Reviewer Comments and Author Responses

The role of government policy in nutrition – barriers and opportunities for healthier eating

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Editorial comments:

All editorial comments have been addressed.

Reviewer: 1

- I was surprised that the NOURISHING framework was not given more prominence, or contrasted to this paper – which is close to a new framework or policy checklist. Personally, I think the NOURISHING is good – but I actually think on a side-by-side comparison the layout in this paper in Table 1 of the Policy Strategies is actually better organized. It is up to the authors what to do – if anything – regarding this. Options include: Acknowledging the NOURISHING framework, and saying “we propose Table 1 as an evolution”; Perhaps converting Table 1 headings into a catchy title or aide memoir for users.

We appreciate that other nutrition policy frameworks have been proposed. We now cite the Nourishing framework and have clarified in both the Introduction and the Table 1 footnote that our novel analysis and conclusions are based on our own review and interpretation of the evidence, knowledge, and experiences. Based on advances in behavioral and policy science, we focus on a broad range of interventions and nutrition policies including strengths, limitations, uncertainties, and corresponding recommendations.

- There were occasional case examples given of countries that have done one or two elements of a comprehensive strategy. Are there any countries that the authors would point to that has embraced a wide-reaching policy agenda as encouraged in this paper?

No, not yet – this is an important point and gap in policy, that has now been added to the manuscript: “To our knowledge, while progress is being made, no nation has yet incorporated an updated, comprehensive portfolio of evidence-informed strategies to encourage a healthier and more equitable food system. Here we review some of the central needs and challenges to help governments translate the current evidence into policy action.”

- The recommendations to address (or combat) the food industry are to Governments and country-actors. But the food industry is trans-national with massive resources. They can easily pick off one country at a time, if necessary. Therefore, is it not required of WHO (or another major agency with an international brief) to be assisting countries in this policy arena? Put another way, the playing field is uneven with a trans-national food industry, but separate countries responding. Maybe the authors want to address this a bit more?

Great point. We did have a brief section on this topic, which has now been expanded: “Global public health efforts must be organized to complement national and local government activities. Key global economic and political institutions that must play more assertive roles include the World Bank, United
Nations, and World Trade Organization. Such global organizations should develop and measure adherence to nutrition policy standards; synchronize member country efforts; assist lower-resource governments with design, implementation, and evaluation of effective food policies; convene stakeholders including global agribusiness, restaurant chains, and food manufacturers; and provide a countervailing force to multi-national industry lobbying.”

• Furthermore, the issue of trade agreements could be explicitly addressed. It is currently invoked in lists of stakeholder agencies or lists of ‘issues’; I think it needs some stand-alone addressing. The devil is in the detail, but trade agreements can be used by industry to tip the playing field. I think some more analysis is warranted.

The influence of trade agreements on food availability and healthfulness is complex. Trade actions are generally aimed at foreign direct investment, trade liberalization, and privatization to spur private sector investment, rather than considerations of nutrition or health. Such actions do ultimately influence national food environments, with potential for both positive and negative health implications. While the present manuscript focuses more on government actions directly aimed at nutrition and health, we agree with the need for greater consideration of coordinated, multi-agency actions (such as linked to trade) to facilitate healthier eating. We have expanded Table 1 with a new section on coordinated government action (including trade), along with revised and expanded accompanying text and citations.

• Finally, under Research there is a tendency for research funders to fund research that looks ‘novel’ and ‘core science’. I have sat in many research funding conversations where the argument goes something like: Let’s do research to change the obesity epidemic and address NCDs. Oh, but we know a lot of the things that might work (e.g. reformulation, tax, regulation). So it is up to policy makers to get on with it. Not really research anymore. So let’s divert our resources to something like: A randomized trial of probiotics; A randomized trial of counselling (which even if it works we know will not change the population picture much!) There is a pressing need for research funders, and academics, to embrace implementation research and policy impact research more. I.e. research on why knowledge is not translated, what works to overturn food industry obstruction, what works to get the public on side, etc.

We agree. We have highlighted in Table 1 that such funding should support applied research including on policy implementation and evaluation. In the text, we have also clarified, “Importantly, government funding should also prioritize applied research, including novel technologies for nutritional assessment and behavior change; and policy implementation and evaluation.”

Reviewer: 2

• I found the information in Box 1 interesting. But it didn’t feel built on throughout the remainder of the article, which left me wondering what the point of mentioning it was. Similarly, the Figure didn’t seem to inform the remainder of the article in an explicit way. Nor were the interactions between the frameworks proposed in the Figure vs Box 1 clear. I wondered if either or both might have been helpfully used to categorise the strategies in Table 1. If this had been done, it wasn’t obvious to me.

