Reviewer’s report

Title: Mechanisms and pathways to impact in public health research: A preliminary analysis of research funded by the National Institute for Health Research (NIHR)

Version: 0 Date: 25 Mar 2019

Reviewer: James Raftery

Reviewer's report:

This paper addresses an interesting question but relies heavily on a classification developed in a "mapping exercise" developed by a team within the NIHR Evaluation Trials and Studies Coordinating Centre. This classification was applied to identify studies "as public health focussed". By cross referencing with Researchfish requests, 857 projects were identified. The validity of this classification is unclear as was the purposes and aims which led to its development. As noted below, this is important in relation to the conclusion that much research funded by other programmes have a public health dimension.

The second problem is the paper then jumps to 20 case studies chosen by stratified random sampling. It is unclear how exactly this stratified random sampling worked.

A third problem has to do with the response rate as only 10 of the 20 PIs accepted the invitation to interview.

The fourth problem is that overall the results were unsurprising. The first finding mentioned had to do with reliance on a variety of funding mechanisms, the second that research has a variety of outcomes, Another result jumps back from the case studies to an exercise involving the 857 projects which reads oddly and which shows that Researchfish lists academic publications first followed by engagement activities and collaborations.

The paper then uses the case studies to cast light on these activities and collaborations which provides some interesting quotes but only from a small number of respondents.
Overall, the discussion and conclusions emphasise the range of research projects that include some element of public health and that impact is complex, taking many forms. The former relies heavily on the classification noted above the status of which is unclear. The latter is unsurprising and echoes what has been found before albeit in different case studies.

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

No

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

No

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