

Distribution of, or Inequality in Health

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The furore surrounding the (publication of) the Black Report on Inequalities in Health in August 1980 will not be news to most readers of the R.S.N. The "facts" are clear : as Patrick Jenkins said - in possibly his shortest commentary on any subject -

"there is generally little sign of health inequalities in Britain actually diminishing and, in some cases, they may be increasing"

(Forward, Townsend and Davidson 1982, p39)

Table 1 Mortality of men by occupational class (1930s - 1970s) (standardised mortality ratios)

		Men aged 15-64					
		1930-32	1949-53	1959-63		1970-72	
				unadjusted	adjusted	unadjusted	adjusted
I	Professional	90	86	76	75	77	75
II	Managerial	94	92	81	-	81	-
III	Skilled manual & non-manual	97	101	100	-	104	-
IV	Partly skilled	102	104	103	-	114	-
V	Unskilled	111	118	143	127	137	121

A Representative table is included (Table 1). Consequently most subsequent discussion has concentrated on the comparative "validity" of the four types of explanation proposed : artefactual; social mobility/section; materialist/structural, behavioural/cultural.

Recently, however, there has been some revival of a combination of the artefactual and social mobility/selection hypotheses. Thus, Illesley (1983, 1985) has argued that

- the size of Social Class V has decreased dramatically over the period at issue so that the relative numbers dying has diminished
- the process of inter-generational mobility works so as to maintain the disparity in mortality rates between the classes in each generation

This last point relies on a limited set of data from Aberdeen (in detail in Saphier and Thompson, 1979) but the former point can be demonstrated on national data (see Tables 2 & 3). This would suggest that inequalities (in terms of relative numbers) have diminished.

Table 2 Ratio of Occupational Class V to Class I. Adult Males 1951, 1961, & 1971 England & Wales.

Age	Census Year		
	1951	1961	1971
	Ratio V : I		
25 -	4.1	1.4	0.8
35 -	4.7	1.6	1.1
45 -	6.8	2.5	1.5
55 -	8.2	3.7	2.3

adapted from Black Table 6.1.

Table 3 Changes in Male Deaths aged 15 - 64 (rates and numbers) England and Wales

Indicator	Level in 1971 as a % of 1951				
	I	II	III	IV	V
Rate of death	77	77	89	95	90
Number of deaths	185	109	87	73	78

Derived from Black Report tables 3.2 and 3.16.

There has, however, been a rather different kind of argument advanced by Julien Le Grand to the effect that the kind of measure used and not simply the groups to which it was applied - has not been sensitive to substantial changes that have taken place. He argues instead (Le Grand, 1985) that the crucial issue is to measure inequality between the individuals and proposes the use of a Gini coefficient of inequalities in the age at death. He has made several controversial presentations this year, the most recent, at a meeting of the European Science Foundation Workshop on Inequalities in Health (London, September 3rd-5th) provoking a very hostile reaction.

This "excitement" over the apparently "technical" choice of a measure of inequality seems like a classic illustration of the political nature of a statistical tool, a topic central to our concerns with the (ab)use of statistics. In this case, where can we locate the rival factions in the debate?

First, we should recall the crude attempt to "hide" the Black Report - by only publishing a limited number of copies during an August Bank Holiday - and that it appeared the year after Thatcher's victory.

There was thus, a strong political ferment around the theme of inequality and indeed that is perhaps the only way of explaining the discovery of inequalities in the late seventies rather than the late sixties. The whole issue is discussed in a forthcoming report to the European Science Foundation (Aitch and Carr-Hill, forthcoming).

Second, the "technical" objections to Le Grand's proposal are relatively clear. Apart from practical problems with the particular substantive application, such as variations in age structure between countries and over time, the Gini coefficient is itself particularly sensitive and not very popular these days (Cowell, 1977). But the major problem is that the Gini coefficient or any proposed substitute is a measure of the distribution and does not satisfy one simple precondition for discussing inequalities : between whom?

The analogy with income and wealth is clear. We talk about unequal distribution of income or wealth when we are talking about the proportion of total income &/or wealth held by a given percentage of the population. But we only use the phrase inequalities in income and/or wealth when we are comparing two or more groups : thus inequalities between manual and non-manual, between men and women, between salaried, unwaged and waged. But the use of the Gini coefficient here as against comparisons between groups has not generated great heat. Why not?

Of course we enquire whether a given distribution of income and wealth is fair or not. And this debate is usually between advocates of economic efficiency and social justice. In principle, this debate is independent of the question as to which groups have more income or wealth and which groups have less. But, rather obviously, it is almost impossible to separate them. Indeed, those who argue for maintaining a given distribution claim that the resulting economic efficiency (increased productivity) will be more beneficial in the poorest groups. In other words, both "sides" at least pretend to argue that the object of a policy towards the distribution of income and/or wealth is to improve the lot of the poor.

The problem with the distribution of health is that whilst some would argue that, random variation apart, everyone starts with equal genetic endowment, others claim that there are systematic genetic differences: the two sides simply do not even pretend to agree. That argument tends to reduce to an environmentalist versus hereditarian debate - itself extremely complicated. (1)

It is the fall out from this debate which has affected the "reception" of the Gini coefficient - or any other measure of distribution - into the inequalities in health debate. No-one should dispute that the issue of whether or not a particular range of variation is fair or unfair, just or unjust is an obviously very important question (although that has tended to happen). But in contrast to the situation with income and wealth, health cannot even in principle be moved around between people so that the distribution appears fixed (genetically?). The resolution of this conundrum is that the conditions which cause inequalities in health (housing, poverty, etc) are subject to re-distribution but not the "lumps" of health or morbidity themselves (see Carr-Hill, 1984). It is impossible to argue about the appropriateness of a given distribution of health status in the same terms as we argue about inequalities in health between groups.

It is in this context that the presentation of a coefficient summarising a distribution appears to be part of a geneticists case about the natural order in contrast to those who (simply) portray health status according to social grouping who are implicitly making the environmental case. The lesson is simple : be careful with your Gini, it may not be all magic.

(1) I should emphasise that Julian Le Grand has not ever been any kind of geneticist.

References

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