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

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Reviewer: Luc GA Bonneux

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"We believe that the reviewer has misunderstood the point of the paper. It is not ‘a retrospective forecast’ that uses ‘posterior knowledge’. The point of the paper is to illustrate how forecasts from such a model may be improved if ANTICIPATED changes are incorporated. We chose the 1995 cohort to illustrate the approach and to demonstrate that changes that would have been anticipated in 1995, could be incorporated to improve the forecasts. By demonstrating that the model can be successfully applied in this manner it therefore encourages the use of this type of model and method for real time forecasting for future years."

The question is if ANTICIPATED could have been ANTICIPATED in the 1990s. These trends were not ANTICIPATED, at least not in the Netherlands. A report in 1995 underestimated (qualitatively) the number of PCI in 2000 with 40%, for 2005 with 100% (see http://www.gr.nl/pdf.php?ID=1497&p=1, partly in English. The 2007 report refers to the 1995 report. The Dutch Health Council is a national and independent evaluation board.). In 1995, the added benefits of PCI were still hotly debated, the proper indications between PCI, medical treatment and surgical treatment unsure. Half of PCI were inappropriate according to the (still rare) guidelines of that period. Indication of PCI were then limited to palliative symptom control. The RITA-2 trial
was published in 1997, and started to sway consensus to improved prognosis.

At least in Belgium, the number of PCI is predicted by the offer. At emergency pick up, the ambulance has to rake you lawfully to the nearest hospital (to avoid competition between ambulances). The risk of having a PCI in follow up is 20% lower if you arrive first in a hospital without interventional cardiology. If you expand the offer, the number of PCI will expand - (some regions were underserved and others overserved - policy tried now to adapt the offer better to the need).

The authors anticipated the changes ten years later after these occurred. That is posterior knowledge, now framed as a prior assumption 'that could have been anticipated". The emergence of PCI was not anticipated and it could not have been anticipated, not in the Netherlands in 1995, not building on state of the art knowledge of the early 1990s.