## PEER REVIEW HISTORY

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## ARTICLE DETAILS

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| **TITLE (PROVISIONAL)** | A UK Survey of Rehabilitation Following Critical Illness: Implementation of NICE Clinical Guidance 83 (CG83) Following Hospital Discharge |
| **AUTHORS** | Connolly, Bronwen; Douiri, Abdel; Steier, Joerg; Moxham, John; Denehy, Linda; Hart, Nicholas |

## VERSION 1 - REVIEW

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| **REVIEWER** | Jennifer Paratz<br>The University of Queensland<br>Australia |
| **REVIEW RETURNED** | 12-Mar-2014 |

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| **GENERAL COMMENTS** | This study aimed to survey UK hospitals to to the provision of follow up as outpatients from critical care. I consider the study had excellent methodology, tackled an important question and was well written.<br><br>The actual interpretation of the results was very sensible and clinically relevant. |

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| **REVIEWER** | Paul Mouncey<br>Intensive Care National Audit & Research Centre, United Kingdom |
| **REVIEW RETURNED** | 21-Mar-2014 |

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| **GENERAL COMMENTS** | General comment<br><br>Identifying and implementing clinical and cost effective interventions to improve the longer-term outcomes for patients following critical illness/care, including complex interventions around the service delivery and organisation of care, is a very important area.<br><br>The premise of this paper is that, in the light of a comprehensive review of the evidence base in this area and associated recommendations set out in NICE Clinical Guidelines 83 (CG83), the authors have surveyed the extent to which some of the NICE CG 83 recommendations have been translated into practice within the NHS.<br><br>My first concern is that, as noted in both a previous review from these same authors (reference 9) and from reading NICE CG83, at best, there is only a moderate evidence base (using GRADE) for the recommendations in these guidelines. One could argue that the more important recommendatons in NICE CG83 are those that recommend more and higher quality research to provide the evidence base for clinically and cost effective interventions in this area. |

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| | TITLE<br>The title states that the paper is a survey of rehabilitation ‘following critical illness’. This appears to be inconsistent with the aim which then narrows the focus to the post hospital discharge period. The time period being considered should be standardised and consistent throughout the title and paper and, if the post hospital discharge period, then this will make it clearer to the reader that it is only focusing on one section of the NICE CG83.<br><br>INTRODUCTION<br>It would be beneficial for the general reader if the introduction could set out the specific recommendations from NICE CG83 for the post hospital discharge period and the scope and strength of the evidence base supporting them. This will help the reader interpret the results around translation, or not, into clinical practice.<br><br>METHODS<br>The survey was piloted with senior clinicians and clinical-academics. Given that senior physiotherapists were the intended responders, I wonder whether any physiotherapists contributed to the piloting?<br><br>The authors indicate that the questionnaire was sent to named senior physiotherapists in each unit. Some more detail on how these individuals were enumerated and whether all units had a senior physiotherapists would be interesting.<br><br>RESULTS<br>Other surveys in critical care have achieved response rates in excess of 90%, some 100%, so I was slightly disappointed by the response rate of 75.8%. No information was provided on who responded - were all responders senior physiotherapists or did others reply on their behalf?<br>I note that one respondent returned the questionnaire blank as they lacked sufficient time for completion and that there were missing responses to some questions - I think a copy of the survey should be available with this paper so that this can form part of the readers’ assessment of the results – and results identify the response rate to the question being reported.<br><br>Table 1 shows the demographics of the organisations. The numbers appear difficult to understand, for example, the total number of critical care units appears to show 380 responses when there are only 182 responders?<br><br>If all units were identified from national organisations prior to enumerating and identifying the named senior physiotherapists to send the questionnaires to, then some broader data (e.g. type of hospital, etc.) about all organisations may be available from these national organisations in which to “nest” the responding sample organisations. This would provide some higher level data on the representativeness of the responding sample.<br><br>Five respondents who indicated that available rehabilitation programmes at their organisations were the direct result of active research studies were excluded from the data. Given the lack of evidence base for the recommendations in NICE CG83, it would be interesting for the general reader to have some sense of what research is being undertaken to strengthen the evidence base. Perhaps this information could be included and discussed in the |

| | context of the wider NIHR portfolio in this area in the Discussion?<br><br>DISCUSSION<br>The results are not surprising. In the absence of a substantive evidence base to support them, the recommendations in NICE CG 83 relating to the post hospital discharge period have not been translated into practice and adopted. One could argue – nor should they have been without evidence for their clinical and cost effectiveness?<br><br>I am not sure that I agree with the interpretation of the authors as to the main barrier being funding and not the lack of an evidence base. A lack of funding was noted by the authors as the reported major barrier, but surely the reasons for the funds not being made available is the lack of a substantive evidence base? Managers do not see it as a priority to provide these services and allocate sufficient resources (as suggested by the lack of managerial support indicated in the results) without the evidence to underpin these recommendations/developments.<br><br>OTHER COMMENTS<br>All findings should indicated that they are "reported" findings – i.e. a response from a single individual in each organisation – the use of "reported" is not consistent throughout the paper. |
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**VERSION 1 – AUTHOR RESPONSE**

Reviewer Name: Paul Mouncey

General comments

1. Identifying and implementing clinical and cost effective interventions to improve the longer-term outcomes for patients following critical illness/care, including complex interventions around the service delivery and organisation of care, is a very important area.

