Reviewer's report

**Title:** Adapting a Markov Monte Carlo simulation model for forecasting the number of Coronary Artery Revascularisation Procedures in an era of rapidly changing technology and policy

**Version:** 1  **Date:** 21 January 2008

**Reviewer:** Georgios Lyratzopoulos

**Reviewer's report:**

The subject is a topical one, and an important one. There is a dearth of evidence to support, among others, resource allocation and planning of tertiary services for cardiac pathologies (interventional cardiology and cardiac surgery amongst others) in many countries.

Major compulsory revisions.

1. The whole article needs to be 'layised' for the non-statistician (this category includes clinicians and policy makers). Currently the article is impenetrable to the non-healthcare modellist / statistician. The abstract is particularly unhelpful in this respect -it is not structured. Is the the requirement / style of the journal? Discussion first paragraph should start with a summary of key methods and findings. Again, the message is v. difficult to find.

2. The authors have a tendency to jump into speculative interpretation, that the lower than expected (by modelling) activity might have been because of the increasing effectiveness of care, and PCI (and PCI including stenting) in particular. This is a highly debatable and controversial area / approach. Alternatives could well include a) a secularly healthier population (early life etc. or 'period' phenomena) b) a secular trend in difference in disease pathology / severity (e.g. a switch to a less or more diffuse coronary disease, or a switch between ST elevation and non-ST elevation forms of MI etc. -suggestions are merely given to illustrate the argument) c) secularly greater effectiveness of healthcare, including medical care (not only PCIs). I am not convinced the above are given the attention / discussion required.

**What next?**: Accept after minor essential revisions

**Level of interest:** An article of outstanding merit and interest in its field

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests:

I do not have any financial interests. I have an intellectual interest and service and research work exposure to the general fields of healthcare modelling, and of cardiovascular epidemiology. If anything, I think this biases me positively towards this piece of research!