Author's response to reviews

Title: Explaining the effects of a multifaceted intervention to improve inpatient care in rural Kenyan hospitals - interpretation based on retrospective examination of data from participant observation, quantitative and qualitative studies.

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Author's response to reviews: see over
To: The Editors,
Implementation Science

25<sup>th</sup> September 2011

Re: Explaining the effects of a multifaceted intervention to improve inpatient care in rural Kenyan hospitals – interpretation based on retrospective examination of data from participant observation, quantitative and qualitative studies. Mike English et al

Submitted 13<sup>th</sup> May 2011.

Dear Colleagues,

We have revised our manuscript in the light of comments made by the reviewers and are pleased to note they felt it was an important contribution to an emerging field. A detailed summary of the responses and changes to the manuscript is supplied in the accompanying pages.

As publication of this work is an important step in current efforts to gain funding to support continued work in this area we hope the editorial team can provide a rapid decision on the outcome of this resubmission.

Yours sincerely,

Dr. Mike English, on behalf of all authors.
Manuscript:
Explaining the effects of a multifaceted intervention to improve inpatient care in rural Kenyan hospitals – interpretation based on retrospective examination of data from participant observation, quantitative and qualitative studies. Mike English et al

Response to reviewers comments

Reviewer 1.

Comment 1:
This is a careful, balanced account of a retrospective attempt to answer a very relevant question: 'Why did performance assessed as uptake of, or adherence to recommended best practices vary, often dramatically, between practices (for which performance indicators were developed), between hospitals and between the full and partial intervention groups?' (p.5-6 in my manuscript).

The authors are very careful not to ‘overstate’ their case; if I had been in their place, I probably would have used a bolder tone. In my opinion, this kind of publications is very much needed, and I would endorse publication wholeheartedly.

Authors’ response
We are grateful for the support for publication.

Comment 2
On p.7-8: Consistent with our analytic approach we find that the normative-reeducative approach and aspects of the intervention that were sustained throughout the eighteen months period, considered as operating at different organizational levels, are important in determining performance measured as correct care.
One or two examples would be enlightening.

Authors’ response
We have now added an example as requested (p8 para 1):
For example, during initial training international and national guidelines on prescribing of intravenous fluids for severe dehydration in children were provided and presented. Clinical and nursing staff learned together about this guidance and worked in groups in simulations of real practice how to prescribe fluids in a correct fashion during the training. Also presented during the training were results of baseline surveys indicating how far a hospital's actual practice was from good practice while trainees personally evaluated hospital practices during facilitated audit sessions as part of the course. In this way knowledge and some desire for better practice – setting a new norm - was promoted amongst an important group of hospital staff, those actually providing care. At the same time baseline survey data were presented and discussed with hospitals’ senior staff and administration, the desired standard of good practice was made clear and the role of the supervisory process – to help support improvement – was explained. In a meeting engaging clinicians, nurses and administrators an action plan for change was developed. During subsequent hospital visits the extent of the improvement (focusing on positive change) was discussed at all levels with the focus on key practice changes such as prescription of intravenous fluids while throughout the intervention period the local facilitator also made efforts to promote better practice in such key areas.
Comment 3
On p.8: under the heading ‘External supportive supervision and local management’
I am not opposed to the content of this paragraph, but it would be possible to further ‘deconstruct’ the argument in the following sense: ‘supportive supervision’ actually results from supervisors willing to be supportive and actually managing to be so. One could say that this depends on 3 elements: (1) the supervisors’ purpose and attitude; (2) the supervisees’ purpose and attitude; (3) the process of supervision (the ‘how’). If the authors have more details about these elements, they might consider ‘deepening’ this section somewhat.

