Reviewer's report

Title: Should health insurers target prevention of cardiovascular disease? An analysis of the costs and effects of an individualized programme in Germany based on routine data

Version: 2  Date: 18 February 2014

Reviewer: Alexander Konnopka

Reviewer's report:

Major Compulsory Revisions

1) Please provide some more information on how people enter the KardioPro program. How are the participants of KardioPro identified? As I understand the text, the SBK is cooperating with cardiologists who handle the participants, but how are the participants identified first; from routine data or from primary care physicians or are they identified by the cardiologists? What are the criteria to be asked to participate?

2) I am a little bit confused about the “risk groups section” in the methods section (last paragraph page 4, page 5). You write risk groups had to be defined different in the C-E analysis compared to the original KardiPro program. I guess this was necessary because the PROCAM-score needs information not contained in routine data (like smoking behavior or MI-history among relatives)? So you used the available data from the KardioPro program participants to develop a regression-based algorithm to predict the PROCAM-score which uses only data available in routine data and then you applied this algorithm to the participants to estimate the “new” risk groups which were now also applicable to routine data. Is this correct?

3) Last paragraph page 6 to first paragraph page 7: What do you mean with “…proportional to the time considered for evaluation”? Do you mean proportional to the ratio of time the quitter was in the SBK until he/she changed health insurance and the complete year?

4) Figure 3: Why do you present bootstrap results according to the risk groups? From my “gut feeling” it would be more consistent to present bootstrap results for the strategies that built up the efficiency frontier because several of the single-risk-group strategies presented in figure 3 are dominated by combined strategies presented in figures 1 or 2.

5) Please provide (in the text or a table) some numbers for the uncertainty surrounding the point estimates of the most important ICERs, e.g. willingness to pay needed for a 95%-probability to be cost-effective according to the bootstrap results. (please see also comment 9)

Minor Essential Revisions
6) Table 3: Please provide sample sizes for the strategies.

7) Table 4: Could you also provide per-person values? Maybe by splitting the lines. It would greatly facilitate a comparative view on the strategies.

Discretionary Revisions

8) Due to the chronic nature of cardiovascular diseases, risk-group affiliation can change throughout time in terms of disease progression from risk groups with low to risk groups with higher risk (which you indicate by “…the incidence […] is also likely to differ…”). Your intervention might affect these changes, e.g. by avoiding transfers to the high-risk risk group which might strongly improve the effectiveness and subsequently also the cost-effectiveness of the program for participants in the mild or middle risk groups, but indeed only in the long run. But this can rarely be reflected in the ICERs for low-risk or middle-risk patients regarding the time horizon of the study.

9) Have you considered to use your bootstrap results to construct cost-effectiveness acceptability curves to illustrate uncertainty rather than or additional to the bootstrap plots?

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I declare that I have no competing interests.