

Reducing health inequalities in Britain

Recent research on inequalities in health in Britain has concentrated on the widening 'health gap'. This study shows how that gap could be narrowed if some of the key social policies of the Government prove to be successful. The research, by Dr Richard Mitchell and Professor Daniel Dorling from the University of Leeds, and Dr Mary Shaw from the University of Bristol analysed every parliamentary constituency in Britain and tested a number of different social policy scenarios, using statistical techniques. The research suggests that:

- f** Annually, some 7,500 deaths amongst people younger than 65 could be prevented if inequalities in wealth narrowed to their 1983 levels.
- f** The majority of lives saved from redistribution would be in the poorer areas of Britain, where 37% of 'excess' deaths would be prevented.
- f** Some 2,500 deaths per year amongst those aged less than 65 would be prevented were full employment to be achieved. Two-thirds of these would be in areas which currently have higher than average levels of mortality, preventing 17% of the 'excess' deaths in these areas.
- f** Some 1,400 lives would be saved per year amongst those under 15 if child poverty were eradicated (using the Government's relative definition of child poverty). This represents 92% of all 'excess' child deaths in areas of higher than average mortality.
- f** The researchers conclude that:
 - redistribution of wealth would have the greatest absolute effect (in terms of numbers of lives saved) because it would improve the lives of the largest number of people. Eradication of child poverty has the greatest relative effect (in terms of the proportion of lives saved).
 - these statistics illustrate the importance of achieving the Government's stated aims and policies, expressed in the currency of potential lives saved per year.

Background

This study estimated the impact of changes to society which might be wrought through the successful implementation of three social and economic policies:

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

The impacts have been measured in terms of the prevention of premature mortality (death before the

age of 65). Figures were calculated for each of the 641 British parliamentary constituencies.

What are the results?

Results for Britain as a whole are presented in Table 1.

Birmingham Ladywood constituency in the West Midlands is used as an example with which to explain these results. This is the constituency in which these three policies might save the greatest number of lives.

a) Modest redistribution of wealth

On average, in the early 1990s, 275 Birmingham Ladywood constituents died per year at ages less than 65. If the life chances of the people of Birmingham Ladywood were the same as the national average we would expect only 182 people to die at these ages. There are thus 93 'excess deaths' per year at ages less than 65. The most important reason why 93 more people die in Birmingham Ladywood is that there are a greater number of poorer people (in manual working classes) there than in an average British constituency. Were differences in wealth and income to be returned to the early 1980s level through policies with a mildly redistributive effect, we would expect the differences in life chances to be reduced. The effect of achieving this for Birmingham Ladywood would be that about 17 of these 93 excess deaths would be avoided (nearly 1 out of every 5).

b) Achieving full employment

In an average year in the early 1990s about 8,800 people were unemployed in Birmingham Ladywood. These people have much higher chances of dying before age 65 because they were unemployed, but that risk of death is also related to their age, sex and social class. When *all* of these factors are taken into account, it is estimated that on average about 14 of

Table 1: Lives saved by successful implementation of three government policies (for ages less than 65)

	All of Britain		Areas with above average mortality	
	Total number of lives saved annually	Proportion of deaths <65	Total number of lives saved annually	Proportion of deaths <65
Mild redistribution of wealth	7,597	7%	3,983	37%
Full employment achieved	2,504	2%	1,702	17%
Child poverty eradicated (ages 0-14)	1,407	21%*	727	92%*
Total	11,509	10%	6,412	56%

*Note these proportions refer only to deaths of children aged 0-14.

the 93 excess deaths per year would have been prevented if full employment had prevailed. This brings the total number of lives saved by these two policies to 31 per year (about one-third of all excess deaths in Birmingham Ladywood constituency). Nationally, the beneficial effect is highest where levels of unemployment are highest.

