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Life chances in Britain by housing wealth and for the homeless and vulnerably housed

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Abstract. In this paper new findings on the average life expectancy of the population of Britain are reported according to housing wealth. In addition, estimates of mortality rates for rough sleepers, hostel residents, and bed and breakfast residents are presented. The results indicate that the death rates of bed and breakfast residents are four to five times those of the housed population, death rates for hostel residents are seven times greater, and death rates for rough sleepers are 25 times greater than those of the housed population. At the extremes, people living in the most salubrious housing in Britain (holding over £100 000 of equity in their properties) can expect to live, on average, more than twice as long as those sleeping rough on the streets.

Introduction

The connection between housing and health has been known for many decades. Those who live in better housing conditions have better health in terms of morbidity (both physical and mental health) and also in terms of mortality. Various studies have reported an association between health and housing tenure, which, in conjunction with car access, is being increasingly used as a measure of social position in preference to the Registrar General's occupational social class categorisation.[1] Wannamethee and Shaper (1997), for example, from a study of mortality amongst a sample of over 7000 British men, report that mortality differences by tenure are greater than those indicated by social class based on occupation alone; those who owned their home and a car had significantly lower mortality than those who did not, irrespective of social class and a wide range of individual lifestyle and biological factors. Wannamethee and Shaper propose that this is because tenure is a good indicator of wealth. Other studies have also reported a relationship between housing tenure and health, such that those who own their own homes have the lowest mortality rates, followed by those in privately rented accommodation; residents of local authority housing experience the worst health outcomes (Britton, 1990; Kogevinas, 1990; Pugh et al, 1991).

Table 1 (see over) (adapted from Filakti and Fox, 1995) shows the extent of the mortality differences between housing tenures as well as those with and without access to a car (for those dying under the age of 65). From this table it can be seen that in 1971 – 81 the death rate for male local authority tenants was 35% higher than that for owner-occupier males and 42% higher for females. By 1981 – 89, this gap had widened to a death rate which was 62% higher for males in local authority housing and 44% higher for females. Thus not only can we observe substantial differences in mortality by these traditional tenure categories, but in the more recent period these differences are widening.

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[1] The Registrar General, head of The General Register Office, is responsible for the central archive of all registrations of births, marriages, and deaths that have occurred in England and Wales since 1 July 1837. The classification of occupational social class first used by the Registrar General in 1911 has since been widely used in social science.

Table 1. Direct age-standardised rate ratios for deaths under 65 by housing tenure and car access: 1971 and 1981 Census cohorts (Longitudinal Study data) (source: adapted from Filakti and Fox, 1995).

	Males		Females	
	1971–81	1981–89	1971–81	1981–89
Owner-occupiers	1	1	1	1
Private renters	1.32	1.38	1.32	1.38
Local authority tenants	1.35	1.62	1.42	1.44
One or more cars	1	1	1	1
No cars	1.44	1.57	1.40	1.56

These tenure categories, however, can be criticised for concealing variations within groups. In the last two decades in Britain there has been a dramatic rise in the number of households which can be classified as owner-occupiers, rising from 10 million owner-occupiers in 1971 to 16 million in 1993 (Dorling, 1995). In the 1991 Census, over two thirds of the population (68%) either owned their own home outright or had a mortgage (Dorling, 1995). This category contains a gradient of wealth, however, from people struggling to pay a mortgage and on the verge of repossession to those with hundreds of thousands, and sometimes millions, of pounds worth of housing equity. While the relatively crude traditional housing tenure categories mask this important variation they also exclude one increasingly important group: the homeless, by definition those without housing tenure.

Although research until now has not revealed the variations in health of those with different levels of housing equity, there is some evidence to suggest that the homeless have particularly poor health outcomes, such as respiratory disease, alcohol and drug dependence, mental health problems and suicide, accidents and violence (Alstrom et al, 1975; Bines, 1994; Hanzlick and Parrish, 1993; Hibbs et al, 1994; Hwang et al, 1997; Victor, 1997).

