wards in England, whilst an SIR which is less than 100 shows better health amongst the population of that ward in comparison with the picture nationally. The table also shows the Standardised Mortality Ratio for all age groups, for ages 15-64 and for ages 0-64:

Table 5.3: Standardised Illness Ratios and Standardised Mortality Ratios for the Ten Wards in Cornwall with the Highest Proportion of Poor Households and the Ten Wards in Cornwall with the Lowest Proportion of Poor Households

Rank	*District*	*Ward*	*% Poor Households*	*SIR*	*SMR all ages*	*SMR 15-64*	*SMR 0-64*
Most Poor							
1	Carrick	Penwerris	30.8	118.1	108.5	124.0	131.7
2	Penwith	Penzance W.	27.8	121.0	102.2	92.8	90.7
3	Penwith	Penzance E.	27.1	117.3	99.8	129.9	132.0
4	Penwith	St Ives North	25.5	118.8			
5	Kerrier	Helston S.	24.2	110.4	132.8	75.7	77.6
6	N. Cornwall	Bodmin St M's	23.5	115.7			
7	Kerrier	Redruth N.	23.3	128.2	103.6	114.9	120.0
8	Penwith	Penzance Cent.	22.6	104.8	81.0	44.3	45.9
9	Penwith	Marazion	22.5	94.2	85.9	78.4	82.0
10	Kerrier	Camborne W.	22.3	123.3	98.9	118.3	125.7
124	Penwith	Perranuthnoe	11.7	92.3	44.7	45.8	48.1
125=	Kerrier	Wendron & Sith	11.5	93.1	102.1	99.6	101.4
126	N. Cornwall	South Petherwin	11.4	83.4	99.4	88.4	87.7
127=	Caradon	St Stephens	11.3	98.1			
127=	Kerrier	Helston N.	11.3	84.5	85.0	73.6	70.8
129	N. Cornwall	Ottery	11.2	87.9			
130	Carrick	Kenwyn	11.0	93.6	83.2	65.4	71.2
131	Caradon	Landrake	10.7	82.4	74.6	78.2	83.3
132	N. Cornwall	Stoke Climsland	10.3	85.4	64.5	28.7	25.3
133	Carrick	Feock	9.4	75.9	72.1	81.3	80.1
Least Poor							

Source: 1991 census, SMRs calculated from mortality data between 1988- 1992

The table also shows the wards in Cornwall at the other end of the deprivation scale, together with their health indicators. The ten wards in Cornwall with the least number of poor households are more widely distributed amongst the six local authority districts: three are in North Cornwall, two each in Kerrier, Carrick and Caradon, and one is in Penwith. Thus the western Districts have a concentration of the poorest wards, but also some of the least poor, in their area.

If we begin to analyse the likely impact of this poverty on the health of those people living in these wards, then as the Table suggests, levels of morbidity and mortality are likely to be higher amongst those living in the poorer wards. The figures for both morbidity and mortality are not straightforward, however, and illustrate the difficulty of mapping poverty and measures of health status at ward level. Mortality, in particular, is problematic - the SMRs used here are based on the adjusted census figures, taking into account the missing responses (see Appendix 3) and use deaths over a four year period either side of the 1991 Census. However, in small wards the actual number of deaths during this period will be low, particularly for the ages under 65, and this means that these figures are less robust than the Standardised Illness Ratio.

What does Table 5.3 show? Firstly, whilst the fit between poverty and illness is not a neat line, the SIR is largely higher for the poorest wards, and lower for the least poor wards. In particular, the five poorest wards have high rates of morbidity compared with the five wards which contain the smallest proportion of poor households. The mortality figures are more variable - however, as with the figures for morbidity, the relationship between the poverty ranking and the SMR is greatest amongst the five wards at either end of the ranking.

Whilst some of the poorest wards - for example, Marazion, ranked number nine in the deprivation scale - appear to have better health than the average for England as a whole, the gap between the SIRs for the wards containing the greatest number of poor households and those which contain the least are substantial: those people living in the ward ranked at number 1, with an SIR of 118, have a far greater risk of experiencing poor health than the people living in the least poor ward with an SIR of 74.

