Reviewer’s report

Title: An Evaluation of the Impact of Aggressive Hypertension, Diabetes and Smoking Cessation Management on CVD outcomes at the Population Level: A Dynamic Simulation Analysis

Version: 1 Date: 19 Jun 2019

Reviewer: Gary Hirsch

Reviewer's report:

This is a good effort that can be published with only minor revisions.

Clarify the conclusions section of the abstract. The meaning is a bit unclear.

In the Background section, you present prevalence rates for diabetes and hypertension in Singapore. It would provide a useful context for the reader to present comparable rates for other OECD countries and countries with primarily Asian populations.

On Page 8, you mention that, due to a lack of data, you had to use the expert judgement of a senior clinician to estimate the prevalence of risk factors among the population that has already experienced a CVD event. Is there literature you can cite based on other populations that offer similar risk factor prevalence rates for the post-CVD population?

You describe the population that has had a CVD event and survived as "disabled". Some of these people, in fact, may be quite fit and able to return to all of their previous activities, though some are functionally disabled. You might use a different term such as "Post-CVD" that would include both groups. You don't make it clear in Figure 1 how risk factor management affects the mortality rates of the Post-CVD group.

Table 3 should include age-adjusted incidence rates. The raw numbers include the effects of population growth and aging.

It's not clear if people in the Post-CVD population had their risk factors treated more aggressively to prevent recurrent events or if they were subject to the same assumptions about treatment as the pre-CVD population. This should be clarified and if this is not the case, discussed as a limitation of the model since one would expect these risk factors to get greater attention once someone has had a CVD event.

One additional reference on SD modeling of CVD you might want to include is: G. Hirsch, J. Homer, E. Evans, and A. Zielinski, "A System Dynamics Model for Planning Cardiovascular Disease Interventions", American Journal of Public Health, 2010; 100(4):616-622

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Unable to assess

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

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Please indicate the quality of language in the manuscript:

Acceptable

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