Author's response to reviews

Title: Documenting the experiences of health workers expected to implement guidelines during an intervention study in Kenyan hospitals.

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Version: 4 Date: 1 May 2009

Author's response to reviews: see over
Responses to Reviewer 2 (Second round of reviews)

Given that the authors have chosen to adopt a theoretical framework (as opposed to analysing the data using a fully ‘emergent themes’ approach), I think further improvements can be made in terms of identifying how these frameworks were used to develop the study materials and how the analysed themes map on to the theoretical constructs, domains and levels. I have made more specific suggestions in the sections below.

[Authors] – we have we feel used much more of an emergent themes approach rather than applied a theoretical framework although as now indicated our ‘emergent themes’ may have been constrained by consideration of several theoretical perspectives.

The Conclusions section appears to be a summary of the results rather than a set of Conclusions. It is helpful but could go further in answering the “So what?” question. From the authors’ extensive experience in delivering this intervention and investigating the perceptions of those to whom it was delivered, they are now in a strong position to make recommendations for (i) further exploratory research, (ii) enhanced interventions and (iii) the theoretical frameworks that might be most relevant to this context. I would thus welcome a more speculative – and even visionary! – statement in the Conclusions section.

[Authors] – we have taken the reviewer at their word and provide a new conclusion exercising our prerogative of speculation. Our initial hesitance was I think related to not feeling very expert in this broad topic, but we are beginning to suspect that no-one is and that we should be less cautious.

“For several decades international bodies such as WHO and national governments have produced guidance on expected best practices. However, there appears to have been almost no consideration given to implementation of best practice other than the provision of printed materials and training courses, well known to achieve little by themselves. Despite ‘improving health systems’ being a common, current mantra how this is actually to be achieved is rarely articulated in terms of practical approaches. Our findings and wider experience suggest that some apparently simple interventions that may help include: establishing accepted and realistic standards of care at facility levels (including orienting new staff to standards); a clear indication that reaching standards is valued using mechanisms such as supervision and recognition; identification, recognition (including promotion) and delegation of authority to practice leaders; developing team-based management and non-confrontational means of addressing errors and non-performers; and, identification and elimination of critical resource ‘bottle-necks’. Learning how to implement and optimize changes and future research might benefit from
the disciplines of organizational management as well as behavioral sciences. Rural Kenyan hospitals are complex, are likely to be similar to those in many African settings, and our understanding of them is currently at the ‘blank-sheet’ stage. A focused, multidisciplinary approach might usefully benefit thousands of current health-workers and millions of patients by filling this blank-sheet with a radical re-design.”

Major Compulsory Revisions
1. Table 1 is confusing. It appears to present “elements” or components of the intervention (Page 5) and “mechanisms” of change (Page 5), but the Table title refers to “aims” of the intervention and “envisaged barriers” to achieving the aims. I am unclear who envisaged these barriers. Are they barriers to delivering the intervention or barriers to implementing evidence-based care? Are the barriers the results of the interview study or the result of research team discussion? If they are study results, it would be better to report them as a separate table in the Results section. If Table 1 refers to the delivery of the intervention it would be better to re-structure it, perhaps under the following Column headings: Behaviours targeted for change; Intervention components; How they were delivered; Theoretical domains (or constructs) that each component is proposed to influence (i.e., mechanisms of change).

[Authors] – we have extensively revised Table 1. The main purpose of this table is to indicate what the research teams’ a priori beliefs were at the onset of the study about ways in which the intervention might work to promote uptake of new, best-practices at different levels. These ideas were based in part of an eclectic reading of the implementation and quality of care literature and more than 10 years experience in working with the Kenyan hospital sector. They were not, in honesty, based on a systematic nor in-depth consideration of the theoretical social, management or psychological literature which would have been, and remains, beyond us.

2. The study tools (Page 6) were informed by the Theory of Planned Behaviour and the Theoretical Domains reported by Michie et al ((2005). I take it that these study tools consisted of the interview topic guide. This guide should be uploaded as an additional file and readers would need an explanation precisely how it was informed by these theoretical frameworks. If the frameworks were used not to inform the topic guide but to inform that analysis, this would be acceptable but should be made clear.