Each Box, Figure, and Table should be able to stand alone, covering related but not overlapping concepts. In addition, we have further clarified the inter-relationships between these.
For Box 1, we have found that prior discussions of policy are often limited by uncertainties in how to define and organize types of interventions. Box 1 represents a brief, stand-alone summary of an approach to classify different related characteristics, including level, target, domain, and mechanism. We have further clarified in the accompanying text, that when considering government actions, it is important to consider and define the specific elements in their policy design.

Following Box 1, Table 1 is organized by domain. We have clarified in the Table footnote that, “The policy strategies in this Table are organized by domain of intervention; variations of each strategy can further be characterized by level (e.g., local, national, organizational), target (e.g., consumer, industry), or mechanism (e.g., altering consumer preference, food formulation, or food availability and accessibility) (see Box 1).”

Figure 1 represents the multi-layered influences on food choices, including but not limited to government policy alone. However, government policy should consider and can aim to impact many of these influences. We have clarified in the Figure legend that “Government can consider these influences as potential targets, barriers, facilitators, and effect modifiers of food policies.”

2. I didn’t understand how strategies had been selected for inclusion in Table 1. I wondered if an existing framework or e.g. the Food-EPI tool might provide a stronger rationale for inclusion in this table. I also didn’t understand how the strengths, limitations, uncertainties or recommendations were determined – e.g. were there criteria used to determine strengths and limitations? What evidence was used to determine what uncertainties remain?

We appreciate that other nutrition policy frameworks have been considered, and have now cited these including Food-EPI in the Introduction; and further clarified in both the Introduction and Table 1 footnote that our novel analysis and conclusions are based on our own review and interpretation of the evidence, knowledge, and experiences.

3. The “policy strategies” listed in Table 1 include specific strategies (e.g. procurement nutrition standards), strategic aims (e.g. population education), and locations for delivery (e.g. schools). I found this conceptually confusing, especially given the frameworks in the Figure and Box 1 that seemed particularly designed to avoid this problem!

See response above – Table 1 is organized by Domains in Box 1.

4. Throughout pp10-12 I would have liked to see more evidence used to support contentions made. For example: that education and point-of-sale can promote reformulation (is there longitudinal evidence of this?); that financial incentives are “particularly powerful” (what metric? Compared to what?); that financial incentives are progressive; that financial incentives are always feasible (what about the Danish fat tax?); that multicomponent strategies are definitely most effective etc. It would be great to see comparable metrics comparing effectiveness of different strategies – or discussion of why this wouldn’t be helpful or is an aspiration too far.

These are very good points. The citations were previously grouped in the opening paragraph of this section as well as in the Table. Specific citations have also now been added where relevant to the ensuing text paragraphs. We have also edited the text in these sections to provide further details and
clarifications of each of the above points. For example, we have added key citations for benefits of a multicomponent strategy, and clarified that, “We believe that an integrated, multicomponent government policy strategy is essential.”

5. The point about lack of routine clinical monitoring tools for diet is important, but I don’t think it’s made well enough. There are “electronic tools for assessing and monitoring diet”, it’s just that they aren’t really optimised for the time pressures of clinical practice like e.g. a CO monitor for smoking. But patients could be prompted to complete e.g. electronic 24hr recalls in a waiting room with summary results made available to clinicians. This would require relatively little in the way of innovation of existing tools. So perhaps there is an ‘interest’ barrier amongst clinicians?

We agree with these points. We have added that routine EHR monitoring tools for diet are needed, including to “leverage creative mobile evaluation tools in the waiting room and outside the clinic.”

6. I felt an important omission from the article was recognition that the interaction of evidence and policy of population-level interventions is different from high-risk interventions delivered to individuals. Generally, high-risk interventions can be subject to RCTs and policy might ideally be based on synthesis of multiple RCTs – policy comes after ‘definitive’ research evidence. In contrast, population interventions cannot be evaluated on a small scale (because it’s hard to implement on a small scale) and are often hard to conduct an RCT on. Instead, governments must ‘take a leap of faith’ based on observational evidence and implement interventions in the context of concurrent evaluation. And be prepared to modify policy in response to evaluation results. ‘Definitive’ research evidence comes after policy. The standards of evidence required for policy change must, by the nature of the intervention, be different.

Excellent points. We have taken the liberty of paraphrasing and adding the comments above to the manuscript:

“The evidence to support policy interventions is also different from high-risk interventions delivered to individuals. Generally, individual-based interventions can be subject to multiple randomized placebo-controlled trials. In contrast, policy interventions often cannot be evaluated on a small scale nor be randomized or placebo-controlled. Thus, governments must make best inference on which policies to implement, supported by academic and other independent expert evaluation of observational, quasi-experimental, and interventional studies; and be prepared to modify policy in response to evaluation results. The standards of evidence required for policy change must, by the nature of the intervention, be different than that of individual-focused approaches.”

