Reviewer's report

Title: Functions of behavior change interventions when implementing multi-professional teamwork at an emergency department: a comparative case study

Version: 1 Date: 31 January 2014

Reviewer: Andrea Patey

Reviewer's report:

Manuscript # 1954087560115965

Title: 'Functions of behavior change interventions when implementing multi-professional teamwork at an emergency department: a comparative case study'

Authors: Mandus Frykman, Henna Hasson, Åsa Muntlin Athlin and Ulrica von Thiele Schwarz

Journal: BMC Health Services Research

Type of article: Research article

Reviewer: Andrea Patey

Reviewer's report: The authors report the development and evaluation of a complex intervention in a comparative case study design. The intervention targeted improving teamwork within a general surgery team and internal medicine team, both working in an Emergency Department. Using a mixed methods approach of, observational work, interviews and evaluation of documentation, the authors provide a complex yet comprehensive evaluation of implementing behaviour change interventions in two enormously complex healthcare settings.

Overall, this is a complex and sophisticated piece of research. For the most part, the rationale, design, and analytical approach taken are described thoroughly, in an appropriate level of detail. The authors acknowledge that there are a number of behaviours being evaluated and each one could rationally require its own intervention. I commend the authors for undertaking a complex study whereby an intervention for a very complex behaviour (improving teamwork) is designed, tested and evaluated in a theory-based manner. However, there are some elements of the present manuscript, which I feel require further clarification and consideration at this stage:

Major compulsory revisions:

1. Description of the Intervention. After reading the methods section of the manuscript I struggled to understand what the Behaviour Change Intervention
was for the two groups. As replicability is an important component of intervention design it would be helpful for the authors to provide a more detailed description of the two interventions the groups developed, either as a table or a protocol in the Additional Files. The authors clearly report the deliverability of the intervention via observations and the participants’ opinions of the intervention in the results section but the article could be improved with a more clarity (detailed description) of the teamwork intervention itself.

2. While the authors are detailed in reporting observation and interview findings, it is bit unclear at this point what was included in the intervention documentation. The manuscripts would benefit from reporting the authors’ evaluation of the intervention documentation, even if the Documentation was poor.

3. In the Introduction the authors mention that the D-COM is a model often used to evaluate the Applied Behavioural Analysis that is grounded in Skinner’s Theory of Operant Learning / Operant Conditioning. In the Discussion it is unclear how the findings, as coded onto DCOM, map back to ABA. As someone who is familiar with Operant Learning Theory but not necessarily DCOM, it would be helpful to how antecedents and consequences are reflected in the findings (as described by Capabilities, Motivation, Opportunity, Direction) and what that means for behaviour change. This was partially done in the Discussion, but the authors reflected more about Social Cognitive Theory (anticipated consequences, Self-efficacy and Intention (motivation)) may explain their results and less about antecedents or consequences.

4. Have the authors consider the applicability of this type of intervention in other complex clinical settings?

Minor Essential Revisions:

1. The text formatting of the behaviours measured varies throughout the manuscript. In the Data Collection section of the Methods they are just listed. However in the results they vary from having quotations around them to being italicized, with some having been numbered. This inconsistency makes it difficult to follow the evaluation of the behaviour throughout the manuscript.

2. In the data collection of the Methods the authors refer to ‘degree of performed teamwork behavior’ as ‘implementation fidelity’. I would suggest that what they really mean is ‘delivery fidelity’ as implementation fidelity is a higher-level concept that incorporates delivery as well and other factors (acceptability, feasibility, etc). I also wonder if the ‘degree of performed teamwork behavior’ how the intervention was implemented or if it is an outcome measure or the intervention. This question may be clarified by a more thorough description of the intervention.

3. In Figure 2: I am assuming that the 1-5 numbering system reflects the behaviour measured. Due to lack of clarity as described in the previous point, this was not initially clear. Either a legend or indication in the text would be helpful.

Discretionary Revision:
1. The Authors mention the COM-B by Michie et al. in their Introduction and their rationale for using the DCOM for theorizing the effective components of the intervention as the intervention is targeting the organizational level. I wonder if the authors discussed using the BCT Taxonomy as a method of coding/describing the intervention, to allow for the intervention to be applied in other complex clinical team environments as well as making it clearer to the reader what the interventions entailed.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests