Reviewer’s report

Title: Framework, principles and recommendations for utilising participatory methodologies in the co-creation and evaluation of public health interventions.

Version: 0 Date: 19 Jun 2018

Reviewer: Albine Moser

Reviewer's report:

Dear authors,

This is an interesting manuscript and is relevant to look at health prevention from a participatory perspective considering the future challenges in prevention across the life-span.

My suggestions for improvement.

Introduction:

* Line 84 you introduce end-users and non-academic stakeholders, later in line 111 you introduce three groups of actors. This is quite confusing. To set the stage relevant groups should be introduced at the beginning.

* Line 101 you write 'Traditionally, public health intervention….' Much publications of participatory development of public health intervention come from developing countries, a well known researcher and advocate for participatory research is M. Minkler. You might reconsider this quite statement.

* Line 106, 127 and several other lines you write about effectiveness but you do not define it. What do you mean by it: the process of co-creation, the impact of co-creation on the intervention itself, increased empowerment of end-users or better health outcomes? Please clarify.

* Line 114 Table 2. This table describes three groups of actors, and a fourth group. The actors in the fourth group are the same of previous groups. This reads confusing.

* Line 141, you write about the evaluation of public health interventions. What is the difference with effectiveness? Or do you mean the same?
Method

* You used an iterative reflective process but do not refer to an author.

* The method of iterative reflection is little worked out. Please add a description of what methods you used in all phases of reflection.

Results

* From line 182 on, in the phase Planning I miss the way all stakeholder groups are involved. Please describe. Now it reads as if the researchers determine the aim and sampling. I miss a substantial first activity of co-creation that of agenda-setting - where it all starts.

* Line 256, 258, 260 and 265 you write about representativeness but you do not specify what do you mean my it. There are quite different notions about representativeness in the literature. Do you define it as epidemiological (descriptive) representation, or substantive (those who have a stake) or symbolic (democratic) representation for example.

* Line 207 you explain sample size for focus group discussions, however, interviews are often used in PAR, please also add information about sample size concerning interviews.

* Line 300, I wonder why collectively defining the public health problems are in this step and not in the first. Isn't this late because the aims are already determined by the researchers. Please explain.

* Line 335-339, as it is written now one gets the impression here that the end-users are the needy and not-haves and the academics as those who know and are the haves. This might lead to misinterpretation. You might rephrase this.

* Line 349 - 358. You write about up-skill non-academic. I am wondering if there does not happen any up-skill of academics. Please add what academics can learn.

* Line 376-385 reads like structuring a meeting. Might fit better to the subheading Procedural method - Structure.

* Line 60 in table 5 What do you mean by 'may increase generalisibility of findings' As it is written now it somehow reads more like commitment for implementation?
* Line 421-426. Here you describe the evaluation of the co-creation process and the effectiveness of intervention. However, what about a process evaluation of the intervention itself like proportion of reach, components of intervention delivered, recruitment, barriers and facilitators to implementation etc. You also might include some information in principle 5b about this.

* Line 470, her a nationwide RCT is recommended. Somehow, I am not sure if one can get results where there might be many (unidentified) interfering variable. In public health intervention research quasi-experimental design might be an option.

* Line 473-477 reporting refers only to scientific publishing. How are results reported back to stakeholders, the end-users and the public? Somehow, it seems that they are not involved here anymore. And, I wonder why are end-users not involved as co-authors in this manuscript. You might want to reflect in the discussion about this. They are not even mentioned in the acknowledgements. You might even take it a step further and think about advising academics adding a paragraph in the method section and discussion about end-user and stakeholder participation. IN this paragraph you also mention reporting guidelines. There is a reference for best practice of reporting participatory action research at the Equator website see Smith L, Rosenzweig L, Schmidt M. Best practices in the reporting of participatory action research: Embracing both the forest and the trees. The Counselling Psychologist. 2010;38(8):1115-1138. There is also a guideline for reporting patient and public involvement. It might be worth including them in this manuscript. Staniszewska S, Simera I, Seers K, Mockford C, Goodlad S, Altman DG, Moher D, Barber R, Denegri S, Entwistle A, Littlejohns P, Morris C, Suleman R. GRIPP2 reporting checklists: tools to improve reporting of patient and public involvement in research. BMJ. 2017;358:j3453 or Research Involvement and Engagement. 2017;3:13.

Discussion

* Line 559 you mention the limitation of including only two stakeholder groups. However, then it might strengthen the introduction if you provide a full description of stakeholder groups there. A publication that might help is Preskill H, Jones N. A practical guide for engaging stakeholders in developing evaluation questions. Princeton, NJ: Robert Wood Johnson Foundation, 2009.

* It might strengthen the manuscript if you add some information what is new about this manuscript when positioning to other literature.
Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal