Author's response to reviews

Title: HIV among immigrants living in high-income countries: a realist review of evidence to guide targeted approaches to behavioural HIV prevention

Authors:

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Author's response to reviews: see over
| Reviewer 1  
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<th>Geoff Wong</th>
<th>Response to Reviewer 1 Feedback</th>
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| **Major Compulsory Revisions:**  
There are a number of areas that I felt just needed clarification. None of these are 'deal-breakers' and in my view do not in any way justify rejection, but I felt they need to be addressed to avoid confusion.  

**1)** In the sentence "Rather, behind the processes of an intervention there is an underlying theory (or mechanism) which explains change (or outcome) and the outcomes are intimately related to the context in which the intervention is implemented [68]." (P 9).  

I felt the the main assumption behind realist ontology could have been better expressed. The point is that mechanisms cause outcomes to occur and whether they are triggered depends on the context the mechanism is in. Would you please look at rewording this sentence?  

In addition, I felt they the authors need to be a little clearer about what they mean by theory and what theory. Pawson prefers the term programme theory to refer to what he say is an overall explanation of how an intervention or programme is meant to work. In this case the programme we are thinking about are HIV prevention programmes. The authors have rightly decided to focus their review on making sense of cultural adaptations and so their programme theory would be around the cultural adaptations needed to make HIV prevention programmes work. In effect a finer level of theory 'below' that of a programme theory that seeks to explain HIV prevention programmes.  

More importantly, I felt that they authors should try to separate out and make quite clear that mechanisms are not the same as programme theories. Mechanisms are causal forces in realism that generate outcomes under specific contexts. Within a |

1) We have amended this sentence accordingly with changes marked up in Tracking on p. 9 (para 2).  

We agree with this distinction between programme theory and mechanism and have reviewed the Methods section and other parts of the manuscript and Additional files to ensure greater consistency in our use of these terms and made amendments as appropriate marked up in Tracking on p.10, 13, 14, 15, 21 and 22. We have reflected these changes in minor editing in Additional File 3. In addition, throughout the manuscript we have replaced the term “theorised mechanism” with “adaptive mechanism” or “mechanism” to avoid any unintended confusion between theory and mechanism.
programme theory there may be more than one component or part along the journey to the final desired outcome. Within each component there may be more than one mechanism that 'causes' an outcome or response (in the words of the authors). So, it may be worth checking within the Methods section to make sure that the two (mechanism and programme theory) are not conflated?

2) In the results section, I wonder if the authors would like to reassess their conceptualisation of what they have called 'resistance'. It seems to me that these may instead be context factors that 'inhibit' the triggering of their inferred mechanisms? Or even perhaps an 'inhibiting' mechanism fired under the specific contexts the authors have identified.

We have made amendments on p.13 (para 2), p.14 (para 1) and p. 22 (para 1) using Tracking to more clearly articulate what we mean by 'resistance' in our review.

Minor Essential Revisions:

3) In the Conclusion section, I wondered if the authors might like to provide some guidance or recommendations to potential users of their review? Rather than recapitulate in such detail the sections above, policy and decision makers (for example) may find helpful some of the insights the authors have gleaned and reported in the discussion section of each inferred mechanism. This I felt would make the manuscript more 'policy relevant'?

We have substantially redrafted the Conclusion to provide better guidance to potential users of our review to make it more relevant to policy makers. The rewritten sections are in Tracking on pp. 45-48.

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MAJOR REVISIONS ON CLARITY OF METHOD

(i) Realist review and review components and methods
The paper states that it is reporting on a realist review. Realist reviews tend to unpack possible mechanisms that could account for the effect of some policy or more specific intervention and then assess the evidence for or against the effects or relevance of these mechanisms (Pawson et al 2005). I believe realist reviews to be a very important development in response to the rather theory light 'black box' hypothesis testing by some systematic reviews.

Many people describe their reviews a realist reviews but there is not total clarity about what is or is not a realist review. There are plans to create methods
We have addressed the lack of standards and guidance for realist reviews on p.10 (para 1) using Tracking and provided two additional references. We have also amended the limitations section on p. 42 (para 1) to reflect this feedback and added a reference.

We have briefly provided additional information on how we derived the search terms and how the iteration was applied using Tracking on p. 13 (para 1).

We agree with the reviewer’s comments on the filtering of studies and have clarified how the inclusion criteria were progressively applied in a new paragraph using Tracking on p.17 (para 4).

We have provided an explanation for this decision to exclude views studies with less than 15 participants on p. 17 (para 3) using Tracking.