Authors’ response
This is a useful comment and we have revised the section on supervision in response (p9 para 1): Further effects of supportive supervision were dependent on additional mediating factors that can be characterized as: the supervisors’ purpose, focus and attitude that enabled the development of relationships; the supervisees’ willingness (reflecting their purpose and attitude) to support the evolving relationship and their own leadership or supervisory skills required to foster change; how support was provided; and, the credibility provided by basing feedback on careful evaluation of actual, local practice. Thus supervisors had some discretion in the selection of major targets for improvement but were encouraged to adopt an approach based on praise and positive reinforcement for achievement, to foster a sense of organizational and personal efficacy in hospitals, while trying to avoid the demotivation or defensiveness that can result from a focus on inadequate achievement. At the same time hospital managers and staff were having to contend with competing priorities, for example needs of other patient groups or programmes, and reconfigure internal social relationships to better support change from the existing status quo.

Comment 4
On the same page, box 3 is mentioned. Looking at box 3 (on p.21 in my manuscript), I think the last paragraph is somewhat out of place. Box 3 would be more homogenous without it.

Authors’ response
The last quotation has been removed

Comment 5
On p.11 there is a sentence that for me is ambiguous: ‘However, the design implications of mixing methods and approaches to integrating findings are challenging [33] with perhaps few groups in low-income settings, including ourselves, claiming real expertise.’
Do the authors include themselves among the ‘few groups claiming real expertise’ (which seems to be the literal meaning of the sentence) of do they want to position themselves (too?) humbly among the doubters?
Authors’ response
We had included ourselves in those with limited experience but have revised the sentence in question for clarity and to make a more direct point (p11, last para).

However, the design implications of mixing methods and approaches to integrating findings are challenging [33] with a need for support to develop these methodologies and share experiences in low-income settings.

Comment 6
A detail in Box 1 (p.19): ‘The package for partial intervention or control sites (H5 to H8) included 5 components: (1) 6-monthly surveys with written feedback only, (2) provision of clinical practice guidelines and job aides, and (3) a 1.5 day initial guideline seminar for approximately 40 hospital staff.’
I can count only 3 components, not 5

Authors’ response
We have corrected this sentence (Box 1)

The package for partial intervention or control sites (H5 to H8) included 5 components: (1) 6-monthly surveys with written feedback only, (2) provision of clinical practice guidelines (3) job aides, and (4) wall charts and (5) a 1.5 day initial guideline seminar for approximately 40 hospital staff.
Reviewer 2

Comment 1
1. Question well defined. The authors have made it clear what he study is aiming to do, and provided sufficient information to allow readers to understand that the study is using data collected from previous studies to respond to an hypothesis generated to explain variations in intervention effects

Authors’ response
No change required

Comment 2
2. It is initially not so easy to work out what is happening in the methodology. This is partly because the methods section starts with a long and important explanation about the methods of the previous base study and it merges into the methods for this study. It may be useful to rewrite this section so it is very clear up front what this study is doing, and why this is a unique approach, and follow it with the background explanation. Worth also keeping the language very clear and free of metaphors, side comments on expressions etc. It is useful to have the theoretical constructs underpinning the analysis outlined but the summary is very intense with a range of theoretical issues and options all brought together into a somewhat unclear analytical package. The paper may benefit from a less packed commentary on theoretical positions and more clarity on how theoretical positions were used to understand, interpret, test and report data. The authors do note that they were unable to return to the original sites to test the theoretical frameworks

Authors’ response
We note that the first reviewer did not share this concern. However, we have attempted to make this section more clear by providing a short introduction (p4 last para).

In this section we will first summarise the purpose of original data collection and discuss how its subsequent use fits in with evolving debates on mixed and multiple methods research approaches. We will then articulate our specific approach to use of these data to address our goal of understanding the effects of an intervention. We feel that the use of metaphor actually helps depict the fact that even in data collection there was perhaps cross-influence when addressing specific research topics. We also feel that our text contributes to and extends the metaphor developed by O’Cathain in a recent piece of work trying to explain approaches to mixed methods. We have therefore not changed this text but will do so if the editors feel it to be appropriate.

