

Increasing inequalities in risk of murder in Britain: trends in the demographic and spatial distribution of murder, 1981–2000

Mary Shaw^a *, Helena Tunstall^b, Danny Dorling^c

^a Department of Social Medicine, University of Bristol, Canynge Hall, Whiteladies Road, Bristol BS8 2PR, UK

* Corresponding author
Tel.: (0117) 928 7353
Fax: (0117) 928 7325
Mary.Shaw@bristol.ac.uk

^b School of Geographical Sciences, University of Bristol, University Road, Bristol BS8 1SS, UK

^c Department of Geography, University of Sheffield, Winter Street, Sheffield S10 2TN, UK

Abstract

This study analyses demographic and spatial factors that underlie the rise in murder rates seen in Britain between 1981 and 2000 and considers the possible contribution of a public health approach to the understanding of murder. Comparison of murder rates by age group and sex finds that increases occurred only among males aged 5–59 years, and were greatest among males aged 20–24 years. Analysis of the relationship with poverty at the area level, using the Breadline Britain index and deciles based on wards, demonstrates that increases in murder rates were concentrated in the poorest areas. Rates of murder have risen in the same population groups and areas that have experienced increases in suicide and may be associated with worsening social and spatial inequality.

Introduction

Deaths due to homicide occupy a peculiar position in British society as one of the rarest yet highest profiles causes of death. Although murders are relatively uncommon events we are constantly surrounded by a *mêlée* of real life and fictional murders, in news reports, crime fiction, television dramas and on the big screen. Despite this considerable public presence there has been little academic study of these deaths in Britain.

Internationally murder has been studied within a range of academic disciplines, including sociology, history, anthropology, psychology, criminology, forensics, criminal justice, legal studies, public policy and political science. Perhaps surprisingly violence has rarely been considered as a health issue (Macdonald, 2002). This paper approaches the analysis of murder in Britain from the perspective of public health, considering murder not as a crime but as a cause of death. The analysis seeks to examine the demographic, spatial and temporal trends in these deaths in Britain over the last two decades considering the age and sex of murder victims, the characteristics of the injuries leading to their deaths, the socioeconomic status of the areas in which they lived and how the distribution of murder has changed over time.

Murder as a social barometer

A common theme in the study of murder is that murder can be read as a form of social barometer, indicating something of the quality of social relations, whether at the micro-or macro-level, within a society. The analysis of international patterns, or the geography of murder at the national level, is one component of this form of comparison. Fig. 1 shows homicide rates in selected countries for 1997, revealing a remarkable range of rates, with three countries standing out. The murder rate in Russia far exceeded that in any other European country, and was exceeded only by South Africa. Murder rates in the USA were less than half that in Russia in 1997 but were still markedly higher than rates in other western and eastern European countries. Norway, Japan and Ireland (though not Northern Ireland) were the countries where the population was least likely to die from murder. England and Wales are in the lower half of the distribution of European countries, although the rate in Scotland was 20% higher than that in England and Wales in 1997.

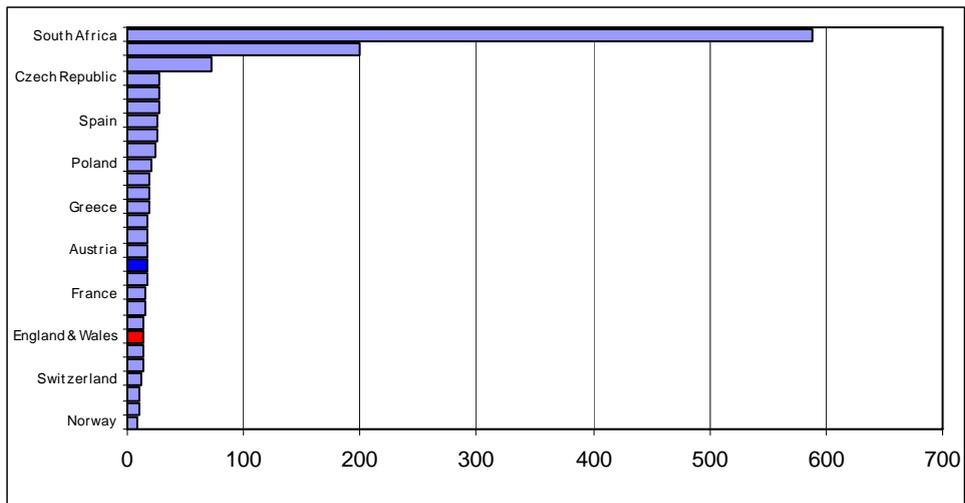


Fig. 1. Homicides rates per million, 1997. Source: Richards (1999).

International comparison has been used by Emile Durkheim to theorise the social relationships underlying violent deaths (1897/1999). Durkheim considered homicide, in his renowned study of suicide, as a phenomenon inversely related to suicide. His investigations suggested that this relationship was dependent on the type of suicide concerned, but that generally homicide and suicide formed two opposed social currents. Where social customs were generally “gentle and pacific”, in times of difficulty people would withdraw from life and be more prone to suicide; where “average morality has a ruder character and human life is less respected” people will be more likely to kill others rather than themselves (1897/1999, p. 341). Thus he saw the nature of the social and moral environment as a crucial factor in determining death rates. This inverse relationship between rates of murder and suicide has been demonstrated in recent data. An analysis based on continents in 2000 found that Africa and the Americas had a relatively high level of murder and a low level of suicide while Europe and countries of the Pacific Rim had relatively low homicide rates and high suicide rates (WHO, 2002).