We agree with the reviewer’s comment and have provided a statement to clarify why we were

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<th>standards for realist reviews (Greenhalgh et al 2011) so this may clarify things. In addition, there are many reviews that are theory driven complex reviews that donot use the realist review terminology. We therefore can not assume the specific methods from the stated type of review and so it is important that the particular methods are specified in any reporting. I think this is most easily done by considering the aims, components and methods of those components (Gough et al 2012). In the current review, the aim is to assess approaches to behavioural HIV prevention with immigrants. The main components of this review is: (i) a conceptual (configuring) synthesis of the theories (proposed mechanisms) for why an intervention might or might not be effective; followed by (ii) a series of seven sub-reviews testing (aggregating) the empirical evidence for these mechanisms to work in practice. My comments are mainly about the clarity and in a few places, the fitness for purpose of these methods.</th>
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| **(iii) Searching for studies in the conceptual synthesis**  
Clarity of reporting of searches:  
It seems that the review developed a search strategy to identify studies for all stages of the review that was predominantly a priori but involved some iteration. The PRISMA statement attached to the paper says that the search strategy is reported but this seems to be only referring to the topic area, type of study methods (intervention and views studies), main database sources and the controlled terms (within the bibliographic databases) of the included studies. The actual search terms or the way that iteration was applied in practice does not seem that clear. The accompanying files does have a PRISMA diagram of the filtering of studies through the review process but this only shows numbers rather than the judgements that were being made at each stage.  
Fitness for purpose of searching (page 11 onwards):  
The aim of the conceptual synthesis was to locate mechanisms by which HIV prevention for immigrants are effective (and threats to their effectiveness). It is not clear to me why the search strategy would be just for intervention or views studies or that views studies are better with more than 15 participants (page 15). Surely, other conceptual qualitative studies would be equally if not more |
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relevant? Later the paper also says this: “Pawson [66] asserts that as the prime focus is to explore underlying theories of programs (rather than the programs themselves), a wider range of primary studies may be relevant to the analysis and synthesis.” (page 15).

The search strategy was developed by identifying the controlled terms (in databases) of some studies known to fit the inclusion criteria (page 11). Although I can understand the logic (and the reference to support this approach is by one of my ex colleagues!), there are surely dangers that you will only find studies like the ones you know and the search strategy is unlikely to surprise you with unknown types of studies that meet the inclusion criteria. The review also states that searching of databases “... was supplemented by a Google Scholar search to enhance the possibility of picking up ‘grey’ literature.” (page 11). But surely, Google Scholar is focused on academic publications. Grey literature might be best found by a wider standard Google search?

A suggestion is made to ...” urge others undertaking a review of this kind to Consider expanding the search terms and to carry out a single search on each database for intervention and views studies.”. This could be described as undertaking a broad systematic map from which two synthesis reviews are undertaken.

(ii) Conceptual synthesis
Clarity of reporting of conceptual synthesis:
The synthesis identified seven activities by which HIV prevention interventions more aimed to be more ‘culturally appropriate’ (‘staffing’, ‘language’, ‘content’, ‘ethnic diversity’, ‘settings’, ‘community consultation’ and ‘priority setting’) and seven theorised mechanisms (authenticity, ‘understanding’, ‘consonance’, ‘specificity’, ‘embeddedness’, ‘endorsement’ and ‘framing’). The lists of these activities and mechanisms are repeated several times throughout the report. The aim of this repetition may have been to enable clarity, but for me as a reader, I found the repetition confusing.

Fitness for purpose of conceptual synthesis:
I understand that the identification of these activities and mechanisms is an iterative interpretative process yet I would have liked more information on contrasting or alternative conceptions.

We have addressed the reviewer’s comment about the known studies (which did not in fact meet our inclusion criteria) and how we purposively aimed for a variety of studies using Tracking on p.12 (para 2)

We have addressed this comment by clarifying how our Expert Reference Group was consulted on the proposed databases and our overall search strategy for ‘grey’ literature and amended the manuscript using Tracking on pp.11-12

We have amended to Results section to decrease the repetition of these terms in the report and shown these changes in Tracking. We have also made minor edits to Additional file 10 to reflect this feedback.

We have addressed this comment in a new paragraph in the limitations section on p. 42
(iii) Quality appraisal and testing of evidence for mechanisms  
Clarity of reporting:  
Reference is made in the text to frameworks of quality appraisal but few details are given. Also, tables are given for basic data coding from studies and judgements as to the extent of evidence in support of each mechanism from each study. I understand that the process is interpretative and interpretative but as a reader I had little idea of how this was done in practice to lead to statements such as: “The strong evidence to support this theorised mechanism was consistent across the intervention studies and the views studies indicating the pivotal role of this mechanism in behavioural HIV prevention at group and community levels with a focus on ‘shared values’ to deepen the symbolic understanding of the intervention.”. It is clear that many studies referred directly or indirectly to the mechanisms but what was the nature of the evidence that supports the review authors’ conclusions about these?

(iv) Conclusion  
In sum, my main feedback on the review methods is that they are difficult to appraise them due to a lack of detail or clarity in the paper. I can see three possible reasons for this.  
First, as the review is a broad multi component review examining both causative mechanisms and empirical evidence for their relevance or impact, it is not surprising that the review is complex and difficult to clearly describe in a paper. I sympathize with the authors but I think that it could be much clearer.  
Second, the review took an inclusive approach and so contained a breadth of studies covering many activities, mechanisms and contexts. This can be difficult to summarize except n very broad ways.  
Third, the review contains eight sub-reviews. As reviews are limited by the resources available, it would not be surprising if the breadth and multiple components of this review had resulted in stretched resources. The effect would be much less resource for each sub-review than you would normally have available for a single review. Congratulations for the authors for achieving so much but if there was limited resource for each sub-component then maybe this should be clearer.

We have added an additional file (Additional File 8) from the larger unpublished report which provides more detailed information on the steps taken in our interpretative approach in practice and amended the text on p. 19 using Tracking to refer to this Additional file.

We have addressed these comments in a new paragraph in the limitations section on p. 43