PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Mapping Outcomes for Recovery of Consciousness in Studies from 1986 to 2020: A scoping review protocol
AUTHORS	Bint-e; Jacobs, Erica; Pape, Ariana; Nguyen, Chantal; Guernon, Ann; Harrod, Tom; Team, Recovery of Consciousness; Pape, Theresa; Mallinson, Trudy

VERSION 1 – REVIEW

REVIEWER	Rolston, John D University of Utah Health Hospitals and Clinics, NEUROSURGERY
REVIEW RETURNED	09-Nov-2021

GENERAL COMMENTS	This manuscript details the methods of a future scoping review, that has not been completed yet. This review is registered in PROSPERO, which is great. The search terms are spelled out and the planned analyses discussed in limited detail. One particularly interesting analysis will be to see whether the NINDS CDEs introduced in 2010 have made an impact on reporting in the literature. This is an important question and I can't wait to see the answer. Judging by the search terms they posted, I believe they will be able to answer these questions. I have, however, serious misgivings about publishing this paper in its current form. First, there is no meaningful result from this paper. It is a plan of something the authors will eventually do. How does this article improve upon what's already listed in PROSPERO? What will this article add to the literature or our understanding of DoC or TBI? The article resulting from this analysis, though, will be very valuable. But it's not clear to me why breaking the article into two (one for the planned methods and one for the finished product) is better than waiting for the final product (which will have to include a Methods section regardless). Second, there doesn't seem to be any proposal to look for bias in the search results. It would be nice to look at the sizes of studies (single patients vs. larger clinical trials) and see if that affects what outcomes are reported. There is also a serious danger of using studies with only a single patient with a DoC (as the authors propose), and using that as a way to evaluate DoC literature. Low quality case reports will negatively bias the results, as will including studies that were not designed to study DoC, but include at least one DoC participant (as is listed in the manuscript's planned methods). The authors should focus on papers with

	multiple patients and have some metric of establishing the quality of the results. Third, the authors also have a good opportunity of addressing the quality and utility of the various databases they are querying. They should include an analysis of how many included articles come from each database, and show where lacunae exist in certain resources. This will be valuable for future research.

REVIEWER	Hellstrøm , Torgeir hellstrøm University of Oslo, K.G Jebsen Center for Neurodevelopment Disorders, Faculty of Medicine
REVIEW RETURNED	09-Feb-2022

GENERAL COMMENTS	This scoping review protocol is well written. There is to date no comprehensive review of clinical outcome assessments that are used in intervention studies of adults with disorders of consciousness. The protocol includes overall review objective, explanation of need for review and eligibility criteria (with contextualisation and rationalisation). Sample search strategy, study selection process, including resolving disagreements between reviewers is described. A draft charting table/form for data extraction tool is developed and it is clear how the results and data will be presented (e.g. draft chart, figure and tables). Still I have some minor comments: 1. Page 7-8, line 92-93 Federal Interagency Traumatic Brain Injury Research Informatics System- is that FITIBIR? If so, please put FITBIR in parentheses. 2. Objective; examine the trends in primary outcomes over the time and whether reporting of NINDS CDEs increased after their introduction in 2010 in studies received US federal funding. I understand that TBI researchers applying for US federal funding sources are strongly encouraged to use NINDS CDEs for outcome measurements to improve comparability across trials. Despite that, why limit to studies that received US federal funding? Could it be of interest to examine the trends regardless of whether one has received federal funding?

VERSION 1 – AUTHOR RESPONSE

Reviewer: 1 Dr. John D Rolston, University of Utah Health Hospitals and Clinics		
This manuscript details the methods of a future scoping review, that has not been completed yet. This review is registered in PROSPERO, which is great. The search terms are spelled out and the planned analyses discussed in limited detail. One particularly interesting analysis will be to see whether the NINDS CDEs introduced in 2010 have made	We are also excited to see whether the NINDS CDEs have made an impact. Thank you.	N/A