Over the last decade the work of Richard Wilkinson (1996) has focused interest within health research upon the impact of income inequalities on population health and mortality. Wilkinson (1992) has argued that international comparisons demonstrate that income inequality is associated with lower life expectancy. Wilkinson has also observed, in the US, at the state level, that the relationship between income inequality and rate of violent crime, including homicide, is even stronger than that with all-cause mortality (1996). He asserts that the strength of this correlation between income inequality (the share of total household income received by the least well-off 50 per cent of the population) and homicide rates suggests that differences in income inequality may account for as much as half of the wide variation in homicide rates between states; he cites other studies which find homicide rate are more closely related to inequality than to poverty and says:

“That the links between crime and income inequality to some extent parallel those between health and inequality is highly indicative of the channels through which health is affected. It not only provides independent confirmation that income distribution has important psychosocial effects on society, but shows that the effects are consistent with the view that wider income differences are socially divisive. Indeed, there are suggestions that they undermine the legitimacy of the society’s institutions more widely” (1996, pp. 156–157).

Wilkinson also echoes Durkheim’s observation of the inverse relationship between suicide and homicide and the role of social integration. For Wilkinson the key point of interpretation is whether anger and bitterness are internalised (leading to suicide) or expressed externally (leading to homicide), depending on the social context and the particular stresses and conflicts brought about by adverse socio-economic conditions. Wilkinson focuses in particular on ‘loss of face’ as a source of violence—the loss of pride and prestige and humiliation that is often expressed by murderers.

There has however been debate about whether the relationship found between income inequality, homicide and other health outcomes is artefactual (Mackenbach, 2002; Wagstaff and van Doorslaer, 2000; Wilson and Huang, 1995). Strong evidence of an association between homicide and socioeconomic status however remains at both the ecological and individual level. Low-area socioeconomic status has been found to be associated with heightened homicide risk in a number of different places, including the USA and Germany (Karman, 1996; Lester, 2002; Wallace and Wallace, 1998). The

relationship between socio-economic status and risk of murder at the individual level is demonstrated by data from Britain which indicate that it is the unemployed who are most likely to be murdered (Brookman and Maguire, 2003). The 'Homicide Index' suggests that in England and Wales between 1995 and 1999, and in Scotland between 1979 and 1998, approximately 40% of homicide victims were unemployed; both data sets also indicate that unskilled manual workers were over-represented amongst victims. There is evidence that particular occupational groups, including security staff and prostitutes, are at especially heightened risk of murder in the UK (Brookman and Maguire, 2003; O'Kane, 2002; Ward et al., 1999).

A number of recent studies have tried to unpick the relative effects of places and populations, or area 'context' and 'composition', on mortality and health generally (Duncan et al., 1998; Pickett and Pearl, 2001). One such study has specifically considered injury fatalities including homicides (Cubbin et al., 2000). This analysis of census tracts in the USA found that neighbourhood socio-economic status had an independent effect on risk of murder after adjustment for individual variability in education, income and occupation. At a number of levels, then, it seems that place is a factor that is relevant when trying to understand homicide.

Recent trends in murder rates over time

There have been dramatic changes in the incidence of homicide in several countries in recent decades, in particular Russia and the USA. In England and Wales, however, data suggest there have been gradual but significant changes in the incidence of homicide. Data for England and Wales from the official Home Office homicide series, which covers 35 years, are presented in Fig. 2. This shows both the number of murders and the rate of murders, which have doubled over this time period.

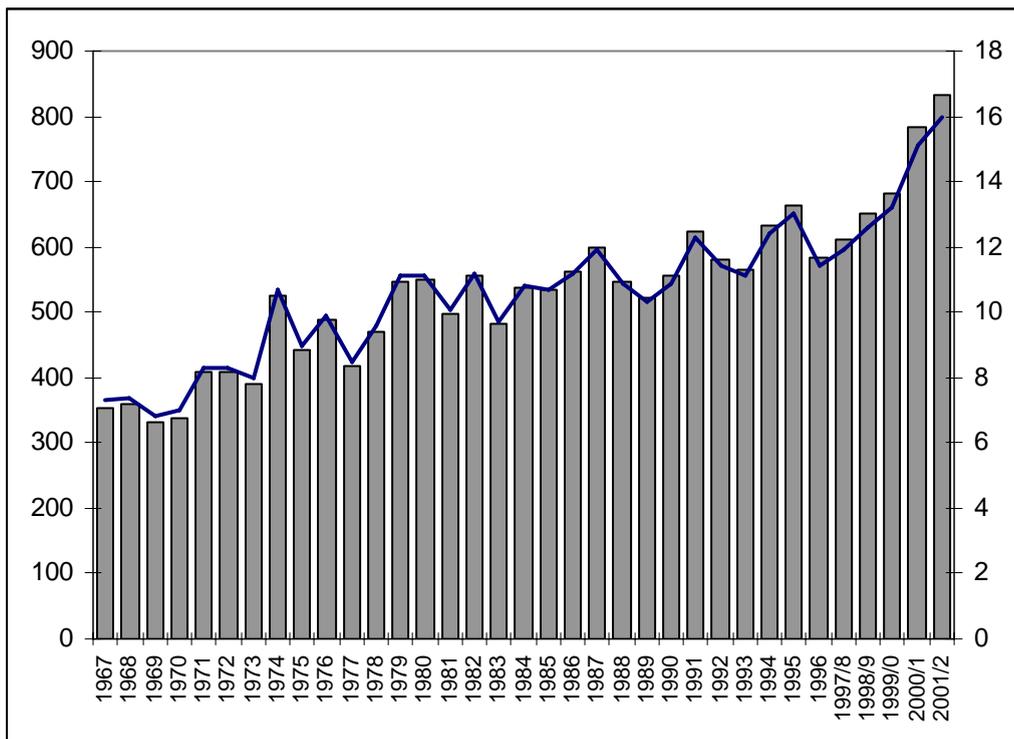


Fig. 2. Offences currently recorded as homicide in England and Wales 1967–2001. Notes: number of homicides per year as bars, scale on the left-hand axis; rate per million people as line, scale on the right. Source: Table 1.01 in Flood-Page and Taylor (2003).