There would appear, therefore, to be a relationship between poor health and deprivation. To explore in more detail the nature of this relationship, and bearing in mind the concerns expressed elsewhere over the value of the poverty index in a rural area, it is useful to focus on individual measures which have been shown by other studies to have a strong relationship with health and which are also associated with poverty, and compare these with the Standardised Illness Ratio derived from the 1991 census, at ward level.

Economic Activity and Health Status at Ward Level

Employment status has a range of possible effects or links with health status. Those people without paid employment may be more at risk of poor health due to the impact of a lower income, greater stress, the burden of managing on a lower budget, feelings associated with loss of the job role and so on. It is possible that poor health precedes job loss - that is, it is more difficult for people in poor health to retain paid employment. However, in areas where there are higher than average rates of unemployment it is more likely that poor health is caused by

unemployment and the poverty that accompanies this, rather than vice versa. Figures for unemployment at ward level in Cornwall show the following association between unemployment and health:

Table 5.4: Standardised Illness Ratios for the wards in Cornwall with highest and lowest rates of adult unemployment

Rank	*District*	*Ward*	*% Adult Unemployment*	*SIR*
Most unemployed				
1	Penwith	St Ives North	14.1	118.8
2	Kerrier	Redruth North	15.5	128.2
3	Penwith	Penzance East	15.4	117.3
4	Carrick	Penwerris	15.3	118.1
5	Kerrier	Camborne North	14.5	121.8
6=	Kerrier	Camborne South	14.3	115.3
6=	Penwith	Hayle-Gwithian	14.3	104.7
8	Restormel	Gannel	14.1	97.8
9=	Kerrier	Illogen South	13.7	122.2
9=	Kerrier	Grade Ruan & Landewednack	13.7	104.3
123=	Caradon	Trelawny	5.6	94.5
123=	Kerrier	Helston North	5.6	84.5
125=	Caradon	Callington	5.5	98.9
125=	Caradon	St Stephens	5.5	98.1
127	N. Cornwall	South Petherwin	5.1	83.4
128	Carrick	Roseland	5.0	73.6
129	Carrick	Kenwyn	4.9	93.6
130	Carrick	Feock	4.8	75.9
131=	Caradon	St Dominick	4.6	79.4
131=	N. Cornwall	Stoke Climsland	4.6	85.4
133	Kerrier	Meneage	4.1	87.5
Least unemployed				

As the table shows, wards with higher rates of unemployment also have higher than average levels of illness, measured by the standardised illness ratio, whilst those wards with low rates of unemployment, at the opposite end of the scale, show better than average rates of ill-health.

In addition to high rates of adult unemployment, Cornwall has higher than average youth unemployment. The rates for unemployment amongst those aged 16 to 24 are also high in those wards with high Standardised Illness Ratios.

Table 5.5: Standardised Illness ratios for the wards in Cornwall with highest and lowest rates of youth unemployment (16-24)

Rank	*District*	*Ward*	*% Youth Unemployment*	*SIR*
Most Youth Unemployment				
1	Kerrier	Grade Ruan & Landewednack	24.9	104.3
2	Restormel	Gannel	24.0	97.8
3	Kerrier	Crowan	24.2	109.3
4	Penwith	St Ives North	23.7	118.8
5	Penwith	St Ives South	23.0	100.3
6	Penwith	Penzance East	22.9	117.3
7	Penwith	Hayle-Gwithian	22.2	104.7
8	N. Cornwall	Tintagel	22.1	100.2
9	Kerrier	Camborne South	21.9	115.3
10	N. Cornwall	St Endellion	21.9	93.9
124	Caradon	St Dominick	9.3	79.4
125	Caradon	Burraton	9.2	101.2
126=	Carrick	Roseland	8.8	73.6
126=	N. Cornwall	South Petherwin	8.8	83.4
128	Penwith	Perranuthnoe	8.5	92.3
129	N. Cornwall	Lanivet	8.3	84.5
130=	Kerrier	Helston North	8.0	84.5
130=	Penwith	Marazion	8.0	94.2
132	Carrick	Kenwyn	7.0	93.6
133	Kerrier	Meneage	3.5	87.5
Least Youth Unemployment				