c) Eradicating child poverty

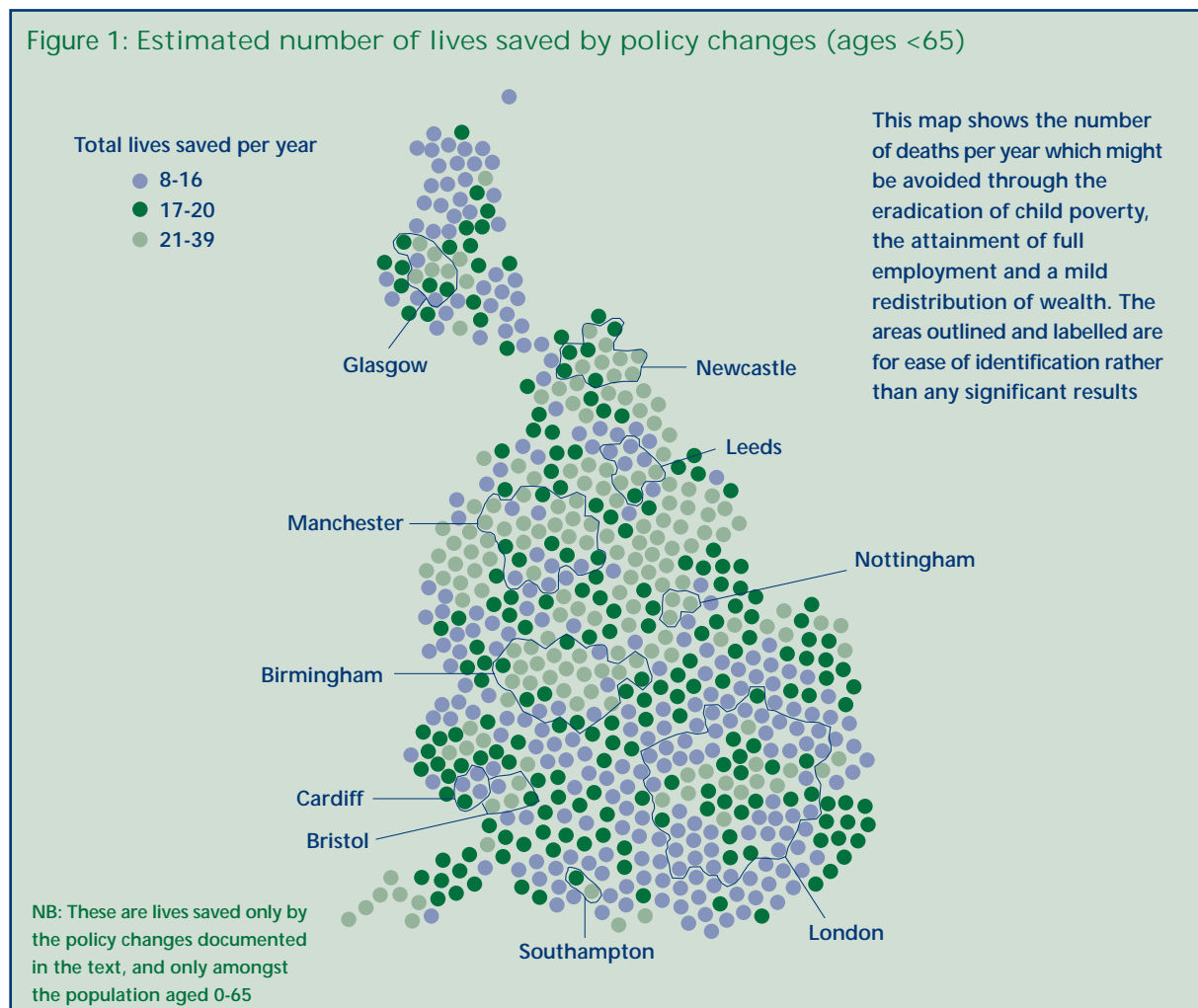
The effect of this policy on Birmingham Ladywood constituency would be to save the lives of 8 children per year. In fact, amongst children aged 0-14, there are about 13 more deaths per year than the national average. Preventing 8 of these represents a 61% reduction of these excess deaths. It also brings the total of excess deaths prevented amongst all those aged less than 65 to 39, which is about 2 out of every 5 excess deaths prevented.

