

## **Social Classes and Their Health in Britain**

British society is said to be 'class-ridden': that is, separated into socially cohesive groups divided largely on the basis of occupation. These divisions are re-inforced by ideas of status, or the worth that society attaches to a variety of human attributes - some of them seemingly trivial to an outsider. Class and status are intimately woven, for occupation is one aspect of status and other aspects of the status complex determine opportunities for occupation. Class and status determine power and advantage, and therefore are of fundamental importance for the life-chances of any person in Britain. The rigidity of the class structure of Victorian times is no more, but the realistic social horizons of the lower strata remain relatively limited.

The gap that separates the affluent upper social classes from the poorer lower classes has many dimensions, only one of which is material wealth. Others of fundamental importance are interrelated inequalities in health, life-span, education and environment. The divide between rich and poor is commonly and simplistically thought of in terms of wages, but in Britain most wealth is held in other forms. Thus attempts to quantify relative deprivation on a scale of wages must be crude at best. All studies of wealth are soon bedevilled by disagreements over definition. With life-span, by contrast, there can be no argument. The health dimension of deprivation is quantifiable in ways that the wealth dimension is not, and as such provides a powerful tool with which to assess the effectiveness of interventions meant to alleviate the plight of lower socio-economic groups in society.

The Office of Population Censuses and Surveys (The General Register Office up to 1970) is the guardian of more than 260 million records of

births, marriages and deaths - the 'hatches, matches and despatches' as they are called - covering the population of England and Wales since 1837.<sup>4</sup> The records are fully accessible and open to the general public, and the search room of the Office has about 2000 visitors each day. Whereas good records and statistics are collected on disease and mortality, little information accessible to the public is held on land and other forms of wealth, except for limited purposes of taxation. Contrast the workings of the General Register Office with that of H.M. Land Registry established 25 years later in 1862 to register title to land. By 1990, the latter had recorded only 13 million of the estimated 22 million properties in Britain. In many cases, probably the majority, the land values are not known to the Registry; and when they are they may not be revealed. These striking contrasts, openness and completeness for one Register, close secrecy and incompleteness for the other, are remarkable in their apparent inconsistency. Surely a reliable inventory of the nation's land is as important for planning and good government as an inventory of the population that inhabits and depends upon it?

In 1911, Dr T H C Stevenson, statistical superintendent to the Registrar General, Sir Bernard Mallet, introduced a grouping of occupations as recorded on the national Census and death certificates, 'designed to represent as far as possible different social grades'.<sup>5</sup> The timing of this innovation was no accident, as will become apparent. The classification grouped occupations according to the degree of skill involved and the social position implied. Initially there were five groups, with textile workers, miners and agricultural workers held in separate categories because of special interest in their mortality. For the 1921 Census, these three occupations were reallocated to one of the 5 groupings which today are:

- |       |  |
|-------|--|
| I     | Professional                                     |
| II    | Intermediate (manager, nurse, teacher etc)       |
| III N | Skilled non-manual (typist, shop assistant, etc) |
| III M | Skilled manual (miner, driver, etc)              |
| IV    | Partly skilled manual (farm worker, etc)         |
| V     | Unskilled manual                                 |

All users of this system have acknowledged its subjective nature. The

occupational structure of each class must change with social attitudes and value judgements. For example, clerks were relegated from social class I to II in 1911 and then to III in 1931. Following the comparative fortunes of the classes over long periods of time is therefore complicated by these drifts in occupations from one to another. Social class V is diminishing in size as occupations drift up to IV. Does therefore a change in the mortality rate of social class V reflect a real deterioration in the health of this stratum of society, or simply a drift in its composition towards a residue of occupations that always have had a particularly poor health record? Those using this system to explore inequalities in health in British society have had to use some ingenuity to overcome the many potential pitfalls.