Unlike the traditional housing tenures, however, homelessness is much more difficult to define and to enumerate—there is no easy, single definition of homelessness (Everton, 1993) as the 'homeless' are not a homogeneous group (Balazs, 1993). It is customary to refer to those who qualify as statutory homeless and those who do not (Widdowfield, 1999). The statutory homeless are those who have been assessed by a local authority and qualify for permanent rehousing, either in council housing or in housing association accommodation. These people often have to wait to be housed, and may be placed in temporary accommodation such as hostels or bed and breakfast hotels. The numbers of statutory homeless are recorded in official statistics. In England the number of homeless households peaked around 1991 at 177 000 (Victor, 1997) and in 1994 stood at 143 500. These almost always contain children, and with an average of 2.3 people per household this gives a total of over 330 000 homeless persons in England.

The nonstatutory homeless are those who do not qualify for rehousing and many of these are single people. These people may be living in a variety of situations, in bed and breakfast accommodation, hostels for the homeless, or they may be sleeping on friends' floors, in squats, or sleeping rough on the streets. This is a very difficult 'group' to enumerate; although there have been various attempts to enumerate the number of nonstatutory homeless, there are no reliable figures at the national level (Bines, 1994). However, some attempts at enumeration have been made, although at different time points. In 1996 the bed and breakfast sector, which contains both statutory and nonstaturory homeless, was thought to house almost 80 000 people (Carter, 1997). In 1991

the Census enumerated 19 417 people in hostel accommodation, although the charity for the homeless, Shelter, estimated that the true figure was closer to 50 000 (Royal College of Physicians, 1994). With rough sleepers there is an even greater uncertainty as to their number. The 1991 Census counted 1275 rough sleepers in London (Inner and Outer) and 1428 outside the capital. Pleace refers to this as "by far the most systematic" (1998, page 7) enumeration yet says: "Based on the geographical mobility and dynamism of the population experiencing rough sleeping, it is possible to be confident that rough sleeping is almost certainly more widespread than any of the counts suggest" (page 8).

In this paper we look at housing and health in Britain beyond the traditional housing-tenure categories. We do this by looking at variations in mortality within owner-occupation, using housing wealth as an indicator of relative social position. We also include estimates of the death rates of those excluded from the traditional housing-tenure categories: the street homeless and those living in hostels or bed and breakfast accommodation.

Housing wealth and mortality

We have developed an alternative measure of the relative social position of people in terms of housing by referring to the price that people are willing or able to pay for it. This is not available at the individual level but at the ecological level for very small areas can be derived from building society and census data. Here, for the same time period as used in table 1 (1981 – 89)—a period of stable then rising housing prices in Britain—we have calculated both the average income of homebuyers in each ward and their average wealth in terms of positive housing equity. To estimate the wealth in each ward, the average price of housing is multiplied by the number of households who own their homes outright and then the average positive equity of homebuyers is multiplied by the number of buyers who do not have negative equity. From these two figures an estimate of total positive equity is made, from which the total value of negative equity in each ward can be subtracted. When this total net housing equity is divided by the total number of households living in each ward an estimate of local housing wealth is produced and hence an indication of total wealth in each small area (see Dorling, 1995 for more details). National mortality data for the same period which are also available at the ward level allow us to calculate average life expectancies for groups of wards. Table 2 (see over) shows that as ward-level housing wealth rises so does life expectancy, but that above £60 000 of housing wealth there is little additional life-expectancy benefit. The biggest gains in life expectancy are between the categories of £5000 – 9999 and £10 000 – 14 999, because these are the categories that distinguish living in poverty from living at a low to average standard. Escaping poverty is the most important step to improving an individual's health (Shaw et al, 1999).

Homelessness and mortality

In Britain there have been only two studies of the mortality rates of the homeless (Victor, 1997). These studies were conducted by the charity Crisis. "Sick to death of homelessness" (Keyes and Kennedy, 1992) reported a search of coroner's court records in Inner London, over one year from 1 September 1991 to 31 August 1992: 86 deaths were identified as homeless, the average age of death was 47, 82% were male. Not all deaths are referred to the coroner, only those when death is sudden or unexpected or where a doctor is not sure of the exact cause of death. Additionally, not all deaths of homeless people could be identified as such (some may have been given their last known address, such as a hostel). Therefore this is very likely to be an underestimate of the number of deaths of rough sleepers.