The premise of this paper is that, in the light of a comprehensive review of the evidence base in this area and associated recommendations set out in NICE Clinical Guidelines 83 (CG83), the authors have surveyed the extent to which some of the NICE CG 83 recommendations have been translated into practice within the NHS.

My first concern is that, as noted in both a previous review from these same authors (reference 9) and from reading NICE CG83, at best, there is only a moderate evidence base (using GRADE) for the recommendations in these guidelines. One could argue that the more important recommendations in NICE CG83 are those that recommend more and higher quality research to provide the evidence base for clinically and cost effective interventions in this area.

Author response
We are grateful to Reviewer #2 for these comments. We wholly agree that there is a lack of robust evidence to support CG83 and this has been, and continues to be, a significant barrier to the lack of consistent and widespread implementation of NICE CG83. Nonetheless, the guidelines report clinical management strategies for patients following hospital discharge and our aim in the current study was to evaluate the clinicians' perspectives of the extent to which these have been translated into practice. Although we agree with reviewer #2 that it is important to recommend research areas for development, we respectfully disagree that this should be the 'more important recommendation of CG83'. Indeed, these are clinical guidelines for NHS clinicians and not guidelines for researchers to

develop research programmes, albeit it may direct the research strategy.

TITLE

The title states that the paper is a survey of rehabilitation ‘following critical illness’. This appears to be inconsistent with the aim which then narrows the focus to the post hospital discharge period. The time period being considered should be standardised and consistent throughout the title and paper and, if the post hospital discharge period, then this will make it clearer to the reader that it is only focusing on one section of the NICE CG83.

Author response

In line with the editor’s comments, we have amended the title to reflect the focus on the post hospital discharge stage of the recovery pathway for post critical illness patients.

INTRODUCTION

It would be beneficial for the general reader if the introduction could set out the specific recommendations from NICE CG83 for the post hospital discharge period and the scope and strength of the evidence base supporting them. This will help the reader interpret the results around translation, or not, into clinical practice.

Author response

We thank Reviewer #2 for their comment. We have provided additional detail of the recommendations in NICE CG83 for post hospital discharge management, including the strength of evidence, in order for the reader to contextualise the current findings. We have expanded the Introduction on P.5 as well as including the hyperlink to the full guideline on the NICE website. We will obviously take editorial guidance on the inclusion of the hyperlink.

METHODS

The survey was piloted with senior clinicians and clinical-academics. Given that senior physiotherapists were the intended responders, I wonder whether any physiotherapists contributed to the piloting?

Author response

Our apologies to Reviewer #2 for the lack of clarity in the reporting this detail in the Methods section on P.7. The clinicians and clinical-academics who undertook the piloting were physiotherapists by profession and this has been clarified in the text on P.7

The authors indicate that the questionnaire was sent to named senior physiotherapists in each unit. Some more detail on how these individuals were enumerated and whether all units had a senior physiotherapists would be interesting.

Author response

The current survey was distributed to the ‘senior physiotherapist’ at each ICU, although the specific names of these clinicians were not known, and hence this was a generic term used. This also explained the necessary initial postal route of distribution as there was no email or alternative contact details were known for potential respondents. We obtained a list of all UK hospitals with ICUs from ICNARC and SICSAG as we considered this to be the most standardised route to identify organisations. Unfortunately, there is no central database of named physiotherapists (or their corresponding grade or duration of experience) in existence in the UK, and indeed such a database would likely be difficult to accurately maintain. From our own longstanding experience, we considered it is highly likely that all ICUs would have access to a senior physiotherapist, albeit whether this person would be responsible for other clinical areas as well may be unclear. Furthermore, due to national and regional variations in ‘Agenda for Change’ banding of various clinical physiotherapy positions, there is reduced consistency with regard the duration of experience, responsibility and

expertise associated with varying posts such that it would be difficult to use this information to characterise respondents. We acknowledge that it was methodologically unfeasible to control the actual clinician who completed the survey. However, in the accompanying cover letter to the survey, we also specified that clinicians were those in a position to comment on the content of the survey and therefore we do not consider that this detracts from the findings of the survey. We have included additional reference to these comments in the Discussion (Critique of the method) on P.21 for clarification..

RESULTS

1. Other surveys in critical care have achieved response rates in excess of 90%, some 100%, so I was slightly disappointed by the response rate of 75.8%. No information was provided on who responded - were all responders senior physiotherapists or did others reply on their behalf?