Although the relationship between youth unemployment and SIR at ward level might be expected to be weaker - as health amongst this age group is in general better than that of older people and might be more robust in the face of unemployment - there is an association of some sort here. Eight of the wards with the very high rates of youth unemployment in the top of the table are also wards with higher than average SIRs, whilst nine of the wards with the lowest rates of unemployment amongst this age group also have SIRs which are below average. The strongest association with unemployment for young people might be expected in wards where there is high unemployment amongst both their own age group and that of older people, where there is more likely to be a cumulative impact of growing up in a poor household combined with poverty experienced in early adulthood as a consequence of being unable to find paid work. Unemployment experienced by young people who have not also experienced unemployment and poverty within the household during childhood and adolescence may be expected to have less of an impact on their health, or the impact may be delayed and less visible.

Thus one of the most notable aspects of the table above is the relatively high unemployment rate amongst young people even in the least poor wards. However, these wards at the bottom of the poverty scale have SIRs which are substantially below the average. What is relevant is that these are also wards with low rates of adult unemployment, and low rates of household deprivation on the poverty index - thus whilst youth unemployment is, in itself, a concern, the health impact appears to be related to other aspects of economic status.

Lone parents and Health

Lone parents, and in particular lone mothers, are especially vulnerable to poverty (Payne 1991; Glendinning and Millar 1993), the most at risk group being younger women living alone with their children (Graham 1993). Lone mothers also have particular risks of both physical and mental ill-health. For this reason, those wards with greater proportions of lone parents amongst their population might be expected to have poorer health than those wards with lower numbers of people parenting alone.

In Cornwall as a whole there are slightly fewer lone-parent households than there are in England, however, as Chapter Three has shown, lone parents in Cornwall are likely to be poorer than their urban counterparts. If we look at the distribution of lone mothers in Cornwall in Table 5.6 below - and compare the standardised illness ratios of wards with the greatest proportions of lone mothers, we find that there are significant numbers of lone parents in the poorest wards in Cornwall and these wards largely have higher than average SIRs. As with the figures on youth unemployment, what is significant, in terms of the impact on health of being a lone mother, is the mix of factors for any individual - women brought up in poverty are more likely to have their health damaged by being a lone parent, and parenting alone in an isolated location is likely to have a greater impact on health.

Table 5.6: Standardised Illness Ratios for the ten wards in Cornwall with highest percentage of lone parents (LP)

Rank	*District*	*Ward*	*% LP*	*SIR*	*Poverty Ranking*
1	N. Cornwall	Bodmin St Mary's	4.1	115.7	6
2	Carrick	Penwerris	5.7	118.1	1
3=	Penwith	Penzance East	5.5	117.3	3
3=	Penwith	St Ives North	5.5	118.8	4
5	Caradon	Liskeard North	5.4	101.7	14
6	N. Cornwall	Launceston North	5.0	107.0	26
7	Carrick	Tregolls	4.7	93.7	11
8	Penwith	Penzance North	4.5	110.4	24
9=	Kerrier	Camborne South	4.4	115.3	18=
9=	Caradon	Torpoint	4.4	99.4	35

Housing and Poor Health

Housing plays an important role in the experience of health and illness, as well as being a valuable indicator of deprivation. The deprivation index used in this report includes a measure of housing deprivation. However, overcrowding and poor or lacking amenities also have direct health risks. For example, people in housing which is overcrowded are more at risk of infectious illness (Benzeval and Judge 1990) whilst damp housing has been linked with increased levels of asthma, respiratory disease, chest problems, depression, diarrhoea and vomiting (Hyndman 1990).