### **Death rates in the social classes**

By using occupation as recorded on the decennial Censuses, the size of each social class can be measured at the beginning of each decade. Also by examination of the occupation stated on the death certificate, the numbers of deaths can be counted in each social class within a few years of the Census. These summary data permit the calculation of death rates by social class. Before these rates can be reliably compared, however, the findings need to be adjusted for any age differences between the social classes. The usual way of doing this is to calculate the standardised mortality ratio (SMR). By taking the death rates in each age group for England and Wales as a whole (the standard population), we can calculate the number of deaths that would have been expected in each social class had its death rates at each age been those of the standard population (multiply the number in each age group by the standard population's death rate at that age. Do this for each age group and total the numbers of deaths expected). The observed number of deaths in that social class is then expressed as a percentage of the expected number. When the SMR is below 100 or above 100, the mortality experience of that social class is respectively below or above the average for England and Wales. Similar calculations can be done to compare disease rates, or to compare disease or death rates between years rather than between classes in any year.

If the population in 1950-1952 is taken as the standard (ie, its SMR is by definition 100), then the SMR in 1866-1870 was 349. By 1886-1890 the SMR had fallen to 300, in 1911-1915 to 205 and in 1931-1935 to 134.<sup>6</sup>

With advances in sanitation, environmental hygiene, occupational hygiene, nutrition and medical skills, death rates have fallen steadily to reach an SMR of 70 in 1986-1990. Yet the Registrar General's calculations have shown that from the time when the five-category classification of social class was introduced in 1921, social class inequalities in health have remained entrenched despite these advances,<sup>7,8</sup> as illustrated by the SMR's for men of working age in Table 1:

Table 1

Social class	1921-23	1930-32	1949-53	1959-63	1970-72	1979-80 1982-83
I	82	90	86	76	77	66
II	94	94	92	81	81	76
III	95	97	101	100	99/106	94/106
IV	101	102	104	103	114	116
V	125	111	118	143	137	165

Up to 1953, these SMR's are for men aged 20 to 64 years. After that date they are for men aged 15 to 64 years. The figures for social class III in 1970-1972 and after refer to non-manual and manual. Data for 1981 are not available. If anything, social class inequalities in health are increasing.

It is important to realise that these figures cover a period which saw the establishment of a Ministry for Health (1919), the health reforms of the 1920's and 1930's such as the Public Health (TB) Act of 1921 and the Midwives Act of 1936, a massive expansion of hospital beds in World War II and the introduction of the National Health Service in 1948. State expenditure before 1900 never exceeded £100 million. By 1979-1980 tax revenue amounted to £60.5 billion, 59% coming from income tax, 7% from taxes on company income, 2% from taxes on capital transfer (including estate duties) and 32% from taxes on commodities.<sup>9</sup> Total tax revenues were by this time amounting to close to 40% of the gross national product. By 1984-1985 public expenditure as a whole amounted to £126 billion, of which social security accounted for £37 billion and health and personal social services £15.4 billion. Taking per capita spending on the National Health Service in 1975 as 100, then the respective figures in 1949 and 1984 were 40 and more than 120. How can it be that increases in public

expenditure on this vast scale, so much of it devoted to social security and health care, should fail completely even to begin to reduce the gap in health between the rich and poor? In approaching this question we must first ask ourselves whether the data are consistent, and whether they can be believed.

### **The consistency of the data**

The data presented so far have referred only to total mortality in men of working age. However, social class inequalities can be shown to be present from birth through to retirement, to apply to both sexes, and to exist not only for death but also for disease and disability. Here for example is the number of deaths in the first week of life per 1000 live births according to social class in 1975 and 1990.<sup>1</sup> The data are from the Office of Population Censuses and Surveys:

	<b>1975</b>	<b>1990</b>
<b>Classes I and II</b>	15.0	6.2
<b>Classes IV and V</b>	22.7	9.5

Once again the results show remarkable improvement in all social classes over a 15 year period, together with an inability to reduce the social class differential. The rate for social classes IV and V was 51% higher than that for classes I and II in 1975, and 54% higher in 1990.

