Reviewer's report

**Title:** Trends in cause-specific mortality by marital status among elderly Norwegian men and women

**Version:** 1  **Date:** 8 April 2011

**Reviewer:** Emily Grundy

**Reviewer's report:**

This is an interesting paper based on thorough analysis of an exceptionally valuable data source for the whole Norwegian population. The advantages of using population register data are particularly strong to address questions such as marital status differentials in mortality as it is known that are large marital status differentials in repsonses to surveys/inclusion in cohorts which may bias results from such studies and also that reporting of marital status in also subject to various inconsitencies which may introduce bias into studies based on other sources (see Murphy et al Population Studies 2007). It is for largely for this reason that there is still debate about trends and differentials in marital status mortality differences despite literally thousands of papers on the topic. A further advantage of the data and paper is the consideration of cause specific patterns. The data do not allow consideration of individual risk factors such as smoking, but includes control for socio-economic and geograpohic factors. The paper is well presented and written and adds to our knowledge in this area.

**Discretionary revisions**

Table 1: I would suggest using consistent number of decimal places - some are truncated, e.g. widowed men 1980-1989

Terminology - some people have quite strong views that using the term 'the elderly's is perjorative and prefer 'older people' or 'elderly people'

Figures - in the version I have these were not numbered. The Figures do not show confidence intervals which would normally be preferred, however as in this case they are so small (as whole population) I do not think it necessary to include them, but might be worth mentioning why they are not shown.

Figure 2 all cancers. The comment (page 10) is that marital status differentials have been fairly stable over time, but this does not seem quite so much the case for never-married men, might be worth a comment.

Also on page 11 the author notes 'there are few significant marital status differentials in mortality from colon/rectum cancer and no obvious time trends' - some comment on the large change for never-married men between the 1970s and the 1980s would seem merited - it may not be statistically significant and just be random fluctuation but as it looks quite striking it could be mentioned with some explanation (if only to say that it is not significant).

I wondered if in the Discussion it might be worth mentioning something further on cohort/period changes in some risk factors which may have changed differentially
for marital status groups. For example it has been suggested that the evolution of excess male mortality over the twentieth century was partly influenced by rising meat consumption and 'preferential' allocation of meat to male breadwinners (Lawlor DA, Ebrahim S, Davey Smith G. Sex matters: secular and geographical trends in sex differences in coronary heart disease mortality. BMJ. 2001;323:541–545). I wondered if this was relevant to the trends shown in Figure 4 for IHD - earlier in period married men may have had higher fat consumption but this might have changed later in time due to greater awareness of dietary influences on health.

**Level of interest:** An article of outstanding merit and interest 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'