Overcrowding

Overcrowding appears to be less of a problem in Cornwall than in other areas of England (Department of Public Health 1994) - although multiple occupation and concealed households are a problem (see Chapter 4). However, there are a number of wards with a number of overcrowded households. Table 5.7 below shows the wards in Cornwall with the highest proportion of households living in over-crowded accommodation, and the SIRs for these wards:

Table 5.7: Standardised Illness Ratios for the Eight Wards in Cornwall with Greatest Number of Households which are Overcrowded (more than one person per room)

Rank	*District*	*Ward*	*% Households over-crowded*	*SIR*
1	Penwith	Penzance East	3.8	117.3
2	Kerrier	Illogan South	3.5	110.4
3	Carrick	Tregolls	3.1	93.7
4	Penwith	St Ives North	3.0	118.8
5=	Kerrier	Camborne South	2.9	115.3
5=	Carrick	Penwerris	2.9	118.1
7	Caradon	Liskeard North	2.6	101.7
8=	Restormel	Gannel	2.5	97.8
8=	Restormel	Rock	2.5	97.3

Note: Four wards shared tenth position, with a proportion of households who were overcrowded at 2.4%

As Table 5.7 shows, although those wards with the greatest proportion of overcrowded households are not those with the highest SIRs, they largely show an above average level of illness in their populations.

Amenities

A further way of exploring housing deprivation is through the availability of basic amenities - a bath, shower and inside toilet - which are not shared with other households. Clearly, access to such amenities is likely to be associated with health, both at the level of the individual and household and in terms of public health. General improvements in access to such facilities have meant that there now very few households without sole access to basic amenities. However, some people still suffer this form of housing deprivation, as the following table shows:

Table 5.8: Standardised Illness Ratios for the Ten Wards in Cornwall with Most Households Lacking/Sharing One or More Amenity (bath/shower; indoor wc)

Rank	*District*	*Ward*	*% lacking amenities*	*SIR*
1	Carrick	Boscawen	4.0	87.2
2	Kerrier	Camborne North	5.7	121.8
3	Carrick	Chacewater	5.1	94.2
4	Penwith	Penzance East	5.0	117.3
5	Kerrier	Redruth South	4.9	110.3
6	Kerrier	Illogen South	4.8	122.2
7	Kerrier	Wendron & Sithney	4.6	93.1
8	Restormel	Rock	4.2	97.3
9=	Carrick	Kenwyn	4.0	93.6
9=	Restormel	Treverbyn	4.0	115.2

The ten wards with the greatest number of households lacking sole use of basic amenities show a variation in the SIRs - some of those wards where other measures of deprivation also score highly have levels of illness well above the national average - Camborne North, for example - whilst other wards with a high proportion of poor housing, in terms of level of amenities, have much lower levels of ill-health. Boscawen has the greatest proportion of households lacking sole use of amenities, but also has a standardised illness ratio below the national average. Boscawen however is ranked at number 38 out of 133 wards in the whole of Cornwall - that is, above the half-way mark. It has average levels of adult unemployment, high youth unemployment, higher than average proportion of households without a car (ranked at number 14), and a relatively high proportion of its population living without central heating. The largest clue may lie in the proportion of households not in owner occupied accommodation - 27.9% are in accommodation rented from the local authority, housing association, local authority or other source.

Central heating

More of the population in Cornwall do not have central heating than in England as a whole, and this is undoubtedly associated with the warmer climate enjoyed by the county in comparison with other areas. Looking at the distribution of central heating at ward level, the wards with the greatest proportion of households lacking central heating are in west of the county - around Penzance and St Ives, in particular. However, as with the issue of private car ownership, not having central heating may be the result of the decision within poor households to distribute resources in favour of other goods and necessities. In other words, in a warmer climate it may be easier to go without central heating, in order to maximise the amount available for food or housing costs, but this does not mean that people without access to such forms of heating in colder weather do not constitute a deprived group.

In terms of the association between heating and health, at ward level, as the table below shows that for some wards a significant proportion of the population do not have central heating, and that for most of these wards, and in particular those with very high proportions without central heating, there is a higher than average level of illness.