Table 2. Health and wealth in England and Wales, males and females, 1981–89.

Wealth bracket of wards (£)	Deaths[a] 1981–89	Age of death[b] years:months	Days earned[c] per £10 000	Average[d] wealth (£)
<1000	161 892	74:0	48	67[e]
1000–4999	377 506	74:1	79	3 038
5000–9999	579 998	74:1	110	7 634
10 000–14 999	634 487	74:3	102	12 526
15 000–19 999	618 258	74:5	77	17 458
20 000–26 999	727 530	74:7	77	23 444
27 000–34 999	618 573	74:8	60	30 885
35 000–44 999	518 991	74:11	34	39 681
45 000–59 999	445 829	75:0	30	51 888
60 000–74 999	230 580	75:2	16	67 002
75 000–99 999	174 668	75:4	13	85 173
⩾ 100 000	88 033	75:5	0	120 534
All wards	5 176 346	74:9	60	34 366

[a] All deaths in England and Wales between 1981 and 1989 standardised for ward age–sex population profiles (1981 and 1991).
[b] Average age of death of people living in wards in each wealth bracket (standardised for the age–sex profiles).
[c] Additional days of life per £1000 achieved by moving up two wealth brackets (only one bracket from £75 000).
[d] Total positive housing equity outstanding in each ward divided among all ward households (at 1991 prices).
[e] This figure is low because of the inclusion of negative equity. Most of the homes in these wards are state owned (personal equity of zero), of the minority that are privately owned most are heavily mortgaged (positive equity low) and many in 1991 were worth less than the outstanding mortgage on the property (negative equity)—hence the average housing wealth per household in these areas of £67.
Sources: Census data: ONS via MIDAS at the University of Manchester. Mortality data: ONS Health Statistics Section, via Jarman and colleagues, St Mary's Hospital Medical School. Housing data: Nationwide Building Society, via Champion, Department of Geography, Newcastle University.

This study was followed up over the same months of 1995/96 (Grenier, 1997) and although the estimated number of rough sleepers in London had fallen (from 741 to 365) the average age of death was 42. In the later period they were 93% male. In both studies there were a disproportionate number of deaths (as compared with the general population) from accidents, suicide, pneumonia, and drug-related causes. However, although these studies report important evidence about deaths among rough sleepers, they do not compare these with other tenures groups by taking into account the age and sex structure of their sample. Here we compare the age–sex standardised mortality ratios of the general (housed) population in Britain with various groups lacking tenure: rough sleepers, hostel residents, the vulnerably housed, and a bed and breakfast/bedsit population.

Male rough sleepers—London

Death rates and standardised mortality ratios (SMRs) for rough sleepers in London were calculated with data which were originally collected by Crisis to calculate an average age of death (Grenier, 1996). The data used here are for males only and refer to deaths for one year (1 September 1995 to 31 August 1996). The total number of rough sleepers in Inner London (836) is taken from the 1991 Census, as it is assumed that this is the most accurate enumeration of rough sleepers—there were 16 025 enumerators in

London on census day. The numbers of rough sleepers and the numbers of deaths of rough sleepers are both questionable figures. A number of counts subsequent to the census, as outlined in the section above, suggest that the number of rough sleepers in London is now closer to 400. However, it is likely that these counts are underestimates. The census count may on the other hand be higher than recent levels of rough sleeping. However, the census count is used here as this gives an age and sex distribution from which SMRs can be calculated. An SMR refers to the number of deaths in this group divided by the number of deaths we would expect in this group if national death rates applied, multiplied by 100. The national average is by definition 100.

The results, as well as death rates for the general population (data derived from the Office for National Statistics) are presented in table 3 (see also Shaw and Dorling, 1998). From this table it can be seen that the death rates of rough sleepers are extremely high when compared with the death rates for the general population. The difference is greatest for the 16–29 age group where the death-rate ratio is 37.4 to 1. For rough sleepers of all ages 16–64 (table now shown) the SMR is over 2500, meaning that they have mortality rates of approximately 25 times those of the general population.