7. Also missing was the challenge of short political cycles disincentivising interventions likely to only accrue benefits in the long term. And the challenge of the costs and benefits of many public health interventions falling to different sectors/government departments (e.g. local authorities paying for actions whose benefits accrue to acute health services).

Great points, which have been added to the manuscript:

“Jurisdiction for different aspects of policies may be divided across government sectors and ministries, who also may share unequally in the resulting costs and benefits.”

and

“The perceived time scale of risks and benefits may also limit action. Although dietary shifts can have rapid effects on health, short political cycles often deter interventions believed to only accrue benefits in the long term.”
Reviewer: 3

- The authors recognize that beyond improving population nutrition, reducing disparities is a high priority, and the different strategies presented are differentially effective in this respect. The strengths/limitations of different policy strategies described in Table 1 do touch on this issue, but given its importance, I suggest that the authors reinforce this point. Perhaps draw-out equity effects in the main text in the Needs and Challenges section and in Box 3, which currently only generically recommends that governments “Emphasize strategies with the greatest potential to reduce (disparities)...”

Thank you. We have reinforced this point further in the Needs and Challenges section, including:
“...an understanding of diet-related health and risk distributions overall and in at-risk subpopulations”; and
“...consideration of environmental and societal values such as sustainability, equity, and justice;” and
“...our experience finds that the relevant data demonstrating the links between food policies and health, magnitudes of healthcare cost, impact on disparities and equity, and economic challenges... are often unavailable at opportune moments or in compelling formats”

and in Box 3:

“Recognize the priority of sound nutrition for local, national, and global health, equity,...” and
“Emphasize strategies with greatest potential to reduce social and racial/ethnic disparities due to clustering of suboptimal diet habits, local environments, and disease risk factors.”

- The absence of child care (or ECE) policy recommendations is probably an oversight, given the well-developed policy frameworks, policy levers and recommendations in the USA and (to a lesser extent, in the UK). I recommend including this as another sector, or perhaps combine with schools.

Good point – we have added these to the text and Table on schools.

- With respect to Health Care strategies, it struck me that all of the examples were patient-oriented. I recommend slightly widening the scope of this section to account for other policy opportunities in this setting. There is a growing number of healthy workplace-type initiatives in health care settings (although I realize this would overlap the workplace wellness strategy). Additionally, health care is also working to improve policies for food environments that affect both workers and visitors to clinical sites, for example Health Care Without Harm’s “Healthy Food in Health Care” in the USA and the NHS’s efforts to curb fast food outlets and access to sugary drinks its hospitals and other clinical sites.

In Table 1, we have included community engagement policy actions such as “Quality metrics and reimbursement systems that reward healthcare organizations to engage with the community to support upstream causes of poor health including nutrition”; and “Integration of healthcare with public health.”
We also agree that hospitals represent an important worksite, and have added to Table 1 recommendations, “Worksite wellness actions for hospital staff and visitors (see above).” In the corresponding main text, we have added, “As major community presences, hospitals should also be incentivized by new quality metrics and reimbursement guidelines to implement worksite wellness and engage in community public health”, with citations to NHS and Health Care Without Harm programming.

- In several sections of the text, there are references to ‘unhealthy’ or ‘healthier’ foods. Outside of whole foods like most vegetables and fruit, seeds, nuts and pulses, there is broad debate about the meaning of ‘unhealthy’ or ‘healthy’. Defining what is healthy or (in the UK’s case ‘less-healthy’) is one place where government can and does have an important role, for example, through the use of nutrient profiling schemes like the FSA-Ofcom model. Please consider discussing the implications of nutrient profiling schemes in the context of government policy.

We agree. We have added to the Needs and Challenges section that, ‘policy maker awareness can be insufficient and compounded by evolving science and conflicting media messages... For many policy actions, the relative healthfulness of different foods must be appropriately classified, perhaps best using systems that combine food category classifications with multi-level nutrient criteria.’

Minor comments
- Page 2: I think dieticians is more commonly spelled dietitians

Interesting point. According to Wikipedia, “the spelling with "t" is the one preferred by the profession itself internationally, but the spelling with "c" is used often enough in texts not written by members of the profession to be considered a valid variant by both American and British dictionaries.” In PubMed, a search for “dieticians” yields 2855 articles, while a search for “dietitians” yields 5085 articles. We have switched the term on this page to dietitians.

- Table 1: I find it a bit misleading to give the North Karelia program as an example of a population education policy. It was more accurately a systems-level intervention

Agreed – we have clarified that the example in the first row is for the “Population education components of the North Karelia program,” one of the multiple components of the policy actions over the years.

- To the extent practical, please review and consider providing more references for the statements and assertions in the section of text from Pages 10-13, particularly, the section on food environment policy, which currently has no references

The citations were previously grouped in the opening paragraph of this section as well as in the Table. As suggested, specific citations have also now been added where relevant to the ensuing text paragraphs.