Reviewer's report

Title: Body Mass Index increase in middle life is not linked to deprivation status: a cohort study

Version: 1 Date: 1 February 2005

Reviewer: Rebecca Hardy

Reviewer's report:

General

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

Although considerable analyses have assessed the characteristics of those with missing data, potentially important implications for the findings have not been discussed. It is acknowledged that there is a greater drop out among those in lower deprivation categories. It is possible that those who dropped out from these lower deprivation areas may have been those of lower individual social class compared with those from the same areas who remained in the study. This could have made all deprivation groups more similar in terms of their individual social class. The fact that a relatively greater proportion of those lost to follow-up were also obese, hypertensive and to have high cholesterol, as the authors state are likely to have been excluded from further screens because they are being offered “usual” care for management of their high cardiovascular risk, might also mean that those not re-screened might well have put on more weight compared to those screened. Finally, in terms of overall missing data it is unclear how results presented in Tables 1 and 2 might combine to influence the findings.

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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)

Second paragraph of discussion. Clarify discussion of cohort and period effects.

Page 13, second paragraph. In what way might individual measures of socioeconomic status be “less accurate”.

Clarify difference in the meaning of the coefficient between the effect of year (models 1 and 2) and the effect of deprivation (model 3) in Table 3.

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Discretionary Revisions (which the author can choose to ignore)

The authors state that the results of no difference between deprivation category in terms of increase in BMI are in contrast to previous findings from the Whitehall II Study (Martikainen and Marmot reference). However, they do not discuss the differences between this and their own study. The previous study was on civil servants rather than a general population sample and the follow-up time was much longer (25 years) than in the current study (5 years). The relatively short length of follow-up is a disadvantage of the current study. The Whitehall study also adjusted for baseline BMI
in the models of change. Whether to adjust for BMI at baseline or not is a matter of debate when considering change over time. The authors should at least acknowledge this.

Some of the associations and differences discussed were not tested formally in analyses. Specifically, the differences by deprivation category in BMI at baseline. A test for interaction could be used to assess whether there were significant differences in change in BMI by age group. In contrast, presentation of the p-values for each deprivation strata presented in table 2 are not particularly informative as it is the effect of deprivation on BMI (test for trend) that is the effect of primary interest.

It would appear that individual social status was available, at least on a sub-sample of those in the study. It would be interesting to see whether the results were the same using such measures.

What next?: Accept after minor essential revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:
I declare that I have no competing interests