**Author's response to reviews**

**Title:** Facilitated interprofessional implementation of a physical rehabilitation guideline for stroke in inpatient settings: process evaluation of a cluster randomized trial

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July 1, 2017

Re: Revision and resubmission of IMPS-D-16-00658 entitled: Facilitated interprofessional implementation of a physical rehabilitation guideline for stroke in inpatient settings: process evaluation of a cluster randomized trial

To the Editor and Reviewer:
Thank you for your comprehensive review of our manuscript. We have used track changes to highlight revisions in the manuscript that we have made to address the reviewer’s comments. We have provided a detailed response to each of the reviewer’s comments below and indicated the page number to locate the corresponding revision in the manuscript.

1. Page 8, line 147 should read ‘than observed’ rather than ‘that’.

Response: This change has been made (Page 8, line 148).

2. The authors describe the cluster RCT used to evaluate the multicomponent implementation intervention, the main results from the trial and that the aim of this process evaluation. The aim of the paper is clearly written in the abstract and less clearly so at the end of the background (page 8, lines 150-154).

Response: Thank you for this feedback. We have revised the statement of the study objective at the end of the background to align with the wording in the abstract. It now reads:

“This paper presents the results of a quantitative process evaluation designed to evaluate the type and number of recommended treatments targeting upper extremity (UE) and lower extremity (LE) motor function, postural control, and mobility implemented by stroke teams in each group.” (Page 8, lines 152-155) Please see point 4 below for additional revisions to this section.

3. Methods: The authors discuss their use of self-report checklists for therapists and nurses to understand how the implementation of guideline recommendations influenced outcomes across sites, supplemented by contextual information, with the main outcome being a ‘change in the percentage of patients for which inpatient stroke teams implemented 18 recommended treatments pre-to-post intervention’ (page 9, lines 182-3). How was this contextual information (e.g. rehabilitation unit location, stroke patient volume) collected?

Response: This contextual information was collected using a site readiness checklist following recruitment. We have revised the Data Collection section to read:

“Following recruitment, site representatives were asked to complete a site readiness checklist that required them to provide information on the language of documentation (English/French), university affiliation (full/partial or none), rehabilitation unit location (freestanding/integrated with a general hospital), and stroke patient volume (expected number of stroke patients/year).” (Page 10, line 187-192)

4. Furthermore, the authors do not report on any findings from qualitative data as part of a mixed methods evaluation strategy, which I would have expected if they want to understand and interpret how the implementation process potentially influences outcomes. On page 12, lines 232-3 it is stated that clinicians were invited to share by email their ‘experiences about the trial outcome measures’ but this is not reported in the paper.

Response: We agree that the use of qualitative methods is part of a comprehensive plan to evaluate complex interventions such as the knowledge translation interventions applied in
SCORE-IT. We did use qualitative methodology as part of a planned process evaluation to understand the factors influencing the implementation of the recommended treatments and KT interventions from the perspective of nurses, occupational therapists and physical therapists, and clinical managers following completion of the trial. The manuscript reporting the qualitative results has just been published in the journal BMC Health Services Research (see ref 28, Munce et al.). We have revised the background section as follows to indicate that a mixed methods process evaluation was planned and that results of the qualitative process evaluation have been published (Page 8, lines 150-157).

“A mixed methods process evaluation was planned to help explain the results related to patient outcomes. This paper presents the results of a quantitative process evaluation designed to evaluate the type and number of recommended treatments targeting upper extremity (UE) and lower extremity (LE) motor function, postural control, and mobility implemented by stroke teams in each group. A qualitative process evaluation exploring nurses’, therapists’, and managers’ experiences with SCORE-IT has been recently published [28].”

5. In addition, no justification for eligibility criteria for the sites is given page 9, lines 166-69).

Response: Thank you for this comment. We have added the following statement to the Eligibility and Recruitment section to provide a justification for the site eligibility criteria (Page 9, lines 177-179). Information provided in the background about the context for stroke rehabilitation guideline implementation further helps to justify the site eligibility criteria.

“Sites with these characteristics were targeted as the treatment recommendations were developed for implementation primarily by nurse, PTs, and OTs in an inpatient rehabilitation setting [13].”

6. In the data collection section, it is also not clear why a self-reported checklist was viewed as an observation (page 10, lines 196-7).

Response: We agree that this information is confusing so we have deleted this comment (Page 11, line 208-209). Treatment sessions, evaluated using the checklists, are the unit of analysis and these may be repeated (i.e., clustered) within patients. We have revised the first sentence of the analysis section to reflect this (Page 14, line 280). It is worth noting here and in the manuscript (p 21, lines 447-450) that the study design and analytical approach described in the current study, which involved consideration of multi-level clustering effects, and adjustment for site- and patient-level covariates, is innovative and will help to advance the field of implementation science in the context of rehabilitation guideline implementation.

7. In the interventions section, the development of the intervention is described and the intervention itself, but it is not clear how and in what ways the facilitated KT intervention was designed to specifically address the identified barriers to guideline implementation found in a previous qualitative study.
Response: We have revised the description of the intervention development to more clearly indicate how the intervention components were expected to address the barriers to guideline implementation found in our previous qualitative study (Page 11, lines 219-254).

8. Results: The results are quite briefly described. There would need to be more description/discussion in the text of the most important results from the tables and their significance, especially in relation to tables 1 and 2 and the CONSORT diagram.

Response: We have revised the results section to provide additional detail as requested (Page 15, lines 300-338). We have also made a correction on line 353

9. Under the outcomes section, the authors report percentage changes in interventions which showed significant improvements in implementation of key treatment interventions and differences between provider groups between the KT intervention and passive group sites. However, it is difficult to discuss why these changes were observed because of the omission of qualitative data to understand the implementation process influencing outcomes across the sites.

Response: We have integrated the findings from the qualitative process evaluation into the Discussion to help explain the findings reported here in the Outcomes section (Page 18, lines 373-417, line 442).

10. Discussion and conclusions: The authors state upfront the main results for the trial and this process evaluation study as part of the trial and provide potential explanations for the main results of the process evaluation and suggestions for future research. However, interpretation of the findings in terms of the role of local facilitators and complexity in stroke teams would also require qualitative evaluation of patient and professional perspectives and direct observations of practice to better understand the implementation process. This is limited by using only a quantitative process evaluation and is a main limitation of the current study which would need to be discussed.

Response: Please see responses to points 4 and 9.