The rate of increase in murder has been greatest in the earliest part of this time period and in the most recent years. In the first half of the 1970s the smoothed (5 year rolling average) murder rate rose by 22% in 5 years, it rose by 13% in the subsequent 5 years, by 4% in the first half of the 1980s, 3% in the latter half of the 1980s, 8% in the first half of the 1990s and 14% in the latter half of that decade. Data from 2000/1 and 2001/2 appear to indicate that rates of murder rose particularly sharply in the most recent years for which data are available. It is very likely however that the numbers of homicides

recorded for the last 2 years will be slightly reduced as some of these offences come to be reclassified (especially upon appeal at court) as not being murder.

Due to this increasing trend in death rates, over half of all murders in the last 35 years took place in the most recent 15 of those years. Consideration of different homicide data sources for England and Wales from the Home Office and Office for National Statistics (ONS) confirms this underlying trend of increasing rates of murder is unlikely to be artefactual (Rooney and Devis, 1999).

Thus, although still a relatively rare cause of death, there has been a significant rise in rates of homicide in England and Wales. This rise in murder rates in England and Wales is particularly notable when contrasted to the recent trend in other western European countries, such as France, Germany, Italy, and the USA where homicide rates fell during the 1990s (Barclay and Travers, 2002). Although the causes of the rise in the murder rate in England and Wales in recent decades has received little attention there has been considerable research interest in the recent trend in the murder rate in the USA (Helmuth, 2000). Homicide rates in the USA rose significantly during the 1980s, peaking in 1991, and then declined at a similar rate (Blumstein et al., 2000). The largest fall in homicide rates in the USA has been in gun homicides and explanation for the decreasing death rates has centred upon the contraction of crack cocaine markets (Baumer et al., 1998; Blumstein et al., 2000; Bowling, 1999; Helmuth, 2000; Lattimore et al., 1997a; Lattimore et al., 1997b). In contrast, during the 1990s homicide rates in Russia increased dramatically (Chervyakov et al., 2002; Pridemore, 2003). Between 1994 and 1998 rates of death from murder rose by 350% in Russia, with more substantial increases among men than women (Pridemore, 2003, p. 47). Homicide rates in Russia fell slightly at the end of the 1990s but remained substantially higher than rates in Western Europe.

Rising murder rates in Russia and in England and Wales have occurred despite some evidence that violent attacks have decreased in lethality over time as a result of improvements in medical care. One study in the USA finds that there was a sharp rise in the aggravated assault rate between 1960 and 1997 but because the lethality of these injuries fell sharply over the same time period, there has been a comparatively stable long-term murder rate (Harris et al., 2002). This theory however relies on the (disputed) idea that murder is not a distinct phenomenon and that assaults resulting in murder are not significantly different from other assaults except in outcome (Felson and Messner, 1996). In England and Wales official crime figures show that since the beginning of the 1990s, alongside the increase in murder, there have been large rises in the numbers of convictions for 'attempted murder' and 'wounding or other acts endangering life' (Flood-Page and Taylor, 2003), suggesting trends in murder have been part of a wider rise in serious violence.

This brief review of literature on murder suggests that the epidemiology of violent death is place and time specific. The following analysis aims to inform understanding of the particular geography and epidemiology underlying the rise of murder in Britain. Also it is hoped that the analysis might provide some leads for the direction of policies which seek to prevent these deaths.

Data and methods

In this analysis we address the following questions: who was murdered, when were they murdered, where were they murdered, with what were they murdered and, finally why were they murdered. Using digitised mortality records from ONS we look at the 13,000 murders that occurred in Britain between 1981 and 2000 (we also report other figures for later years). Estimates of the numbers of murders in the analysis are based upon those deaths where the cause of death was either recorded as homicide (ICD9 E960-E969) or death due to injury by other and unspecified means (E988.8) which in the main turn out later to be homicides (Noble and Charlton, 1994). The number is approximate because about 13% of deaths which were initially recorded as murder are later determined not to have been murders and thus the numbers are revised periodically (these deaths have been excluded here). Similarly, deaths not thought to have been murders could subsequently be reclassified as murder. In general this is very few in number except for the very large numbers of murders now attributed to Harold Shipman.

Harold Shipman was a GP in the Hyde area of Manchester who in January 2000 was convicted of murdering 15 of his patients. A subsequent independent public inquiry found evidence that he unlawfully killed 215 patients between 1975 and 1998; the true extent of his crime is in all likelihood much higher, but following his suicide in prison in January 2004 will remain unknown. A paper by Griffiths (2003) considers the impact of Shipman homicides on mortality statistics generally and reports: two clusters of deaths around the years 1984–1989 and 1993–1998; 80% of his victims were female; the majority of those murdered were aged over 65. That analysis also showed that homicides by Shipman accounted for, on average, 1% of total homicides and 19% of homicides by poisoning in England and Wales in the

period 1975–1998. Thus while we do not wish to detract from the enormity of Shipman’s crimes, the impact on the analysis presented here would be relatively small.

The database for this paper (which does not include those deaths reclassified as murder after the Shipman inquiry) was constructed through an examination of all the records of deaths in England, Wales and Scotland identifying those classified by the ICD codes described above (E988.8 is not used to classify murder in Scotland). The probability that each of these deaths was murder was then calculated according to the year in which death occurred. The total number of mortality records in England and Wales classified here as murder sums exactly to the number of offences currently recorded as homicides per year in the official crime statistics (Table 1.01 in Flood-Page and Taylor, 2003). The population denominators used to calculate the rates shown are derived from mid year estimates of the population and the data have been smoothed for deaths occurring over age 2 years.

Geographical analysis of these deaths is based upon the home ward of the deceased at the time of their death. Here we use the Breadline Britain index, a consensual measure of poverty (Gordon, 1995), which was measured at the mid-point of our study period. In order to compare different parts of Britain according to their degree of poverty we compare deciles of population, ranked according to the ward level of poverty. We then calculate an age-sex standardised mortality ratio (SMR) for each decile of population.

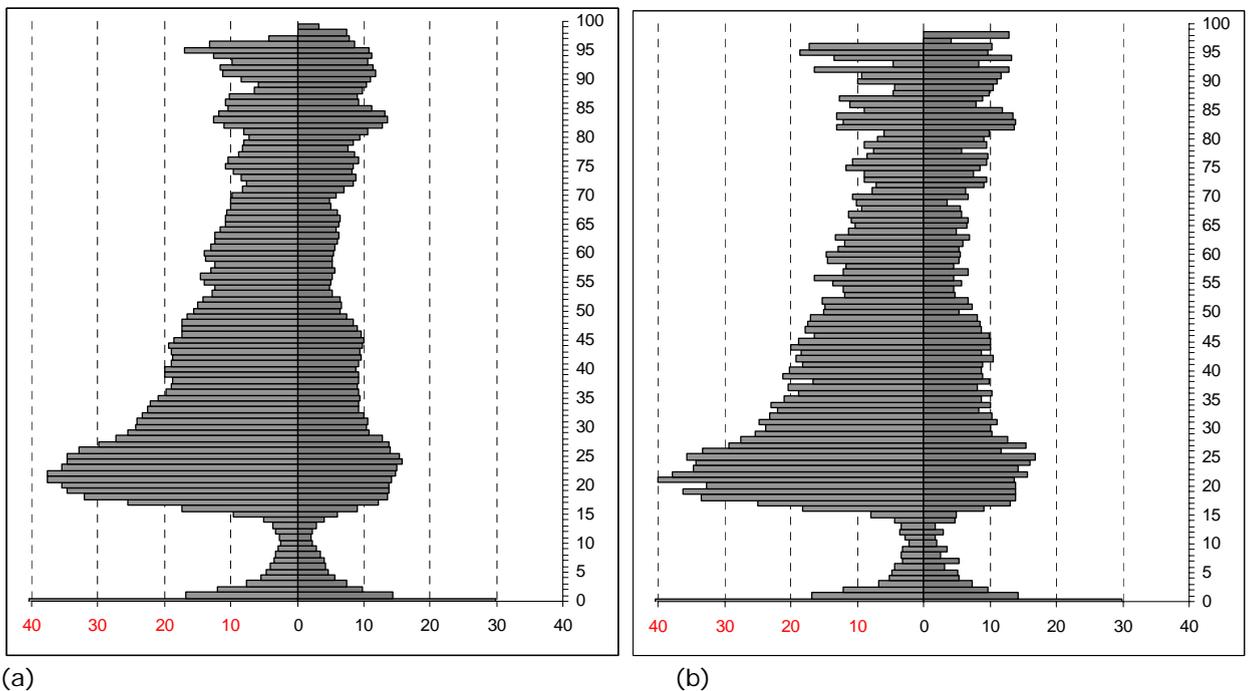


Fig. 3. (a). Murders in Britain by age and sex of victim, smoothed, 1981–2000. Notes: graph shows rate of murder per million per year, for the years 1981–2000, males on left, females on the right, by age (rates are smoothed as explained in text, raw data in Fig. 3b). (b). Murders in Britain by age and sex of victim, unsmoothed, 1981–2000. Notes: graph shows rate of murder per million per year, for the years 1981–2000, males on left, females on the right, by age, rates are for individual single years of age, unsmoothed.

Results

The age and sex profile of murder victims in Britain

Fig. 3a shows the rates of murder in Britain by single year of age and sex, smoothed—using a simple binomial one pass filter whereby rates are calculated as half the rate of that single year plus a quarter of the rates for people a year younger and year older. Unsmoothed rates are shown in Fig. 3b, although smoothed rates are preferable as the denominator population refer to midyear and not calendar year. For these years the overall twenty-year average murder rate was 12.6 murders per year per million people. This is equivalent to approximately 1.8 people murdered on average per day over the last two decades in Britain.

The rate of murder for men is roughly twice that for women, standing at 16.8 and 8.7 per million per year respectively. The age and sex group with the highest murder rates are boys under the age of 1 year (40 deaths per million) followed by men aged 21 years (38 deaths per million). A quarter of all murders of men are of those aged between 17 and 32 years. A man's chance of being murdered doubles between the ages of 10 and 14, doubles again between 14 and 15, 15 and 16, and 16 and 19; it then does not halve until age 46. By age 71 it is roughly the same as it is for those aged 15. For women the peaks and troughs in the age distribution approximately mirror those for men, but they are much less pronounced. Murders in youth (teenage and young adult years) appear to peak at a slightly older age among females in comparison to males. Rates rise slightly at some very old ages for both men and women although at these ages the absolute numbers of deaths due to murder are very small (as the number of people in these age groups is low).

Trends in murder rates in Britain by age and sex

Although murder rates have risen for the British population overall in recent decades, when murder rates are considered by age group and sex the data suggest that for the majority of the population this has not been the case. Restricting the data to the years where deaths have final classifications (1981–2000), and comparing the two five-year periods at the extreme of the study period (1981–85 and 1996–2000), we can see how the increase in the rate is concentrated in particular age and sex groups (Fig. 4). Most strikingly, for women of all ages other than infant girls the murder rate has either fallen or hardly changed; for women aged 65–69 it fell to less than half its early 1980s levels. Murder rates have also fallen for male infants and children under 5 and men aged 60 and above. For a majority of the population, the chance of being murdered has actually fallen over time, for some groups considerably. The overall increase in the murder rate is driven by a significant increase in the homicide rate for males aged between 5 and 59. In particular, homicide rates have doubled for men aged 20–24 over the course of these two decades.