[Authors] – we have tried to make it clear that (as amateurs!) we used insights from the literature to develop the interview guide but that we did not adopt a particular theoretical framework at this stage. Similarly we did not base our analyses on a single theoretical approach, our aim was to provide a description that represented the views of health workers but we would not have been able to divorce our thinking completely from our prior opinions or understanding. To convey these messages we have outlined, we hope more clearly, in the section on ‘General Study Approach’, what the process was:
“At the onset of this study we had a relatively simple concept of how we hoped the intervention’s components might act, through a variety of mechanisms, to promote uptake of new, best practices in study hospitals through influence at levels crudely characterized as: the hospital administration, hospital departments or teams, and the individual (Table 1). These initial concepts were informed by the considerable experience of some authors of working with rural Kenyan hospitals and insights from a variety of perspectives in the literature on health systems, quality improvement, guideline implementation, and behavioural research {Grimshaw, 2004 #23} {Hardeman, 2002 #20} {Michie, 2005 #21} {Rowe, 2005 #25} {Berwick, 1996 #17} {Franco, 2002 #30} {Oliveira-Cruz, 2001 #31} {Blaauw, 2003 #32} {Massoud, 2001 #33} {Ajzen, 1991 #16}. Based on these perspectives we aimed in initial work, reported here, to focus on the uptake of the new guidelines from the perspective of those health workers expected to use them. We did not adopt a specific theoretical framework to guide data collection. Instead we were interested in exploring, broadly, barriers to uptake or implementation of new practices experienced by health workers in their hospital contexts while we planned to explore views on supervision, feedback and training later in the course of the 18 months intervention (reported in Nzinga, J, et al, submitted).”

3. Given that the analytic approach corresponds to ‘framework analysis’, then instead of creating category labels, you could use labels indicated by the theoretical frameworks that the study is based on (i.e., either the TPB or the Theoretical Domains) and then also, as you have done, identify any data that was not covered by these categories. This would avoid the problem, in the reported analysis, of creating common sense labels that duplicate the labels proposed by the theoretical frameworks. Furthermore, the label “negative outcome expectancy” (page 12) is not a common sense label; it reflects a theoretical construct from Social Cognitive Theory, which is not one of the theories on which the study is based. I would thus recommend that the authors reconsider the labels used for the 10 themes reported in the Results section.

[Authors] – As it stands we did not really do a framework analysis. It was our intention to draw out from the responses the major perceived barriers without imposing any structure on the data. However, as illustrated above, our way of looking at the data is likely to have been influenced by our thinking going into the work. We have acknowledged this limitation in the methods but would prefer to continue with the 10 major themes identified as the best representation of the health workers’ opinions. We have however, renamed the original theme “negative outcome expectancy” referring to it now as: Absence of perceived benefits linked to adoption of new practices.

4. In the Discussion section (page 12) the authors begin to map the results onto the labels of the theoretical domains but “self-efficacy” is a theoretical construct, not a theoretical domain. (This should be “beliefs about capacities”.)

[Authors] – We thank the reviewer for the correction and have amended the text in line with the comment:
“In particular, many of the themes identified resonated with those defined as useful for investigating implementation by Michie, et al, including: knowledge and skills, self-standards encompassing professional identity, beliefs about capabilities, beliefs about consequences (outcomes), motivation and goals, environmental constraints, social influences and nature of the behaviours (breaking habits){Michie, 2005 #63}.”

**Minor Essential Revisions**

5. The Introduction contains several instances of wording that I found puzzling and this became somewhat distracting. I have listed these below and suggest that these be reworded if possible:

   a. Page 4: “adopted by rational health care practitioners” (as opposed to irrational health care practitioners?)