The models used in the research allow the possible effects of these policies to be treated as if they were mutually exclusive. By doing this, the possible benefits may be underestimated, but the reliability of the results is more certain.

The combined effect of these policies

Amongst all those constituencies with above average mortality, some 56% of the excess deaths would be prevented, 10% of mortality amongst those aged under 65 in Britain. However, the estimates presented here are conservative. The mild redistribution of wealth does not consider the probable additional health advantages of living in a more equal society, only the effect on individuals of being relatively better off. Living in a more equal society has been shown to have a positive effect on the health of entire populations. Similarly, it could be envisaged that the achievement of full employment would not only improve the health of those currently out of work, but also of those in work. These factors are not included in the estimates of lives saved. Balanced against this, however, is the fact that those who become (and remain) unemployed tend to a certain extent, to be in poorer health. Finally, the impact of the eradication of child poverty is only assessed on those aged 0-14. Clearly most of the health gain will be seen at later ages.

Figure 1: Estimated number of lives saved by policy changes (ages <65)



Who benefits most?

The potential impact of these policies is not evenly spread across society. In general, men would benefit more than women as men suffer from greater inequalities in mortality. Poorer people will also benefit more. Most importantly the greatest benefit will be felt in those parts of the country where mortality rates are currently highest.

The map (Figure 1) shows that more lives will be saved in the north of Britain, and in urban areas. Each dot on the map represents a constituency, which distorts the map in proportion to the distribution of population across Britain. The map shows how the impact of macroeconomic policy can be directed towards people most in need without the requirement for specific area-based targeting. Improvements in overall UK employment and a more redistributive tax-benefit regime will reduce health inequalities.

Explaining the geography of mortality in Britain

The study also shows how the characteristics of constituency populations explain nearly all of the variation in mortality between constituencies. Demographic factors (age and sex) are most important, followed by social class and employment status. Only in a few constituencies do these factors not explain the mortality which occurs there.

However, the report suggests that between the early 1980s and early 1990s, the *relative* importance of these factors in determining differences between constituency mortality rates has changed.

The most significant change is a doubling in the importance of employment status in determining differences in mortality rates between constituencies. This is because the long-term impact of mass unemployment, which began in the late 1970s, had come fully to bear only by the 1990s.

The report also considers changes in the geography of mortality. In 95% of constituencies, demographic and socio-economic change account for virtually all the change in mortality rates which took place between the early 1980s and the early 1990s. It is because these factors are so important in determining the geography of mortality that government policy could have such a great impact on making health more equal across Britain.

About the study

Your chances of premature death are strongly related to what type of person you are (defined here by your age,

sex, social class and employment status). The research established these characteristics for all individuals in every constituency in Britain. The number of premature deaths which would be expected in a constituency was calculated, given the numbers of each type of individual living there, and the risk of premature mortality associated with their 'type'. These calculations were based on national mortality statistics, census data and statistical models, using data from 1981-85 and 1991-95. The impact of the policies on the risk of mortality for each type of individual was then established. If, for example, the individual was a middle-aged, long-term unemployed man, the effect of returning to work under conditions of full employment would be to lower his risk of premature mortality. The expected number of premature deaths was re-calculated, given the changes to the constituent's socio-economic characteristics and risk of death, which would be brought about by the various policies.

How to get further information

The full report, **Inequalities in life and death: What if Britain were more equal?** by Richard Mitchell, Mary Shaw and Danny Dorling, is published for the Foundation by The Policy Press (ISBN 1 86134 234 9, price £13.95).

Further details about the work can be found at: www.social-medicine.com.