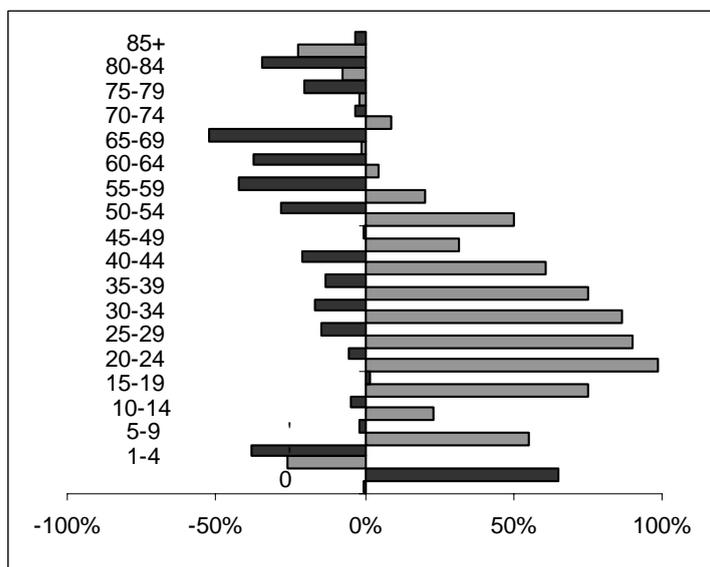


Fig. 4. Change in murder rate in Britain 1981–1985 to 1996–2000. Notes: light grey bars are for men and dark grey for women.

The socioeconomic characteristics of the home areas of murder victims

Having considered who is most likely to be murdered given their age and sex and how these rates are changing, we next consider the level of poverty in the areas in which the murder victims lived. Analysis of the ward deciles based upon the Breadline Britain poverty index reveals a deep and increasing inequality in the distribution of murder by the poverty rate of areas. In stark terms, the figures in Table 1 can be interpreted as follows: in the least poor areas of Britain, we find that for every 100 people we would expect to be murdered, given how many people live there, and their age and sex, only 54 were actually murdered during 1981–1985 and only 50 by 1996–2000, a fall of 4 per 100 expected (or - 7.4%). However, in the poorest areas of Britain, for every 100 people we would expect to be murdered, 243 people were killed at the start of the 1980s, rising to 282 at the end of the time period, a rise of 16%. During 1981–1985 people living in the poorest 10 per cent of areas in Britain were

times more likely to be murdered than those living in the least poor 10 per cent of areas but by 1996–2000 those living in the poorest tenth were more than times more likely to be murdered than the least poor tenth.

The SMR for murder rises monotonically with poverty in each time period—for every increase in poverty there is a rise in the murder rate. The inequality in murder rates between areas also rose steadily over the two decades such that people living in the poorest tenth of Britain were 143% more likely than average to be murdered in 1981–1985, increasing in the successive 5 year periods to 161%, 171% and then 182% above the average SMR of 100 in 1996–2000.

Table 1 SMRs for murder by area by poverty in Britain

Breadline Britain poverty decile	1981-85	1986-90	1991-95	1996-00	Change 1981-85 to 1996-00
10 - least poor	54	59	55	50	-4%
9	67	65	67	60	-7%
8	62	69	68	66	4%
7	74	85	72	81	7%
6	79	77	83	88	9%
5	95	95	95	103	8%
4	112	122	125	130	18%
3	119	130	148	147	28%
2	151	166	191	185	34%
1 - poorest	243	261	271	282	39%
Ratio 10:1	4.50	4.42	4.89	5.68	

Note: Expected values are based on 1981–1985 national rates.

Most surprisingly, despite the significant increases in the national murder rate over this time, people living in the least poor 20 per cent of Britain saw their already very low rates of murder fall even further. The increase in murder rates was concentrated almost exclusively in the poorer parts of Britain and most strongly in its poorest tenth of wards. By the 1990s the ‘excess’ murders above the national average in the poorest half of Britain amounted to around 200 per year. Just over half of that number of ‘excess’ murders was amongst the poorest tenth of the population. The rise in murder in Britain has thus been concentrated almost exclusively in the poorest parts of the country and among men of working age.

The method of murder

Cause of death by method is specified on the death certificates of a proportion of those who are murdered, though in some cases the exact cause is unspecified. If we take those cases for which data are available then five main causes account for almost all murders: a fight (ICD E960), poison (ICD E962), strangling (ICD E933), firearms (ICD E935) and cutting (ICD E936). Fig. 5 shows the proportion of murders attributed to these methods and all other causes for all murders in each tenth of wards in Britain grouped by poverty rate between 1981 and 2000.

This dispels the myth that gun crimes are the key factor behind the high murder rates in poor (urban) areas in Britain. Firearms account for only 11% of murders in the poorest decile area of Britain compared to 29% of murders in the least poor areas. The more affluent an area the more likely it is that guns will be used when murders are committed. However, it should be noted that because the absolute numbers of murders in the poorest deciles are greater than in richer deciles the total number of gun deaths is greatest in the poor deciles. Analysis of trends over time (not presented in figures here) demonstrate that the use of firearms has risen in the poorest areas over the 20 years studied, but only by roughly an additional 5 murders per year (roughly 1 extra murder per million people living there between 1981–1985 and 1996–2000). There has been no change in the proportion of murders committed with firearms in richer areas despite the introduction of legislation designed to limit their use. The most common way in which people are murdered in the poorest half of areas in Britain is through being cut with a knife or broken glass/bottle (52%), followed by strangling (21%) and then firearms (13%). In 3% of cases in this poorer half of the country people are killed in fights (this only accounts for

1.8% of murders in the richer half of areas) usually through kicking. In more affluent areas a higher proportion of people are poisoned or strangled. The use of poison (which is perhaps more likely to be premeditated) in murders has increased its share by 15% in the least poor areas over the last 20 years (between 1981–1985 and 1996–2000). In almost all areas the proportion of murders attributable to strangling is falling. While there have been some small changes in the methods of murder used over time, in the round, much the same methods of murder are used now as they were 20 years ago, just more often in poorer areas and less often in the less poor parts of Britain.