an impact on reporting in the literature. This is an important question, and I can't wait to see the answer. Judging by the search terms they posted, I believe they will be able to answer these questions.		
First, there is no meaningful result from this paper. It is a plan of something the authors will eventually do. How does this article improve upon what's already listed in PROSPERO? What will this article add to the literature or our understanding of DoC or TBI? The article resulting from this analysis, though, will be very valuable. But it's not clear to me why breaking the article into two (one for the planned methods and one for the finished product) is better than waiting for the final product (which will have to include a Methods section regardless).	Correct, this is a protocol paper. Per BMJ Open Guide to authors, the journal encourages publication of systematic and scoping review articles as these can prevent duplication of effort, foster greater collaboration, and help researchers and funders "stay up to date" about reviews that are being done in the field. In addition, protocol papers provide more detail about the methods than it would be possible to include in the final results paper. Our protocol paper provides more details about our methodological process than can be found in the PROSPERO registration. We are submitting this protocol manuscript prior to completing the research as we feel it will enable a richer description in the results and discussion sections for the final outcomes paper. Excluding our introduction and text in tables and figures, the methods section is 1,314 words. BMJ Open recommends that original research articles, such as the future manuscript that will include results, are to not exceed 4,000 words and may include up to five figures and tables. Therefore, submitting this protocol paper enables us to provide sufficient detail about the methods as well as tables and figures that do not need to be repeated in the final manuscript. This will enable the final manuscript to focus the figures and tables for the results section. **References** From BMJ Open Guide to Authors: https://bmjopen.bmj.com/pages/authors/#submission_guidelines “Publishing study protocols enables researchers and funding bodies to stay up to date in their fields by providing exposure to research activity that may not otherwise be widely publicised. This can help prevent unnecessary duplication of work and will hopefully enable collaboration. Publishing protocols in full also makes available more information than is currently required by trial registries and increases transparency, making it easier for others (editors, reviewers and	N/A

	readers) to see and understand any deviations from the protocol that occur during the conduct of the study." From BMJ Open Guide to Authors: https://bmjopen.bmj.com/pages/authors/#research Section: Original research "Word count, we recommend your article does not exceed 4000 words, with up to five figures and tables."	
Second, there doesn't seem to be any proposal to look for bias in the search results. It would be nice to look at the sizes of studies (single patients vs. larger clinical trials) and see if that affects what outcomes are reported. There is also a serious danger of using studies with only a single patient with a DoC (as the authors propose), and using that as a way to evaluate DoC literature. Low quality case reports will negatively bias the results, as will including studies that were not designed to study DoC, but include at least one DoC participant (as is listed in the manuscript's planned methods). The authors should focus on papers with multiple patients and have some metric of establishing the quality of the results.	Thank you for this comment. We agree that it is important to look for bias in the results and we have added plans to examine the extent to which size of study is associated with the primary outcomes and will report results with and without, case reports. Per the inclusion criteria for the study, articles included must be focused on recovery consciousness as the primary outcome of the intervention. We specified that one participant must be in DoC from TBI, but additional participants could be in DoC from acquired brain injury. As we included case studies, it is possible for studies to be a single subject design. As previously noted in Table 5 and in section "4. Chart the Data" on lines 211-212, all articles included in the review will be evaluated for quality using Scottish Intercollegiate Guideline Network (SIGN) criteria. We have clarified the quality ratings assigned to each article in lines 212-214 and that we will examine whether quality ratings biases results.	Lines 226-230 Lines 211-214 and 228-230.
Third, the authors also have a good opportunity of addressing the quality and utility of the various databases they are querying. They should include an analysis of how many	We agree that we should state how many articles were retrieved from each database. We have added this information to "Presentation of results."	Lines 258-259

included articles come from each database, and show where lacunae exist in certain resources. This will be valuable for future research.		
Reviewer: 2 Dr. Torgeir Hellstrøm , University of Oslo		
This scoping review protocol is well written. There is to date no comprehensive review of clinical outcome assessments that are used in intervention studies of adults with disorders of consciousness. The protocol includes overall review objective, explanation of need for review and eligibility criteria (with contextualisation and rationalisation). Sample search strategy, study selection process, including resolving disagreements between reviewers is described. A draft charting table/form for data extraction tool is developed and it is clear how the results and data will be presented (e.g., draft chart, figure, and tables).	Thank you for your comments.	N/A
Page 7-8, line 92-93 Federal Interagency Traumatic Brain Injury Research Informatics System- is that FITIBIR? If so, please put FITBIR in parentheses.	Thank you for noting this, we have added FITBR in parentheses.	Lines 92-93
Objective; examine the trends in primary outcomes over the time and whether reporting of NINDS CDEs increased after their introduction in 2010 in studies received US federal funding. I understand that TBI researchers applying for US federal funding sources are strongly encouraged to use NINDS CDEs for outcome measurements to improve comparability across trials. Despite that, why limit to studies that received US federal funding? Could it be of interest to examine the trends regardless	Thank you for this observation. We also considered whether to include all studies in the analyses of NINDS CDE use over time. Ultimately, we hypothesized that we would find a more distinct impact among studies receiving US federal funding because, you note, they are explicitly encouraged to use CDEs. If we included all articles, we might find no effect should there be a large increase in international studies that are not encouraged to use CDEs.	N/A

of whether one has received federal funding?		
Editor: Dr. Andy McLarnon, Research Editor, BMJ Open		
The Dissemination section in the abstract should be an Ethics and Dissemination section, as per our guidelines for protocols.	Thank you for noting this, we changed the "Dissemination" section to "Ethics and Dissemination"	Line 48
Please ensure that your Strengths and Limitations points are one sentence each.	We have limited our strengths and limitations to 5 bullets that are one sentence each.	Lines 54-67