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Reconsidering a landmark study

The 1997 study by Mackenbach et al.[1] has been much discussed in articles and books with respect to its findings that, though relatively egalitarian societies, Norway and Sweden had comparatively large social inequalities in mortality (measured in terms of relative differences in mortality rates). Various commentator, however, have noted that those countries showed comparatively small absolute differences in mortality rates or comparatively low rates generally among lower educational or occupational groups.[2-4]

The 1997 study had itself noted the small absolute differences in mortality rates in Norway and Sweden, attributing them to the low overall mortality in these countries. But, in accord with researchers' generally greater reliance on relative than absolute differences to measure health inequalities, the study relied on relative difference to support its view that the evidence did not indicate that egalitarian policies reduced health inequality.

In a number of places,[5-9] I have sought to explain that, solely for reasons related to standard features of normal distributions, low overall mortality rates in places like Norway and Sweden would be expected to lead not only to small absolute difference in mortality, but also to large relative differences in mortality. Thus, neither relative nor absolute differences can provide meaningful information about the comparative size of inequalities without consideration of certain underlying tendencies.

Recently, an article by Houweling et al.[10] (with co-authors including Mackenbach and Kunst) also concluded that both relative and absolute differences tend to be systematically related to the overall level an outcome, and the relationships they describe are essentially the same as those I have described with regard to the 1997 study and other efforts to attribute meaning to the size of relative or absolute differences in different settings. The Houweling article also concluded that it is therefore necessary to take the overall level of an outcome into account in drawing inferences about the meaning of relative and absolute differences in different settings.

The explanations Houweling et al. proffer for observed patterns of correlations differ somewhat from those I have proffered. (And, in my view, their belief that the use of odds ratios would satisfactorily address the issues they raise can be shown to be incorrect.[5,6]) Regardless of whose explanations are sounder, however, the important fact is that the principal authors of the 1997 study have now also raised issues that call into question the study's interpretations of the patterns of relative differences it found, as well as all other research that fails to consider the overall level of an outcome in comparing the size of relative or absolute differences in different settings.

Whether there exist tools for taking the overall level of an outcome into account in a manner that will allow one to draw precise or reliable conclusions about the comparative

the size of inequalities in different settings remains to be seen.[10,11] But it ought to be increasingly clear that comparing the size of inequalities over time or in different places is much more complicated that the 1997 study and most other health inequalities research to date would suggest.

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