Author response

As reviewer #2 is aware, survey response rates can be variable according to target population, methods of distribution and perceived 'burden' of survey response. For these reasons, in the context of the current survey, we disagree with reviewer #2 and consider the response rate of 75.8% from 240 UK ICUs to be successful and indeed reaches levels reported to reflect external validity. More importantly, this in depth survey represents the most detailed survey to date of post hospital discharge rehabilitation services for post critical illness patients, with a higher response rate than the two previously reported surveys that included, but did not focus on, the post hospital stage of recovery. We acknowledge in the Discussion the difficulties encountered in all surveys by non-completion, and furthermore how this is challenging to overcome – P.20. For completeness, we have additionally considered Reviewer # 2's comment on whether senior physiotherapists were responsible for survey completion in the aforementioned response with further comment added in the manuscript text.

2. I note that one respondent returned the questionnaire blank as they lacked sufficient time for completion and that there were missing responses to some questions - I think a copy of the survey should be available with this paper so that this can form part of the readers' assessment of the results – and results identify the response rate to the question being reported.

Author response

We wholly agree with Reviewer #2 that a copy of the survey would be of value for readers of the Journal. With editorial guidance, we will suggest that this is added as an appendix in the online line. Missing data pertains mainly to the question regarding reporting all barriers, and then the main barrier to offering rehabilitation services. However, these missing data represent 4.1% and 4.9% of potentially available data for these questions, respectively, and we are confident they do not negatively influence the results. The response rates to all other questions are indicated in the text and in the footnotes to all data tables so that the reader is full able to interpret the data.

3. Table 1 shows the demographics of the organisations. The numbers appear difficult to understand, for example, the total number of critical care units appears to show 380 responses when there are only 182 responders?

Author response

We apologise for the lack of clarity in reporting these data. We have clarified this further in the footnote to the table on P.10.

4. If all units were identified from national organisations prior to enumerating and identifying the named senior physiotherapists to send the questionnaires to, then some broader data (e.g. type of hospital, etc.) about all organisations may be available from these national organisations in which to "nest" the responding sample organisations. This would provide some higher level data on the

representativeness of the responding sample.

Author response
Unfortunately, the data provided by ICNARC and SICSAG listed only the names of hospitals registered with a known ICU, but not detail of their type. We, therefore, independently checked the status of each organisation, and have included these data in the Methods and Results (Responding institutions) sections to provide more robust data regarding the representativeness of the sample. Due to lack of available data, this is not possible at the level of respondents.

5. Five respondents who indicated that available rehabilitation programmes at their organisations were the direct result of active research studies were excluded from the data. Given the lack of evidence base for the recommendations in NICE CG83, it would be interesting for the general reader to have some sense of what research is being undertaken to strengthen the evidence base. Perhaps this information could be included and discussed in the context of the wider NIHR portfolio in this area in the Discussion?

Author response
We agree with Reviewer #2 that information on the currently pending studies in this field would be of interest to the reader and we have therefore supplemented the Discussion (Implementation of NICE CG83 across the UK) section with this on P.17

DISCUSSION
The results are not surprising. In the absence of a substantive evidence base to support them, the recommendations in NICE CG 83 relating to the post hospital discharge period have not been translated into practice and adopted. One could argue – nor should they have been without evidence for their clinical and cost effectiveness?

I am not sure that I agree with the interpretation of the authors as to the main barrier being funding and not the lack of an evidence base. A lack of funding was noted by the authors as the reported major barrier, but surely the reasons for the funds not being made available is the lack of a substantive evidence base? Managers do not see it as a priority to provide these services and allocate sufficient resources (as suggested by the lack of managerial support indicated in the results) without the evidence to underpin these recommendations/developments

Author response
We agree with Reviewer #2 in so much as managers and commissioners will not commission a post discharge rehabilitation service is there is a lack of evidence to support such an approach and it is likely that this is a significant barrier to implementation of these recommendations. However, this is somewhat of a circular argument that we discuss in the Discussion section on P.17 as well as highlight that these recommendations have been included in the recently published Intensive Care Society Core Standards of Care. Indeed, without the evidence there will be no funding and without the funding there will be no service delivery. However the purpose of the current study was to survey physiotherapy clinicians working in routine clinical practice, and their perception of the main barrier was lack of funding. As is often in clinical practice, the clinician can identify a beneficial treatment for the patient before the randomised controlled trial has confirmed this to convince the commissioner to fund the service. Clearly evidence and funding are not mutually exclusive and this reflects the disconnect between clinicians and managers regarding to the implementation of recommendations in the current NHS financial climate (Discussion, P.17).

OTHER COMMENTS
All findings should indicated that they are “reported” findings – i.e. a response from a single individual in each organisation – the use of “reported” is not consistent throughout the paper.

Author response
We have edited the manuscript to ensure consistent use of "reported" throughout the text.

**VERSION 2 – REVIEW**

| **REVIEWER** | Paul Mouncey<br>Intensive Care National Audit & Research Centre, UK |
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| **REVIEW RETURNED** | 18-Apr-2014 |

| **GENERAL COMMENTS** | Thank you to the authors for their detailed response to the comments and for providing a copy of the survey. I feel the manuscript is greatly improved with increased clarity for the reader. Well done on completing this important study, hopefully the results will lead to improvement across critical care services in the UK. |
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