PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (see an example) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Modelling the impact of specific food policy options on coronary heart disease and stroke deaths in Ireland
AUTHORS	Kabir, Zubair; O'Keeffe, Celine; O'Flaherty, Martin; Walton, Janette; Capewell, Simon; Perry, Ivan

VERSION 1 - REVIEW

REVIEWER	Dr Karl Andersen MD PhD Professor of Cardiology Dept of Medicine, Div of Cardiology Landspitali, the University Hospital of Iceland IS 101 Reykavik Iceland I have no competing interests to declare.
REVIEW RETURNED	24-Mar-2013

GENERAL COMMENTS	Page 2/20 Abstract, subheading Results, line 31, the word "women" is missing. Otherwise I have no comments. This is a very well written paper that reads well. It brings a clear and important message concerning health policy and public health interventions which is of great importance in light of the current CNCD epidemic.

REVIEWER	Dr Shaun Scholes Research Associate Health and Social Survey Research Group (HSSRG) Department of Epidemiology & Public Health University College London. I have no competing interests.
REVIEW RETURNED	25-Mar-2013

REPORTING & ETHICS	Given that this is a modelling study I am not sure that ethical issues arise. For example, there is no secondary analysis of existing survey data.
GENERAL COMMENTS	The authors of this manuscript estimated the potential reduction in cardiovascular mortality achieveable by decreasing salt, trans fat and saturated fat consumption, and by increasing fruit and vegetable consumption in adults in Ireland aged 25-84 in 2010 by two scenarios: (1) conservative and (2) more substantial but feasible. This is clearly a subject of public health importance and is reasonably well written and presented with technically sound methods, and is similar to a UK study using a similar food policy IMPACT model. The methods, of course, have a number of

	limitations – which are briefly mentioned in the discussion. However, I do have a number of comments/suggested revisions which I hope are helpful the authors to consider. [1] Introduction: Could the authors say “modelling study of CHD mortality decline”. Could the authors give example(s) of what UK dietary recommendations are? Also, do we know roughly what % of premature mortality in CHD is linked to food/poor nutrition, as opposed to say, smoking? [2] Table 1: could the list of abbreviations include g/d. Do the estimates refer to all adults? I know, for example, that estimates of daily salt intake commonly quoted in England refer to 19-64 yr olds only. [3] Methods: could the authors justify 2010 as the final year of the model when the food targets are for later years? Were the same effect estimates used for men and women; and for all agegroups? Also, the first model assumption needs more clarification - “combined changes in relative risk (RR) for individuals are multiplicative” - possibly with an worked example and reference. Are the methods similar to those in the UK study (Reference 5)? [4] Should the results present uncertainty from the Monte Carlo simulation as lower and upper; rather than minimum/maximum? [5] Table 2. Explanations are required for subscripts a-d. [6] The authors refer to “Increasing food and vegetable portions to 3 per day”. Should this read “increasing by 3 portions per day”. Similarly for the discussion: “increasing the consumption of fruits and vegetables by three portions a day”. This would make the text consistent with the abstract. [7] [Public health food policy interventions]. Please provide a reference for the WHO report. [8] I would also like some mention in the discussion on the need for policy initiatives to reduce salt consumption or increase fruit and vegetable consumption by encouraging people to take the healthy option (e.g. by lowering the prices of healthy foods compared to less healthy foods) and working with the food industry to reduce salt content of processed foods.

REVIEWER	Dong Zhao Deputy director and Professor Beijing Institute of Heart,Lung & Blood Vessel Diseases Capital Medical University Beijing Anzhen Hospital China No competing interests.
REVIEW RETURNED	01-Apr-2013

THE STUDY	The details of method have been reported in previous papers. I do not think this paper need to use CONSORT checklist.

RESULTS & CONCLUSIONS	The manuscript by Celine and colleagues use IMPACT food policy model to assess quantitatively the potential reduction in CVD mortality by changing intakes of salt, trans fat and saturated fat and fruit and vegetable among Irish adults age 25 to 84. This is a well written paper, which provided important evidence that how a small amount reduction in unhealthy food component can results in large health effect in a population. I have only one suggestion. The authors used several units as measurement for fruit or vegetable intake, “servings” in table 1 based on SLAN 2007 and “g/d” in also table 1 based on NANS(2008-2010). I guess that authors used one of the units in their model. Then in table II, fruit/vegetable (portions/day) was used as unit measured. It is better to explain what unit is used when you estimated the impact to CVD mortality.

VERSION 1 – AUTHOR RESPONSE

Reviewer: Dr Karl Andersen

Page 2/20 Abstract, subheading Results, line 31, the word "women" is missing.

The abstract has been corrected

3. Reviewer: Dr Shaun Scholes

a. Introduction: Could the authors say “modelling study of CHD mortality decline”.
Done
b. Could the authors give example(s) of what UK dietary recommendations are?

An example has been included

c. Also, do we know roughly what % of premature mortality in CHD is linked to food/poor nutrition, as opposed to say, smoking?

Premature mortality in CVD related to specific food/nutrient intake (eg, salt intake and CVD) was provided in the initial submission.

The 2001 Global Burden of Disease (GBD) estimated that 28% of GBD related to ischemic heart disease can be attributed to poor fruit and vegetable intake as opposed to 17% attributable to smoking. The 2010 GBD study reported that 40% of ischemic heart disease disability-adjusted life-years can be attributable to diet low in nuts and seeds. No overall dietary contribution to premature CVD/CHD mortality has been estimated in any of these two GBD studies.

d. Table 1: could the list of abbreviations include g/d.

Done

e. Do the estimates refer to all adults? I know, for example, that estimates of daily salt intake commonly quoted in England refer to 19-64 yr olds only.

Yes, in Table 1 the estimates refer to all adults between 18 and 84 years of age

f. Methods: could the authors justify 2010 as the final year of the model when the food targets are for later years?

Thank you. Although similar to the UK study (ref no 5) in principle, the present study did not project future premature CVD deaths from a baseline year. Future scenarios of CVD deaths based on currently available CVD and food/nutrient intake data are being undertaken in Ireland. The present study utilized 2010 as the final year because of the fact that 2010 was the most recent calendar year for which both CVD mortality data and food/nutrient intake information were available for the Republic of Ireland

Were the same effect estimates used for men and women; and for all age-groups?

No. Age and sex-specific effect estimates were employed in the present study. This has been clarified in the revised manuscript

Also, the first model assumption needs more clarification - “combined changes in relative risk (RR) for individuals are multiplicative” - possibly with an worked example and reference.

An example has now been included in the methods section of the revised manuscript

Are the methods similar to those in the UK study (Reference 5)?

Please refer to our earlier response above

g. Should the results present uncertainty from the Monte Carlo simulation as lower and upper; rather than minimum/maximum?

Thank you. We are following a standardized method of reporting (maximum and minimum) uncertainties similar to the UK study (ref no 5) and to all the previous CHD-IMPACT model studies published to date.

h. Table 2. Explanations are required for subscripts a-d.

Thank you. The subscripts are irrelevant and have now been deleted

i. The authors refer to “Increasing food and vegetable portions to 3 per day”. Should this read “increasing by 3 portions per day”. Similarly for the discussion: “increasing the consumption of fruits and vegetables by three portions a day”. This would make the text consistent with the abstract.

Thank you. Changed accordingly

j. [Public health food policy interventions]. Please provide a reference for the WHO report.

Provided

k. I would also like some mention in the discussion on the need for policy initiatives to reduce salt consumption or increase fruit and vegetable consumption by encouraging people to take the healthy option (e.g. by lowering the prices of healthy foods compared to less healthy foods) and working with the food industry to reduce salt content of processed foods.

Thank you. A relevant statement has been included in the discussion section of the revised manuscript

4. Reviewer: Dong Zhao

The authors used several units as measurement for fruit or vegetable intake, “servings” in table 1 based on SLAN 2007 and “g/d” in also table 1 based on NANS(2008-2010). I guess that authors used one of the units in their model. Then in table II, fruit/vegetable (portions/day) was used as unit measured. It is better to explain what unit is used when you estimated the impact to CVD mortality.