To end this section on methods of murder it needs to be made clear that there is some evidence that the patterns described may be changing currently, albeit in the years just after the data series in Fig. 5 ends (after December 2000). Fig. 2 reported an abrupt rise in the number of murders recorded in 2000/2001 and 2001/2002. As previously suggested the number of murders recorded for these years is likely to be reduced when some deaths are reclassified. However, after reclassification there may still be a large increase in recorded murders in these years and this could be related to increases in gun violence in poor areas. There has been a doubling of reported gun crime in the country between 1997/1998 and 2001/2002 (see Fig. 6) and there were annual increases in the number of firearms related homicides in 3 years up to 2001/2002 (Brookman and Maguire, 2003:34). So, it is not impossible that guns may be moving towards being as popular a method of murder in the poorer parts of Britain as they have been historically in the richest areas.

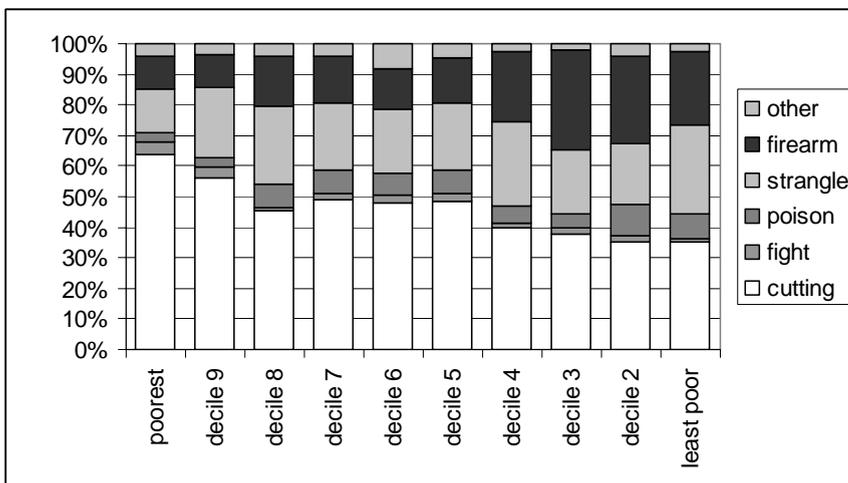


Fig. 5. Method of murder by area poverty in Britain 1981–2000.
Notes: figures shows the % of all murders in each area by method used to kill.

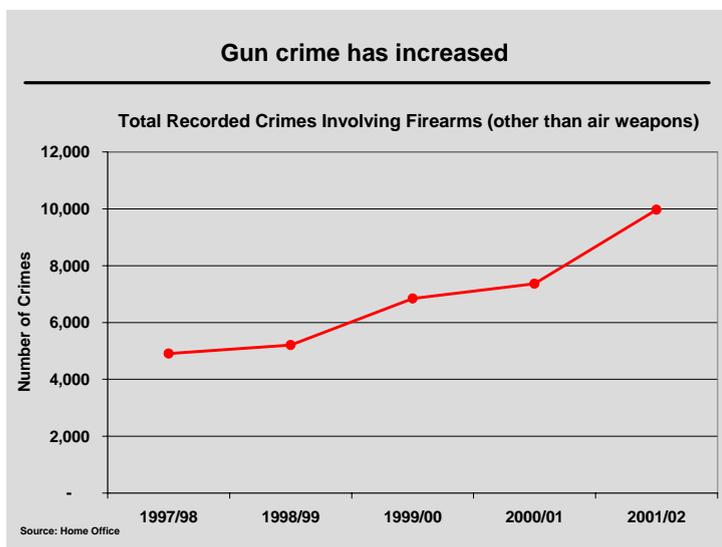


Fig. 6. Increase in 'gun crime' in Britain/UK/England 1997– 2002.
Note: chart shown at the Prime Minister's Press Conference, July 30, 2003, 10 Downing Street.

Discussion

Despite public concern about violence in Britain little attention has been paid to the significance of the demographic and geographical patterns that underlie the composite rates of homicide. Murder has commonly been perceived as a matter of crime and criminology rather than as a marker of societal or public health. The immediate circumstances of particular deaths have therefore been a primary concern rather than the social and economic environment of murder as a cause of death.

The patterns presented here show rising murder rates in Britain over the last two decades, and how they are a much more likely cause of death for men than for women; for young men in particular homicide is rising. These findings for Britain demonstrate that trends in homicide over time can only be fully understood by considering demographic groups separately (Blumstein et al., 2000). These results also suggest the value of considering trends in the geographical distribution of homicide.

Our results demonstrate that rates of murder in Britain have risen in the poorest areas of Britain and were stable or have fallen slightly in the rich areas of the country. This rise occurred significantly and before any more recent rise in gun crime. As we have shown elsewhere (Shaw et al., 1999) during this time period of the 1980s and 1990s rates of poverty and income inequality in Britain increased dramatically and there was increasing polarisation of poverty by area (Shaw et al., 2000). The results of this analysis are suggestive of a link between poverty and inequality in society and the rate at which people kill their fellow citizens.

The finding in this analysis of worsening risk of murder in Britain among young men and in poor areas is highly consistent with other evidence on trends in health and social indicators. These are the same groups of young men for whom suicide rates are rising (Gunnell et al., 1999; Whitley et al., 1999). These are the same young men who saw many of their counterparts, brought up in better circumstances and in different parts of Britain, gain university education, or good work, or both, and become richer than any similarly sized cohort of such young ages in British history. The results suggest that murder rates in Britain have risen in particular places, and for a particular group of people living there, as life in general has become more difficult and disadvantaged. Perhaps along the lines that Wilkinson suggests, when people are made to feel worthless then there are more fights, more brawls, more scuffles, more bottles smashed and more knives brandished, and more young men die. The lives of young men have polarised and this inequality has curtailed opportunities; hopelessness appears to have bred fear, violence and murder.