Table 3. Death rates and standardised mortality ratios (SMRs) for male rough sleepers in London,

Age group	London rough sleepers (males)				Total population England and Wales (males) death rate per 1000 per year
	rough sleeper deaths	rough sleepers	death rate per 1000 per year	SMR[a]	
16–29	14	341	41.1	3732*	1.1
30–44	21	292	71.9	3127*	2.3
45–64	32	203	157.6	2074*	7.6

[a] SMR is the standardised mortality ratio of the number of deaths in this group divided by the number of deaths we would expect in this group if national death rates applied, multiplied by 100.
* 95% confidence limits exceed 100 (16–29:2038–6263; 30–44:1935–4780; 45–64:1418–2928).

Male hostel residents—Oxford

Homelessness has been increasing in Oxford since the early 1980s and, after London and Brighton, Oxford has the second highest number of rough sleepers (OCC, 1996). In 1990 there were estimated to be 3000 vulnerably housed people living in Oxford, living in bed and breakfast accommodation, squats, or on the streets, as well as in hostels and nightshelters (Collett, 1990). Table 4 presents death rates and SMRs for a hostel for the homeless which is located in Oxford. The deaths occurred between 1981 and 1992 and were registered with the hostel as the last residence of the deceased. The

Table 4. Death rates and standardised mortality ratios (SMRs) for male hostel residents in Oxford, 1981–92.

Age group	Hostel user deaths 81–92	Deaths per year	Hostel users	Death rate per 1000	SMR<65
16–44	8	0.7	53	12.6	731
45–64	31	2.6	50	52.0	684*

* 95% confidence limits exceed 100 (16–44:0–5451; 45–64:115–2147). These confidence limits are calculated according to Breslow and Day (1987) and are wide because of the small absolute numbers of deaths involved.

total number of hostel residents is estimated from figures in the 1981 and 1991 Censuses. Wider age groups are used because of the smaller sample size. The results in table 4 show that the death rates for hostel users are substantially higher than those for the general population, but not as high as for rough sleepers. Again, the highest death-rate ratio is found for the younger age group, the 16–44 age group, with a death-rate ratio of 7.4 as compared with 1 for the general population. The overall SMR for male hostel users in Oxford aged 16–64 is 675. This means male hostel users are nearly seven times more likely to die in a year than the general male population.

Bed and breakfast/bedsit residents, males and females—Brighton

The 1991 Census found 66 people sleeping rough in the town of Brighton, giving it the highest rate of street homelessness per capita in the country. There are also a large number of houses in multiple occupation (HMOs). Death rates and SMRs for deaths during the period 1981–92 have been calculated for a bed and breakfast/bedsit population located in Brighton, for both males and females. This form of accommodation is used by local authorities to house people temporarily while they wait for social housing to become available, although increasingly it is used by people who place themselves there as they do not qualify as statutory homeless. Details of the housing history of Brighton which are used to inform this exercise are published elsewhere (Shaw, 1998). The figures were calculated by identifying small areas in Brighton which contain 'notorious'[2] bed and breakfast hotels, guest houses, and bedsits used by temporarily homeless people or people on very low incomes. These 'notorious' addresses were identified from council records of HMOs. Many of the bed and breakfast hotels included are either currently or have in the past been used by the council to house homeless people temporarily. Only small areas where the housing is totally or mostly this type of accommodation are included, so as to avoid including people of other housing tenures. Small areas which were known to include council housing, for example, were excluded. Thus not all 'notorious' bed and breakfast/bedsits are included, as some are closely located to other types of housing.

The base population for this analysis (that is, the total number of people living in these selected areas) is taken from the electoral register which gives an indication of the number of people living in the area. It was also possible to determine the sex distribution from the electoral register (68% male). However, the age structure of the base population is not known and has therefore been estimated. The age structure of a population of Brighton hostel users has been used; this age structure is similar to those for hostel users and the vulnerably housed in other locations and studies. The data are presented in tables 5 and 6.