The baby born to a father in unskilled employment has about twice the risk of death before reaching its first birthday compared with the baby of the professional father. When births outside marriage are taken into account, the contrast is even greater. The unskilled worker and his children also run at least twice the risk of death as the professional man and his offspring. This means an average of five years less of life expectancy for the 20 year old male in social classes IV and V than for his fellow in social classes I and II.<sup>10</sup> These five years are retirement years for which men of all classes save in their state pension, occupational pension and national insurance schemes, but which many members of the lower classes are destined not to enjoy. If all children up to 15 years of age in England and Wales had the survival-chances of those born into social classes I and II, more than 3000 deaths might be prevented each year;<sup>11</sup> for the 16 to 64 year-olds, the corresponding figure is about 39,000 deaths avoided every year.<sup>12</sup>

The causes of death leading to the excess mortality of the lower social classes are many and varied. When Professor Peter Townsend looked at 78 categories of disease he found that the SMR's for 65 were higher in classes IV and V than in I or II during 1979-1983. Only malignant melanoma, a skin cancer linked to exposure to the sun's rays, showed the reverse trend. The same features are generally true for women.<sup>13</sup> Heart attacks, most cancers, strokes, accidents, mental disorders and suicides all take a greater toll among those sectors of British society who have lived in relative material deprivation. Many of these conditions are particularly common at younger ages in those belonging to the lower socio-economic groups. So when the measure of inequality employed is 'years of potential life lost' rather than the SMR, the health disadvantage of social classes IV and V becomes even more apparent.<sup>14</sup>

The Registrar General's data relate to deaths rather than sickness. The Health and Lifestyle Survey of the 1980's, undertaken by the Health Promotion Research Trust, was unusual because it examined the participants as well as asking them about their health, income, education, housing, and occupation.<sup>15</sup> A broad range of health indicators deteriorated with decreasing social class, and in some cases the gradient of decline was steep. This pattern could be demonstrated when the health measures were related to income or level of education.

Several researchers have attempted to refine the measure of material wealth by developing composite indices that include not only occupation but also car ownership, housing tenure and education. When this is done, the gradient between health and wealth is generally strengthened. When housing tenure was looked at separately, the SMR for men aged 15 to 64 years at death was 84 for owner-occupiers, as compared with 115 for those housed by their local authority (respective SMR's for women were 83 and 117). These data are for 1971-1981.<sup>16</sup>

### **Can statistics be believed?**

Neither the classification of socio-economic group nor the estimate of the SMR is problem-free. As mentioned above, the re-allocation of certain occupations at each Census to alternative social classes has complicated the comparison of social classes over long periods of time. To overcome this difficulty the effect of reclassification has been repeatedly assessed by

coding individuals according to the current system and that employed at earlier Censuses. Another approach has been to confine the analysis to those occupations that have been placed consistently in the same social class for many years. When, for example, E R Pamuk used 143 such occupations to examine trends between 1921 and 1971, class inequalities were seen to be greater in 1970 than in the early years of this century. For married women there had been a similar increase in inequality between 1950 and 1970.<sup>17</sup>

From 1971 onwards many of the earlier problems of interpretation have been overcome by the Longitudinal Survey of the Office of Population Censuses and Surveys. The 1971 and 1981 Censuses have been used as sampling frames for this important study, which permits examination of the sequence of events occurring in a defined group of individuals over a finite period. In 1981, for the first time, information about individuals on the Census were linked to their information on previous Censuses. This allowed the circumstances of death to be related to the record of the deceased's life circumstances. In the same way, a child's birth could be related to the social and economic circumstances of the parents' earlier years. To generate a 1% sample of the population, 4 days were randomly selected in each year and the 1971 Census and National Health Service records of all individuals born on these days were 'flagged'. This 'cohort' of the population was then followed up in the 1981 Census (and the 1991 Census - results expected about 1995). The Survey has left no doubt that the contrasts in life expectancy between manual and non-manual male workers of pre-retirement age in England and Wales increased between 1976-1981 and 1981-1983. For manual occupations the SMR increased from 103 to 107 in this period, while for non-manual occupations the SMR fell from 84 to 83.<sup>18</sup>

The Office of Population Censuses and Surveys has since 1970 also conducted a continuous multi-purpose survey of a sample of 12,500 households who respond on a voluntary basis (response rate generally about 80%). Information is collected annually on family data, housing, employment, education and health, together with details of family income. Special topics are also selected from year to year (eg: private health insurance, source of mortgages, informal care of the sick). This survey has shown appreciably higher rates of long-term illness among manual classes

than non-manual classes.<sup>19</sup> Furthermore, the gap between the two groups had widened between 1972 and 1978. Alongside the Health and Lifestyle Survey, which examined its participants and did not rely simply on self-report, there can be no doubt about the trends in health uncovered.

