Reviewer’s report

Title: Variations in statin prescribing for primary cardiovascular disease prevention: cross-sectional analysis

Version: 2  Date: 9 July 2014

Reviewer: James Sheppard

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General comments

This study aimed to examine statin prescription rates for primary prevention of cardiovascular disease and factors associated with these rates using practice level data from across the UK. The data suggest that approximately 10% of patients are prescribed statin therapy, including 6% who are estimated to be prescribed therapy for primary prevention. Linear regression analyses suggest that older age, ethnic minorities and social deprivation are significant predictors of reduced prescribing rates. This is an interesting study which adds to the existing literature on statin prescribing in Primary Care. The paper is well written and the methods well described but there are some important limitations which are only partly acknowledged.

Major Compulsory Revisions

The data used in these analyses are at a practice level, and thus all estimates of patient level statin prescribing are based on a number of assumptions. The sensitivity analyses are helpful in this respect and this limitation is acknowledged in the discussion. However, I am concerned about the validity of the main study conclusion that “statin prescription was low given the prevalence of diabetes and hypertension”. Whilst this may be true, it is difficult to draw this conclusion from the present data because there is no way of knowing what % of the eligible population were prescribed statins. Identifying patients eligible for primary prevention therapy is difficult even when individual patient data are available because the criteria for treatment is complex and, as the authors acknowledge, there is no routinely collected prescribing data for this indication.

It is possible (although unlikely) that all eligible patients were prescribed therapy for primary prevention and none were prescribed therapy for secondary prevention.

Unfortunately is it impossible to know from the present data and thus difficult to know if statin prescribing really was ‘low’. I wonder whether the dichotomisation between primary and secondary prevention is appropriate given the data available. The findings of social, ethnic and age related inequalities in prescribing would still be of interest even if this analysis studied both primary and secondary prevention as a single group.
The data used are almost 8 years old. Given the changes to guidelines, QOF and evidence for statin prescription, some discussion about how relevant these data are today and how prescribing might have changed is needed.

The statement in the discussion page 9, line 210 ‘There are no other indications for statin prescription which could confound these results’ seems slightly erroneous given the way in which estimates were derived – for example, statins are indicated for secondary prevention in patients with TIA and peripheral vascular disease which may not have been captured here.

The discussion of the study results in the context of existing literature incomplete. Our recent study of prescription of therapy for primary and secondary prevention offers some useful comparisons. Although this study was conducted in a smaller cohort of patients, data were analysed at an individual patient level and detailed analyses of which patients were eligible for treatment was conducted. We found that 80% of eligible patients are prescribed statins for primary prevention of CVD, and 74% are prescribed therapy for secondary prevention. The latter estimate is important given the assumption here that all patients with existing CVD will be prescribed treatment. The EUROASPIRE III study is also relevant. Conducted across Europe, it suggested that 50% of patients were prescribed lipid lowering therapy for primary prevention of CVD.


Minor Essential revisions

Prevalence estimates are given with SDs, but 95% confidence intervals would be easier to interpret.

There is no mention (in the abstract or main text) the number of patients in the study (i.e. sum of the list size of all practices in the study), this would be helpful to help the reader appreciated the size of the study.

Please do not use the phrase ‘further research is needed’ – be specific – what type of research? What type of interventions? – given the findings of your study, surely an intervention targeting socially deprived and ethnic minority groups would be appropriate?

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

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