   **[Authors]** – the wording has been revised for clarity:
   “then it should be adopted by health care practitioners wishing to improve patient outcomes”

   b. Page 4: “EBM has been widely adopted in theory” (better to say ‘endorsed in theory’, as adoption implied action which is inconsistent with ‘in theory’) 

   **[Authors]** – the wording has been revised as suggested:
   “Although EBM has been widely endorsed in theory”

   c. Page 4: “these are endorsed” (the referent for ‘these’ is unclear but appears to be ‘children and newborns’) 

   **[Authors]** – the wording has been revised for clarity:
   “hospitals have not adopted WHO guidance on best-practice in the care of children and newborns, although such guidance has been endorsed by the Kenyan Ministry of Health”

   d. Page 4: “through the introduction of best-practice guidelines” (sentence structure suggests that the intervention consisted of this ‘introduction’, but this feels inadequate as a description of the intervention) 

   **[Authors]** – the description has been expanded to encompass the extent of the intervention while trying to remain concise:
   “We, therefore, planned an intervention study aimed at improving care for seriously ill children and newborns admitted to Kenyan government district hospitals through facilitated and supervised introduction and reinforcement of best-practices following training and introduction of evidence-based guidelines.”

   e. Page 4: I am not sure what a “job aide” is. 

   **[Authors]** – we now provide a brief description of the job aides:
   “1) the development of the evidence based clinical practice guidelines (CPGs), job aides (standard medical admission record forms, guideline booklets and wall charts)”
6. The first paragraph on Page 5 (commencing, “the starting plan”) would fit better in the Introduction than Methods, as it further describes the rationale of the study rather than what was actually done.

[Authors] – we have as suggested moved this paragraph to the introduction.

7. On Page 5, the citation style changes and this should be changed to be consistent with the journal’s requirements.

[Authors] – we have we hope standardized the citation style.

8. On Page 5, under ‘General Study Approach’, the text slips into the language of causation at “to identify the … experiences … that influence…”. This should be changed to “reported to influence” or “thought to influence” or “may influence”.

[Authors] – the wording has been revised as suggested:

“Given our intention to identify the nature, type and range of experiences health workers have that are thought to influence their adoption”

9. I read the main text first and then the Abstract (which helps me to identify correspondence between the Abstract and the main text). Some information in the Abstract was very helpful, but surprising, and I had not noticed this in the main text. It would be helpful to ensure that the following points are represented in the main text (or presented more clearly):

a. The study reported here was conducted in the “early phase” of an intervention study. Greater clarity is needed in the Methods section about what this means and precisely when the interviews were conducted in relation to the delivery of the intervention.

[Authors] – the wording has been revised to indicate at what point in the intervention data were collected:

“The data collection was undertaken in March 2007, approximately 4-5 months into the 18 months intervention project whose beginning was marked by the provision of a 5.5 day training for approximately 32 staff in each of the hospitals to introduce the CPGs.”

b. Results were discussed with “four … within-hospital facilitators”. The Methods section did not report that there were four. I assume these facilitators were the people who delivered the intervention but this could be made clearer.

[Authors] – the wording has been revised to provide a clearer description of the facilitators:

“Preliminary analyses and interpretations were then the subject of a meeting with the one local, ministry of health employed, health worker (3 nurses and 1 clinical officer) selected by the four hospitals from amongst their own staff to act as their facilitator.”
10. At Page 6, I do not understand the text at “beliefs about outcomes attributable to the guidelines”. I think the authors mean “beliefs about consequences that might follow the performance of guideline-recommended behaviours”.

[Authors] – the wording has been revised as suggested:
“beliefs about consequences that might follow use of the guidelines.”

11. At Page 7, what is meant by “interview [transcripts] … were cleaned”? Were they anonymised?

[Authors] – we have removed the words implying the interview data were cleaned.

12. On Page 15, the last complete is unclear and would benefit from re-wording.

[Authors] – we presume this comment was related to the last quote. This has in fact now been removed as the point is adequately made in the text.

13. Re-wording would also be helpful on Page 16 at “What developing countries studies have been done…”

[Authors] – The wording has been revised for clarity.
“The developing countries studies that have been done”

Discretionary Revisions
14. On Page 16, the discussion of the reluctance of clinical officers to accept change could potentially fit into a consideration of the literature on the influence of “experts” and the way they process new information.

[Authors] – Given the length of the piece already we have not expanded the discussion around this topic – the role of clinical officers is being addressed in current work to form a PhD thesis.

In summary, I apologise for this long list of suggestions but I hope the authors can see that I found this study to be extremely interesting and the manuscript to be well written in a way that was very engaging. I recommend publication of this paper in Implementation Science if the authors are able to make the suggested changes.

[Authors] – We found the comments helpful and thank the reviewer for what we hope is an improved manuscript.

Level of interest: An article of importance in its field