Reviewer's report

Title: Inequalities in Mortality in Scotland: Two Decades of Change. A Population-based Study

Version: Date: 16 May 2007

Reviewer: Gwenn Menvielle

Reviewer's report:

General
This paper describes age-specific mortality rates in Scotland between 1981 and 2001 by geographical region and SES. The authors also investigate how the relative importance of selected causes of death has changed.

The methodology used is appropriate and it is easy to understand except for the graphs. The results are interesting and they are of importance to describe the situation in Scotland. I however have several remarks.

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

1. I really have the feeling that the authors wanted to put too much information in one single paper, and at the end the message is not clear. The results section is quite long and it is not always easy to follow the reasoning and the articulations between the different parts. This part should be re-written and certainly shortened. I think the authors should stick to the following issues:
   - Global changes
   - By region
   - By SES
   - Correlation between the two previous results
   - Contribution of different causes of death to socioeconomic inequalities.
   It is long enough and self-sufficient.

I have several other suggestions to shorten it:
1a. Table 1 does not include any information by SES or geographical region. It gives an overview of the general situation in Scotland, but the main focus of this paper is to look at the situation by region or by SES. The results from this table are described too precisely.

1b. The authors use an individual measure of the SES in table 5. This I do not see what this table adds to the paper. I would remove these results.

1c. For the results by geographical region, a map would be appreciated. The authors should keep in mind that the geography of Scotland is not familiar to all readers. I would suggest to present with this map the geographical distribution of DepCat and to indicate the regions studied. This map would really facilitate the understanding of the discussion about this issue.

2. It is not always clear what is the main objective of the paper. The title, the objective indicated at the end of the introduction and the results are not always consistent. In addition, as it stands the title is misleading. We have the impression that they will study changes in socioeconomic inequalities in Scotland. It is not what is done in the paper. The authors should develop more the aspect related to temporal trend in inequalities, both briefly in the results section and at the beginning of the discussion. Do the inequalities increase during the last 20 years? For which causes of death?

Lastly, the authors should indicate in the title that they perform analyses by causes of deaths.

3. The discussion is very short, and some aspects should be expanded. Part of their analysis focus on inequalities by region, and they investigate whether these differences are really due to regional differences or whether they are due to socioeconomic differences between regions.
This issue is already mentioned in the introduction. The discussion of this issue should be expanded. They should briefly explain what the Glasgow effect is. They suggest that the higher mortality rates found in Clydeside are due to “the poorer experience of socially disadvantaged population”. How do they explain this finding? Are there already some Scottish studies investigating this issue?

The authors should also discuss their results related to the temporal trends in socioeconomic inequalities by cause if death. What could explain these results, both the decrease and the increase observed? Are these results also found in other studies? This is particularly relevant for the increase that the authors observed for some causes of death among younger subjects.

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Some sentences are not clear
Page 11, first paragraph “For women, Clydeside rates were also within 6% of the Scottish rate for each DepCat.”
Page 14 “…in the extent to which they explain differences in death rates between different parts of Scotland”. It is not clear what they refers to (these differences or unequal social circumstances?)

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Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.