Table 5. Death rates and standardised mortality ratios (SMRs) for male bed and breakfast and bedsit residents, Brighton, 1981–92.

Age group	Deaths	Deaths per year	Population	Death rate per 1000	SMR
16–44	29	2.4	542	4.5	260
45–64	54	4.5	88	51.1	673*

* 95% confidence limits exceed 100 (16–44:40–847; 45–64:200–1638).

[2] 'Notorious' residences were identified by local informants working in housing as those which were either used by the council to house people temporarily who qualified as statutorily homeless and/or as the housing of last resort of the most socially excluded. All of these residences were in a visible state of disrepair.

Table 6. Death rates and standardised mortality ratios (SMRs) for female bed and breakfast and bedsit residents, Brighton, 1981–92.

Age group	Deaths	Deaths per year	Population	Death rate per 1000	LCL	SMR	UCL
16–44	8	0.7	255	2.7	0	436	8362
45–64	13	1.1	42	26.2	11	550	2898

Note: confidence limits do not exceed 100(16–44:0–3248; 45–64:11–2898).
LCL, lower confidence limit; UCL, upper confidence limit.

For males, the SMRs range from 260 for those aged 16–64 to 673 for those aged 45–64. For females aged 16–44 the SMR is 436 and for females aged 45–64 it is 550. However, it is only for the older age group that the 95% confidence limits do not include 100. The overall SMR for males in this type of accommodation is 459; the overall SMR for females is 529, suggesting that bedsit and bed and breakfast residents have death rates of four to five times that of the general population.

Discussion

Figure 1 (see over) amalgamates the data on life expectancy by housing wealth (table 2) with the data on rough sleepers, hostel users, and bed and breakfast residents (tables 3–6) when SMRs are converted into life expectancies. The X-axis indicates cumulative population in order of ascending housing wealth (using the average wealth of the categories in table 2), the Y-axis shows years of life expectancy (males and females). Although the data are not strictly directly comparable, as the housing wealth data dates from 1981–89, the hostel and bed and breakfast mortality data from 1981–92, and the rough sleeper mortality data from 1995/96, we can nonetheless for the first time compare the life expectancy of a full range of tenure groups. A linear gradient between housing wealth and life expectancy is clear, but this has to be extended on a log–linear scale to include the homeless and other vulnerably housed groups.

This finding has a number of implications. First, from an analytical point of view, these findings suggest that tenure categories should be employed with caution. Focusing on the traditional tenure categories can obscure the degree of variation within each tenure category. The clearest example of this is the 'privately rented' category, which can include people paying high rents for luxury accommodation as well as those living in bed and breakfast accommodation and claiming housing benefit. The traditional tenure categories referred to above, and indeed the housing-wealth categories presented here for the first time, can perhaps best be seen as indicators of social position rather than of factors which directly affect health—they reflect relative rather than absolute poverty. However, with homelessness the effects on health are such that we see the direct health consequences of poverty in an absolute sense.

Second, these findings indicate the very real effects of homelessness on health. Rough sleepers have a life expectancy which is lower than that of 171 of the 174 countries listed by the United Nations for 1995. Average life expectancies are lower only in Malawi, Uganda, and Sierra Leone, with life expectancies of 41, 40.5, and 34.7, respectively (UN, 1998). Hostel residents have a life expectancy of 63, similar to the average for 'all developing countries' (62.2); whereas bed and breakfast residents (many of whom are statutory or nonstatutory homeless) have a life expectancy of 67—more than seven years below the England and Wales national average and equivalent to life expectancy in Brazil (66.6), Kazakhstan (67.5), and the Philippines (67.4). Thus in these

