Reviewer’s report

**Title:** Preventing Type 2 Diabetes Mellitus in Qatar by Reducing Obesity, Smoking, and Physical Inactivity: Mathematical Modeling Analyses

**Version:** 0  **Date:** 07 Mar 2019

**Reviewer:** Brecht Devleesschauwer

**Reviewer's report:**

The authors present the results of a mathematical model of diabetes incidence and mortality in function of obesity, smoking, and physical activity. The model has been published before (Awad et al., 2018; https://doi.org/10.1016/j.diabres.2017.11.015). The current manuscript complements the earlier manuscript by exploring the impact of reductions in smoking, obesity, and physical inactivity. Overall the manuscript is well written and appropriate. I only have some minor comments.* L67: "caused"; perhaps better, "was estimated to cause"* L97: please make explicit what exactly the extensions were compared to the original model* L131: please explain how the model captures changes in demographic structure* L145: please also describe how the annual change was calculated (compared to the overall change between 2016 and 2031)* L177: how was the RR for developing T2DM combined with that of other risk factors? eg, was independence of risk factors assumed?* L193: please add prevalence in addition to numbers, and mortality rate in addition to deaths* Discussion: please discuss the lack of variability/uncertainty included in the model as a limitation* L349: please provide more information on the survey used to derive risk factor prevalence; eg, were the estimates self-reported or measured?* L387: code should be made available as part of the manuscript or in an open access repository

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