Reviewer’s report

Title: Understanding how, why, for whom, and under what circumstances opt-out blood-borne virus testing programmes work to increase test engagement and uptake within prison: a rapid-realist review

Version: 0 Date: 07 Jan 2019

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER ASSESSMENTS:

OBJECTIVE - Full research articles: is there a clear objective that addresses a testable research question(s) (brief or other article types: is there a clear objective)?
No - there are minor issues

DESIGN - Is the current approach (including controls and analysis protocols) appropriate for the objective?
Yes - the approach is appropriate

EXECUTION - Are the experiments and analyses performed with technical rigor to allow confidence in the results?
No - there are minor issues

Statistics - Is the use of statistics in the manuscript appropriate?
N/A - there are no statistics in this study

INTERPRETATION - Is the current interpretation/discussion of the results reasonable and not overstated?
Yes - the author's interpretation is reasonable

OVERALL MANUSCRIPT POTENTIAL - Is the current version of this work technically sound? If not, can revisions be made to make the work technically sound?
Probably - with minor revisions
GENERAL COMMENTS: Overall, this is a well written manuscript with relevant review of opt-out testing of BBV within prison settings. One area the authors could improve upon is the use and clarification of specific terminology. The manuscript will appeal to a much broader audience if additional details regarding rapid realistic response methodology. The authors appear to assume a more explicit understanding among readers about RRR, Context-Mechanism-Outcome heuristic and Nudge theory than may be common among individuals who would gain the most from reading this manuscript.

REQUESTED REVISIONS:
As previously mentioned, more details are needed to further define terminology and methods, including RRR, CMO and Nudge Theory.

Additionally, during the authors' search, they use any physical disease though the stated outcome specified in throughout is opt-out BBVs.

There is not sufficient justification as to why the authors included any physical disease as part of their search strategy.

Further, among BBVs, more clarity would offer a more precise focus--there are a multitude of BBVs and significant variability with respect to screening. Thus, the differences with respect to screening for HIV, viral hepatitis or sexually transmitted infections may influence some of the conclusions drawn about opt-out testing feasibility and acceptability.

The content experts for the London BBV Core Steering Group is unclear--is this an existing body or one that was convened for the purposes of the reported project?

Given that the first review iteration was performed with input from this group, more details are warranted.

Also, the authors do not provide sufficient details regarding what they mean by purposive unstructured searches via the second iteration.

More information is needed regarding the subjective review specified on page 6, line 105. What criterion, if any, was this scale based on?
The details about provisional program theory are quite vague. Much of what the authors' term theory presented in the results is quite confusing. It is not clear how the provisional and/or refined program "theories" are in fact theories. The italicized statements read more as summary statements and/or hypothesized bases for theoretical development. To state these as distinct theories is very confusing. This needs further clarification. If Nudge Theory is to be the primary theoretical basis for the authors conclusions, a much more robust discussion, including a review of the components of this theory, is needed. In general, Nudge Theory is insufficiently integrated throughout. If this is the primary theory around which the provisional/refined programmatic "theories" revolve, there needs to be much better integration of this.

The authors mention mediation a couple of times, what do they mean by this given in behavioral research the term has very specific connotations (which do not fit the way in which the term is used here).

Note: This reviewer report can be downloaded - see attached pdf file.

**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

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

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

Needs some language corrections before being published
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No