Reviewer’s report

Title: Is the high-risk strategy to prevent cardiovascular disease equitable? A pharmacoepidemiological cohort study

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Reviewer: Randi Selmer

Reviewer’s report:

This is a very good paper dealing with an important topic, socioeconomic inequality in prevention of cardiovascular disease. Does the high risk strategy reach high risk subjects in groups with lower and higher socioeconomic position?

The authors have developed new methods in this study, assuming that “incidence of statin therapy must increase proportional to the need across SEP-groups for equity to be met”. If the incidence of myocardial infarction in the background population of asymptomatic individuals is say doubled in one SEP group compared to another group, the incidence of therapy should be doubled to.

This is an interesting approach. The authors are then able to draw conclusions about the general population, not restricted to selective individuals who have participated in health screenings. The results showed that incidence of myocardial infarction among previous asymptomatic individuals decreased with increasing SEP in all age x gender groups without a similar trend in the incidence of use of statins. They used Poisson regression to estimate and test if the need-standarized incidence rate ratio was greater than 1.

I have only a few comments to this excellent study.

1. Is the question posed by the authors well defined? Yes
2. Are the methods appropriate and well described? Yes
3. Are the data sound? Yes
4. Does the manuscript adhere to the relevant standards for reporting and data deposition? Yes
5. Are the discussion and conclusions well balanced and adequately supported by the data? Yes
6. Are limitations of the work clearly stated? Yes
7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished? Yes
8. Do the title and abstract accurately convey what has been found? Yes
9. Is the writing acceptable? Yes

Minor Essential Revisions:

1. A misprint on page 8: ..elevated high-density lipid cholesterol (LDL)
2. Page 5 (Study design). Could you please specify what is the censoring in the
calculation of “observed incidence of statin therapy”?

3. Page 6 first sentence: Please specify what is “need standardized PYR”?

Discretionary Revisions:

1. It is surprising that the incidence of statin treatment did not show a decreasing trend by level of income and education. Could the authors speculate why? A Norwegian study (Br J Clin Pharmacol 2009; 67: 355-62) showed a decreasing trend in incidence of statin therapy by increasing educational level. The difference disappeared after adjusting for cardiovascular risk factors. Could different reimbursement policy be of importance?

2. The authors claim that long-term adherence to statin treatment is disappointing. However, adherence to therapy may vary between different countries. Thus, it could be interesting to know something about adherence to therapy in Denmark. In the Norwegian study mentioned above, persistence to treatment did not vary by educational level.

3. Studies have shown that statin therapy reduces cardiovascular risk also in asymptomatic individuals. On this background I wonder what the implications of the present study for policy and practice could be? Develop a better screening tool taking other risk factors into account? Change the reimbursement policy? What are the challenges for further research?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.