Reviewer's report

Title: Cholesterol treatment with statins: Who is left out and who makes it to goal?

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Reviewer: Nigel Stocks

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The authors make the case that disparities, by race, ethnicity, sex and socioeconomic status, in the provision cardiac services have been widely studied and identified that disparities in the use of drugs are less clear. They believe statins may be an exception and cite several studies, of US origin, to back their claims; adding that these studies all had some limitations. Unfortunately they seem to ignore several international studies that relate directly to the area.

They examine three clearly articulated hypotheses using data from the National Health and Nutrition Examination Surveys (NHAHES) conducted between 1999 and 2006. NHAHES is internationally recognised and as such the sampling and collection of data is probably as good as can be obtained for a study of this kind. Having said that it is not clear if there are any issues with bias because their sample was restricted to 7,224 adults on whom LDL-C values were available. We are not given the total number of potentially eligible participants and if there was any chance of differential inclusion for those who had LDL-C taken. A flow diagram about the study participants would be helpful and could be derived from NHAHES data.

The measures obtained including socio-demographic factors, statin use, statin eligibility and goal attainment, access/utilisation factors, blood pressure are well described. They mention that ATPIII recommendations from 2004 were used to assess statin eligibility but although these are probably widely known in the USA I think they need further explanation for international readers (perhaps as a concise supplementary page). It is a pity that the authors, despite being from the US, did not also use estimates of absolute cardiovascular risk (based of Framingham equations) to determine eligibility for stain use as there are shortcomings with just counting the number of risk factors a person has.

The statistical analyses seem to be appropriate but I would seek the opinion of a statistician.

The results are well presented and clear. The strength of this study is the number of variables that could be tested in the logistic regression model particularly for access/utilization status. Because if the size of the study interactions could also be tested. It was good to see that duration of therapy was examined and found not to affect goal attainment.
The discussion clearly highlights the study findings, that age, sex and SES are key determinants of statin eligibility, use and goal attainment. These are interesting findings. The conclusion that further study is needed to ascertain if it is patient factors or physician factors that contribute to these disparities is warranted.

The study limitations are comprehensively covered and do not require further elaboration. I would however like the authors to cite the international literature on this a little more thoroughly. I do understand that there are significant differences between health care systems however there are a number of reported studies (see below for examples) that have results that could inform the interpretation of the authors’ results and I see no reason not to at least cite some of them.

Studies that have results that are relevant to this paper.


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

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

I declare that I have no competing interests.

Prof Nigel Stocks