Why is the pattern so different for women? For women, trends in murder have again been paralleled by trends in other health and social indicators. Women's rates of suicide are falling for all age groups (Gunnell et al., 1999). There has also been no exodus of young women from Britain (or into statistical hiding in Britain) as the 2001 census revealed had occurred for men. It is possible that the falls in rates of murder of women partly reflect the declining lethality of trauma injuries over time (Harris et al., 2002). The figures represented here may also underestimate the murders of women in comparison to men as the many elderly women killed by Dr. Harold Shipman are not included in the data represented here as they were not originally classified as murder.

The contrasting trends in male and female murder rates in Britain suggest that the association between homicide and trends in social and spatial inequality in Britain are not straightforward. The argument that the social and spatial distribution of murder in Britain has been driven by trends in social and spatial inequality should be made with caution. While the temporal and spatial associations between murder and deprivation found in this analysis present highly plausible circumstantial evidence that the two may well be linked they are insufficient evidence of a causal connection. In addition, this analysis does not directly address the relative effects of poverty and inequality or area 'context' and 'composition' upon murder rates. Trends in murder in the USA, where substantial rises and falls in murder rates in recent decades have been somewhat dislocated from trends in income distribution and appear to have been strongly influenced by changes in drug markets, are a further reminder of the complex, multi-factorial causal processes underlying trends in murder. Differences in distribution in murder associated with deciles of deprivation in this analysis of Britain may not be directly related to socio-economic status. For example, the finding that a greater proportion of murders in the least deprived deciles in Britain are committed with guns may reflect the association between high area socio-economic status and rural areas. In rural areas there may be greater access to guns, a factor that it has previously been suggested may play a role in explaining high rates of male suicide in rural districts of England and Wales (Saunders et al., 1998).

If murder rates do reflect the quality of the social environment and the fabric of social relations, then the findings of this analysis do not bode well. Durkheim (1897/1999) and Wilkinson (1996) have suggested homicide and suicide are related to opposing social currents, one that leads to externalised violence and one to internalised violence. This analysis of murder within Britain finds however that homicide is increasing in the same places and among the same groups as suicide. As rates of suicide and homicide of young men have both risen, this suggests that they care increasingly little about themselves, or about others. These findings are pertinent to the recent health inequalities debate and the similarities between trends in homicide and other health and social outcomes is evidence of the value of a public health approach to the analysis of murder.

Policy implications

How can this analysis inform policies and interventions that might reduce the number of deaths due to homicide? These findings suggest policies aimed at tackling inequality and poverty are of paramount importance. The Home Office has recently published a document *Reducing homicide: a review of the possibilities* (Brookman and Maguire, 2003) in which the authors state: "there is evidence of a strong correlation between homicide rates and levels of poverty and social inequality, and it may be that, in the long-run, significant and lasting reductions in homicide can best be achieved by strategies which take this fully into account" (2003, p. 2).

The majority of this Home Office document however discusses 'practical responses' to homicide. Our analysis suggests that it is important that practical interventions are focused upon young men, deprived areas, and knife and bottle injuries. Limited access not only to firearms but also to knives is thus recommended. Carrying knives has to be made less socially acceptable for young men. An example of a recent attempt to limit access to knives is the 'Safer Scotland' campaign which has included 'Bin the Blade' knife amnesties whereby members of the public are encouraged to hand over their knives. An assessment of a previous police initiative in Strathclyde in Scotland, 'Operation Blade', which aimed to curb knife carrying and tackle violent assaults analysed assault victim attendance at accident and emergency and found that while the initiative appeared to reduce numbers of assault victims immediately after its implementation there were no long-term improvements found a year later (Bleetman et al., 1997). It is often the combination of weapons and alcohol consumption that are at the root of violent incidents (Brookman and Maguire, 2003). Interventions to encourage the use of safer glassware and bottles have therefore been advocated to reduce injuries to staff and customers in both accidents and fights (Shepherd, 1994). The trial of 'toughened' glassware in bars in England has however produced ambiguous results (Warburton and Shepherd, 2000).

Conclusion

Academic researchers frequently accuse the media, in particular the tabloid newspapers, of hysteria and moral panic regarding violence but this analysis demonstrates that there has indeed been a substantial rise in murder in Britain concentrated among young males and in poor areas. Murder remains rare in Britain but the increasing risk of violent death among some population groups is a cause for concern and a neglected issue within British health research. The increase in murder in Britain almost certainly reveals the tip of the growth of a far greater rise in serious violence amongst particular social groups in Britain, a rise which is greater than these figures suggest given that the injuries usually leading to death by the most common form of murder (cutting) are now often treated more effectively than they were 20 years ago.

Acknowledgements

Mary Shaw is funded by the South West Public Health Observatory.