### **Explaining the findings**

Data never lie; only their reliability and their interpretation are open to question. The implications of the findings are so far-reaching if true that they have been subject to the most severe scrutiny in recent years. Some have proposed that the inverse gradient between social class and mortality is real enough, but that it simply indicates that an individual's occupation and social class are governed by a health-selection process. In other words, those in poor health gravitate down the social scale. This suggestion harks back to 19th century concepts, as discussed later, but nevertheless must be given due consideration. Studies have shown that inter-generational social mobility is governed largely by education and family aspirations rather than health. Serious illness in childhood can have material disadvantages, but only 1% to 2% of individuals who are seriously ill in their early 20's have fallen in social class because of illness during childhood.<sup>20</sup> Furthermore, the illnesses that are the common causes of death today, such as coronary heart disease, cancer and stroke, rarely allow their victim time to enter employment of another kind before death. The social class gradient in death rates from lung cancer, with its short interval from diagnosis to death, is similar to that from chronic lung disease, with its many years of disability and handicap before death. If chronic lung disease commonly led to a fall in occupational standing then its associated death rate might have shown the steeper gradient with social class. Furthermore the Longitudinal Survey has found no evidence for an effect of downward mobility on the social class gradient of health in middle-age.<sup>21</sup> Finally, in a study of male civil servants in Whitehall, all were examined medically at recruitment and those in ill-health were excluded from follow-up. Among those clinically healthy at the start, subsequent death rates were much higher in the lower grades than in the higher grades.<sup>22</sup> There is therefore no evidence to believe that the relatively high mortality of social classes IV and V is explained by any tendency for the unhealthy to slide down the social scale.

Another remnant of 19th century ideas, which I discuss below, is to



blame the ill-health of the lower social classes on their life-style. The implication is that these groups have choices, but that they wilfully make the wrong ones to the detriment of their own health. Certainly it is true nowadays that the lower social classes smoke more and tend to obesity more than social classes I or II, but this was not always the situation. In earlier years, the higher social classes smoked more<sup>23</sup> and were more corpulent than the lower classes, but the gradient between social class and mortality was in the same direction as it is today. Few dispassionate observers would be surprised if the materially disadvantaged, with their limited choices, should eat a less healthy diet and take to forms of relief ultimately more affordable for them than those selected by the upper classes. Symbols chosen by the upper social classes to signify their status often allude to possession of wealth. As such symbols are adopted by the lower social classes (perhaps because of a fall in price relative to income), the higher classes seek more expensive alternatives to take their place as fashion dictates, and with relatively little consideration for health effects (eg: a permanent sun tan).

In the study of Whitehall's civil servants, the numbers of participants were large enough to look within subgroups. Confining the analysis to non-smokers, coronary heart disease remained strongly and inversely related to grade of employment.<sup>22</sup> In an important study in the USA, families in Alameda County, California, have been followed since 1965. Even when the effects of smoking, drinking and race were controlled for, the poorest families still had a risk of death 50% higher than the richest families.<sup>24</sup>

The totality of the evidence leads to the inescapable conclusion that inequalities in health between the social classes are real and not accounted for by artefact. Ill health has its influence on occupation later on, but the effect is very small compared with the strength of the gradient between health and socio-economic status that exists in modern Britain. Nor do life-style characteristics such as smoking and diet go far enough to account for the findings. These results, coming from many and diverse studies, and the wide range of diseases and disorders that come together to increase sickness and death rates in the materially deprived, must mean that the gradient of health with social class is grounded on something as fundamental as material wealth itself. To understand the social forces that have led the country to this point, and to discover where society went wrong in its efforts

to alleviate poverty and the shortfall in health that afflicts the materially deprived, we must look back over history.