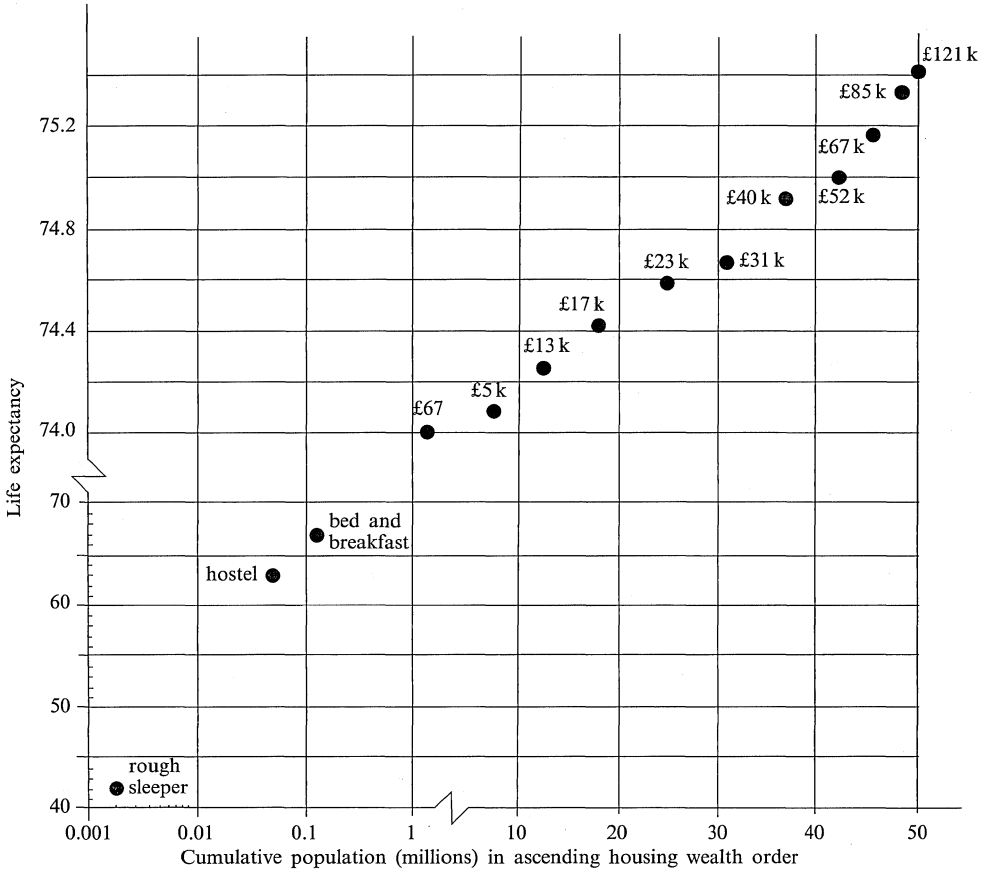

Figure 1. Life expectancy by housing wealth, England and Wales, 1981–89. The figures in the graph above are the average values of housing wealth held by each group of the population with tenure (in 1991). They are all in thousands of pounds except for the poorest category in which people, on average, have recourse to £67 of housing equity.

figures we see evidence that the physical environment of homelessness has very real health outcomes.

Third, it is fifty years since the National Health Service was established, yet inequalities in health are a persistent and indeed increasing feature of British society (Independent Inquiry into Inequalities in Health, 1998). Moreover, the 'inverse care law', first outlined by Tudor Hart in the early 1970s (Tudor Hart, 1971), which states that those who are most in need make least use of health care services, still applies. The homeless have higher rates of illness yet report persistent problems in gaining access to health care (Fisher and Collins, 1993; Lowry, 1991; Shiner, 1995; Stern et al, 1989; Williams and Allen, 1989). Pleace and Quilgars (1996) point out that there are two ways to tackle this: existing services can be made more accessible and less intimidating for the homeless, or alternatively, specialist services can be set up. However, the most obvious way to alleviate the health problems of homelessness is to tackle the problem of homelessness itself—housing policy needs to be reunited with health policy with the aim of ensuring that all members of society have access to adequate, affordable housing of decent quality. And, as Pleace (1998) points out, the extent of the vulnerability and extreme social exclusion of rough sleepers needs to be taken into account if the issue is to be addressed. That we refer to one aspect of social exclusion

when describing this group—their lack of a 'home'—should not obscure the fact that there are other facets—employment, citizenship, income, education and social support—which may also be lacking.

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