References

- Barclay, G., Travers, C., 2002. International comparisons of criminal justice statistics 2000. Issue 05/02, 12 July 2000, Home Office. <http://www.homeoffice.gov.uk/rds/pdfs2/hosb502.pdf>
- Baumer, E., Lauritsen, R., Rosenfield, R., Wright, R., 1998. The influence of crack cocaine on robbery, burglary, and homicide rates: a cross-city longitudinal analysis. *Journal of Research in Crime and Delinquency* 35, 316–340.
- Bleetman, A., Perry, C.H., Crawford, R., Swann, I.J., 1997. Effect of Strathclyde police initiative “Operation Blade” on accident and emergency attendances due to assault. *Journal of Accident and Emergency Medicine* 14 (3), 153–156.
- Blumstein, A., Rivara, F.P., Rosenfeld, R., 2000. The rise and decline of homicide—and why. *Annual Review of Public Health* 21, 505.
- Bowling, B., 1999. The rise and fall of New York murder: zero tolerance or crack’s decline? *British Journal of Criminology* 39 (4), 531–554.
- Brookman, F., Maguire, M., 2003. Reducing homicide: summary of a review of the possibilities. Home Office Research Development and Statistics Directorate Occasional Paper No. 84. <http://www.homeoffice.gov.uk/rds/pdfs2/occ84homicide.pdf>.
- Chervyakov, V.V., Shkolnikov, V.M., Pridemore, W.A., McKee, M., 2002. The changing nature of murder in Russia. *Social Science and Medicine* 55 (10), 1713–1724.
- Cubbin, C., LeClere, F.B., Smith, G.S., 2000. Socioeconomic status and injury mortality: individual and neighbourhood determinants. *Journal of Epidemiology and Community Health* 54, 517–524.
- Duncan, C., Jones, K., Moon, G., 1998. Context, composition and heterogeneity: using multilevel models in health research. *Social Science and Medicine* 42, 817–830.
- Durkheim, E., 1999. *Suicide: a Study in Sociology*. Routledge, London [First published 1897].
- Felson, R.B., Messner, S.F., 1996. To kill or not to kill? Lethal outcomes in injurious attacks. *Criminology* 34 (4), 519–545.
- Flood-Page, F., Taylor, J. (Eds.), 2003. *Crime in England and Wales 2001/2002: supplementary volume*. Home Office Research Development and Statistics Directorate, London.
- Gordon, D., 1995. Census based deprivation indices: their weighting and validation. *Journal of Epidemiology and Community Health* 49 (Supplement 2), 39–44.
- Griffiths, C., 2003. The impact of Harold Shipman’s unlawful killings on mortality statistics by cause in England and Wales. *Health Statistics Quarterly* 19, 5–9.
- Gunnell, D., Wehner, H., Frankel, S., 1999. Sex differences in suicide trends in England and Wales. *Lancet* 353, 556–557.
- Harris, A.R., Thomas, S.H., Fisher, G.A., Hirsch, D.J., 2002. Murder and medicine: the lethality of criminal assault 1960–1999. *Homicide Studies* 6 (2), 128–166.
- Helmuth, L., 2000. Has America’s tide of violence receded for good? *Science* 5479 (28 July 2000), 582–585.
- Karman, A., 1996. *Research into the reasons why the murder rate has dropped so dramatically in New York City 1994–5, Second Progress Report*. John Jay College of Criminal Justice, New York.
- Lattimore, P., Trudeau, J., Riley, J., Leiter, J., Edwards, S., 1997a. *A study of homicide in eight US cities*. NIJ Intramural Research Project, National Institute of Justice, Washington, DC.
- Lattimore, P., Trudeau, J., Riley, J., Leiter, J., Edwards, S., 1997b. *Homicide in eight US cities: trends, context, and policy implications*. National Institute of Justice, Washington, DC.
- Lester, D., 2002. Murder rates in the regions of Germany. *Psychological Reports* 90 (2), 446–446.
- Macdonald, G., 2002. Violence and health: the ultimate public health challenge. *Health Promotion International* 17 (4), 293–295.
- Mackenbach, J.P., 2002. Income inequality and population health. *BMJ* 324, 1–2.
- Noble, B., Charlton, J., 1994. Homicides in England and Wales. *Population Trends* 75, 26–29.
- O’Kane, M., 2002. Mean streets. *The Guardian* 16/09/02, pp. 1–4.
- Pickett, K.E., Pearl, M., 2001. Multilevel analysis of neighbourhood socioeconomic context and health outcomes: a critical review. *Journal of Epidemiology and Community Health* 55, 111–122.
- Pridemore, W.A., 2003. Demographic, temporal, and spatial patterns of homicide rates in Russia. *European Sociological Review* 19 (1), 41–49.
- Richards, P., 1999. *Homicide statistics*. House of Commons Research Paper 99/56.
- Rooney, C., Devis, T., 1999. Recent trends in deaths from homicide in England and Wales. *Health Statistics Quarterly* 3, 5–13.
- Saunderson, T., Haynes, R., Langford, I., 1998. Urban rural variations in suicides and undetermined deaths in England and Wales. *Journal of Public Health Medicine* 20, 261–267.
- Shaw, M., Dorling, D., Gordon, D., Davey Smith, G., 1999. *The Widening Gap: Health Inequalities and Policy in Britain*. The Policy Press, Bristol.
- Shaw, M., Gordon, D., Dorling, D., Mitchell, R., Davey Smith, G., 2000. Increasing mortality differentials by residential area level of poverty: Britain 1981–1997. *Social Science and Medicine* 51 (1), 151–153.

- Shepherd, J., 1994. Preventing injuries from bar glasses. *BMJ* 308, 932–933.
- Wagstaff, A., van Doorslaer, E., 2000. Income inequality and health: what does the literature tell us? *Annual Review of Public Health* 21, 543–567.
- Wallace, D., Wallace, R., 1998. Scales of geography, time and population: the study of violence as a public health problem. *American Journal of Public Health* 88 (12), 1853–1858.
- Warburton, A.L., Shepherd, J.P., 2000. Effectiveness of toughened glassware in terms of reducing injury in bars: a randomised controlled trial. *Injury Prevention* 6, 36–40.
- Ward, H., Day, S., Weber, J., 1999. Risky business: health and safety in the sex industry over a 9 year period. *Sexually Transmitted Infection* 75 (5), 340–343.
- Whitley, E., Gunnell, D., Dorling, D., Davey Smith, G., 1999. Ecological study of social fragmentation, poverty and suicide. *BMJ* 319, 1034–1037.
- WHO, 2002. *World Report on Violence and Health*. WHO, Geneva.
- Wilkinson, R., 1992. Income distribution and life expectancy. *BMJ* 304, 165–168.
- Wilkinson, R., 1996. *Unhealthy Societies: the Afflictions of Inequality*. Routledge, London.
- Wilson Huang, W.S., 1995. A cross-national analysis on the effect of moral individualism on murder rates. *International Journal of Offender Therapy and Comparative Criminology* 39 (1), 63–75.