Table 5.9: Standardised Illness Ratios for the Ten Wards in Cornwall with Greater Proportion of Households Without Central Heating (CH)

Rank	*District*	*Ward*	*% Households without CH*	*SIR*
1	Penwith	Penzance East	54.7	117.3
2	Carrick	Penwerris	52.3	118.1
3	Penwith	St Ives North	44.5	118.8
4	Penwith	Penzance West	44.5	121.0
5	Penwith	Penzance Central	41.8	104.8
6	Restormel	St Blaise	41.6	111.7
7	Penwith	St Ives South	40.7	100.3
8	Penwith	Penzance South	40.1	93.9
9=	Kerrier	Redruth North	39.9	128.2
9=	Carrick	Chacewater	39.9	94.2

Thus in both Penzance East and Penwerris over half the population are without central heating, and the six wards which have the greatest proportion of their population in accommodation which is not centrally heated have above average levels of illness. This is an important issue in that it presents a challenge to the idea that being without central heating is readily explained by the warmer climate and may not present a problem. The table above does not suggest a causal association between the lack of heating and poor health - but it does present a picture of people who are in poor health who also have to go without a centrally heated house. Whilst we do not know how much of an effect this may have without further information about heating source, the nature of illness and so on, it suggests an urgent need for further research in this area.

Cars, Public Transport and Health

Earlier chapters have discussed the issue of car ownership and the extent to which, in a rural area, not having a car can be used as a marker or indicator of poverty in the same way as non car-ownership in an urban area is used in poverty studies. However, in a rural area where public transport is less available than in an urban area, households without a car are likely to be suffering severe deprivation. Being without a car in a rural area carries two kinds of implications for health. One is reduced access to health care services - greater difficulty in attending for treatment if dependent on public transport, for example. The other implication is that of reduced opportunities to maximise health - it is more difficult to shop for healthy food, for example, without a car and with poor local shopping facilities. Isolation is also a problem - higher rates of mental health problems amongst women caring for small children in rural areas and other carers in isolated circumstances, may be linked with fewer opportunities for

socialising and sharing some of the burden of constant care-giving. Thus it is worth exploring the figures for levels of illness amongst those wards with the greater proportion of non-car owners, even whilst recognising that this particular measure, in rural areas, underestimates the poverty of some parts of the population.

Table 5.10: Standardised Illness Ratios for the Ten Wards in Cornwall with the Greatest Proportion of Households Without a Car

Rank	*District*	*Ward*	*% Households without a car*	*SIR*
1=	Penwith	Penzance West	51.0	121.0
1=	Penwith	Penzance East	49.2	117.3
2	Carrick	Penwerris	47.5	118.1
3	Penwith	St Ives North	44.5	118.8
4	Penwith	Penzance Central	43.7	104.8
5	Penwith	St Ives South	42.6	100.3
6	Penwith	St Ives North	38.8	118.8
7	Carrick	Moresk	34.3	98.5
8	Penwith	Marazion	35.8	94.2
9=	Kerrier	Redruth North	35.3	128.2
9=	Kerrier	Camborne West	35.3	123.3

CONCLUSION: HEALTH AND INEQUALITY IN CORNWALL

The figures presented in this chapter suggest that there is a need to break down data on health in Cornwall as a whole into smaller areas - whilst accepting the inevitable problems with small sets of statistics. The 1991 census suggests that there are associations in Cornwall, as in other areas, between poverty and poor health experience. The Tables above, collectively, show that whilst there are some differences, as would be expected in such an analysis, in terms of which wards show up as the poorest in terms of different measures, there is also some consistency across the tables - and that those wards which occur most frequently are also those which have the highest Standardised Illness Ratios. This is not surprising - multiple deprivation exerts the greatest effect on health status. One aspect of the health statistics which is perhaps surprising is the fact that even amongst the poorest wards there are some with better health than that of the country as a whole. One reason for this, as suggested in the introduction, may be that the better-than average health (and wealth) of some of the population within the ward is great enough to increase the SIR and disguise this poor health amongst the poor households within the ward. This is undoubtedly sometimes the case. In addition, conventional measures of deprivation based on urban indicators may be particularly inadequate in their measurement of those aspects of poverty and deprivation which affect health. What these figures do show is that in terms of internal comparisons - looking across the county of Cornwall as a whole - poorer health appears to go hand in hand with deprivation. What is needed is further research to pin down what aspects of rural poverty - as opposed to urban poverty - have the greatest impact on health experience and health status.