Reviewer's report

Title: Trends in the prevalence and management of diagnosed type 2 diabetes 1994-2001 in England and Wales

Version: 1 Date: 29 November 2004

Reviewer: Denise Kendrick

Reviewer's report:

General

Thank you for asking me to review this paper. It is interesting and of importance for primary care.

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

1. The authors report using a logistic model to test for trends over time in the proportion of people with diabetes with various process measures recorded and in those achieving a variety of outcome measures. It would be helpful to clarify how the effect of clustering at the level of the practice was taken account of in the analysis. The authors state that the model was adjusted for age, sex and practice which sounds like "practice" may have been included as an indicator variable in the model. As there were 142 practices in the database this will have used up many degrees of freedom and may have reduced the power of the analysis (although I do note the large size of the database). Also "year" was fitted as a linear trend and information regarding how they assessed for any evidence of non-linearity would be appreciated.

2. A more detailed description of the algorithm used to identify type 2 diabetics in the database would be helpful. At present it is not clear how the authors distinguished between the date of entry of diagnosis on computer and the date of diagnosis. Also although the authors report that the algorithm had high sensitivity and specificity for classifying type 2 diabetes compared to clinical assessment of the same electronic record, the most useful comparison would have been to compare against clinical assessment of the paper record, not the electronic record.

3. Information on the levels of indicative coding over the time period would be useful for each outcome, as some of the deterioration in outcomes may be related to better recording, or improving access to primary care diabetes care over time (e.g. for those who were previously cared for by hospitals and who may have had poorer control), rather than true changes in the degree of control achieved.

4. It would be helpful for the authors to present box and whisker plots showing what has happened to the variation between practices in achievement of outcomes over time.

5. Finally the authors speculate on the possible role of the BMI in explaining deteriorating glycaemic control and failure of many patients to reach new lower blood pressure targets. The authors have the data to assess whether increasing BMI explains these findings and the results of this analysis would be helpful to the discussion, so I would suggest these are undertaken.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
1. Abstract: Please add the years over which data were analysed in the methods section. Please clarify in the results section that the progress towards national targets represents an improvement in the control of blood pressure and cholesterol levels. In the conclusions section please add "the prevalence of ..." to the first sentence and clarify that HbA1c control appears to have deteriorated.

2. Methods: 1st paragraph - clarify who "we" are. Last sentence of para 4 is unclear re smoking history.

3. Discussion: 1st paragraph add "treated by" before "diet only" to "34% were diet only". The discussion needs to include consideration of the potential for changes in indicative recording to account for observed changes in the prevalence of outcomes.

4. Figures and tables: the titles and legends would be more useful on the same pages as the tables and figures. The colours cannot be distinguished with black and white printing - I suggest you use patterns rather than colours for bar charts. Footnote to figure 3 - what does "specific and valid" relate to?

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 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