We have however made several changes to the text describing how we identified initial explanations and what may have influenced this process to try and make our analytical strategy clearer, in particular indicating that we did not start with a specific conceptual framework but rather allowed explanation to emerge from our understanding tested against the data we had (p5 last para)

We did not employ a specific conceptual framework as a ‘lens’ through which to examine the data available. Instead, we took advantage of the fact that we had been immersed in the design, conduct and examination of a body of work and the Kenyan context within which such work was being done to propose our own initial explanations for intervention effect. However, throughout this work initial hypotheses were likely influenced by the theoretical positions of the team. These in
turn were likely informed by the simple, original ‘layered’ conceptual framework that formed the basis for the intervention study [21] and multiple theories we had examined before and while conducting our work on factors influencing health care provision including, for example: diffusion of innovations[39]; barriers to uptake of guidelines[40], the theory of planned behavior[41], motivation and worker performance  [4, 42, 43], clinical Microsystems [44], organizational culture and transforming systems [17, 45]. We recognize that our initial hypotheses are likely influenced by this body of theory and knowledge available to the research team. As we developed our framework for understanding the effects of the intervention we recognized that data from the highest system or policy level were not collected, a potential limitation in our development of explanatory theory. Finally we have not tested our ideas or the framework developed by returning to the original hospital sites to discuss them with staff nor have we evaluated its ability to explain other interventions. We thus offer a form of mid-level theory [46] relevant to the hospitals and form of intervention studied, but one that would need additional scrutiny before any wider value is confirmed although we have ‘mapped’ our intervention and those factors related to its achievements against the consolidated framework for advancing implementation science [47] (see appendix file 1).

3. data are sound and well controlled as far as is possible given the nature of the study and its use of data generated for the founder study. Data are really important., the whole area needs much more exposure and this paper is an excellent start in drawing attention to what many people have known for some time but not adequately dealt with in workforce development.

Authors’ response
We thank the reviewer for this positive comment

4. Manuscript does adhere to the relevant standards for reporting and data deposition.

Authors’ response
No change required

5. Discussion and conclusions are well written and balanced., There is a wealth of data available and the authors have done well to present it in an accessible form. It would be useful to include more commentary on McPake’s paper (55) and perhaps reflect on her model of dynamic change as in the light of the current findings as McPake does provide additional thinking in the area of workforce decision making and action.

Authors’ response
We are conscious that our paper is already long. We also feel the focus is on both presenting an approach to using a broad body of data and the actual findings. While we have tried to place this work within a broad and diverse set of literature we were not intending our manuscript to be a discussion of this wide literature. We have therefore not added additional text to discuss the implications of one (or other) model of change. If the editors feel this is necessary we will, however, extend the discussion to accommodate the reviewer’s suggestion.

Comment 6
6. title and abstract do reflect the content of the paper
Authors’ response
No change required

Comment 7
7. Writing is acceptable. A little dense at times, which makes it more inaccessible than it needs to be, for example “A normative re-educative intervention approach evolved that sought to rest norms and values concerning good practice and promote ‘grass-roots’ participation to improve delivery of correct care”.

Authors’ response
We have tried to utilise the language common to the disciplines drawn on, keep things as simple as possible and keep the manuscript to a reasonable length. We are happy to take advice from the editors on sections of text that could be improved / expanded.

Comment 8
8. No major compulsory revisions, though I personally would suggest that the methods section be rewritten so that it has a clearer flow and readers know exactly what the methods for this study are, they get a bit lost with the methods of the founding study.

Authors’ response
The reviewer had suggested changes above that we have tried to accommodate

Comment 9
9. Minor revisions: A few times I was not sure whether there was a typo or whether the sentences were exactly what the authors wanted to say (ie as in previous quote, did the authors meant to use the word “rest” – possibly or possibly not? Its an odd though not impossible construction.

Authors’ response
The word rest was an error and this has been corrected to read ‘reset’. We have looked for and tried to correct other typographical errors.

Comment 10
10. Discretionary I would recommend a more nuanced comment on the business and HR literature around workforce development. Also making language more accessible

Authors’ response
As above the purpose of this manuscript was not a full discussion of the business or HR literature that would require a considerable extension of the manuscript and divert attention from the main purpose of the piece which is to try and explain why we feel a complex intervention worked / did not work.