PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Measurement of unnecessary psychiatric readmissions: a scoping review protocol
AUTHORS	Kim, Bo; Weatherly, Christopher; Wolk, Courtney; Proctor, Enola

VERSION 1 – REVIEW

REVIEWER	Dr. Domenico Giacco East London NHS Foundation Trust
REVIEW RETURNED	29-Apr-2019

GENERAL COMMENTS	This is a protocol for a scoping review in the area of measurement of psychiatric re-admissions. This is an important topic for mental health service research, However, I believe it would be important that some aspects are clarified in relation to the research question(s) and, consequently, of the methods proposed. - There is some inconsistency between the title, abstract and text body on what is the aim of the review exercise: is it to assess measurement of "unnecessary psychiatric readmissions" (as per the title and much of the text body) or is it to assess any measurement of psychiatric re-admissions (as per the abstract). - I believe that defining the research question in a clearer way might help to ensure that the search and selection processes deliver what the authors wish to achieve. I understand the questions are: 1). What durations are used as the psychiatric readmission time interval? 2) What criteria are applied to designating a psychiatric readmission as unnecessary? 3) What risks are adjusted for in calculating psychiatric readmission rates? My concern with these questions is that they may require a thorough exploration of the mental health literature as psychiatric re-admissions are a very commonly used outcome. Is this the intention of the authors? Or are they focusing on how psychiatric re-admissions are measured when testing care transition interventions?? - I am not sure I understand why the authors are extracting data on intervention and controls (as per Table 1) for each study if their interest is in measurements of psychiatric re-admissions? This should be clarified and justified

REVIEWER	Mark Ferro University of Waterloo, Canada
REVIEW RETURNED	01-May-2019

GENERAL COMMENTS	This was a very well-written and clear manuscript.

Objective:
This was very clear. My question is whether you are interested in particular subgroups of psychiatric readmissions (e.g., pediatric vs. adult populations, voluntary vs. involuntary admission, comorbidity with substance use disorders, trauma, etc.). I suspect that the way unnecessary readmissions are measured may differ across these patient populations. I would like to see some further elaboration on this in the introduction and scoping methodology.

Methods and analysis:
"Scoping review" and "scoping study" seem to be used interchangeably throughout the manuscript. For consistency, I would default to "scoping review." I am happy to see that you refer to the PRISMA-ScR guidelines and that this protocol has been registered. Your conceptual definition of "unnecessary readmission" is important but should be moved into the introduction to frame the purpose of conducting this scoping review. It is unclear why the inclusion criteria in the full-text screening phase specifies that the article must be in regard to an intervention -- what about epidemiological studies that are not specific to a particular intervention? The data extraction tool is very detailed. My only comment is to also include a "Study population" domain in which you can indicate whether the study was specific to a subgroup (as mentioned above). I think it would be important to note whether admissions and readmissions were in/voluntary, and would like to see some consideration for different psychiatric diagnoses. It's great to see patient and public involvement being considered. Seeing as how patient representatives are a part of VERG, this further reinforces my suggestion to consider specifying the psychiatric inpatient subgroups and comorbidities found in the literature (e.g., trauma/PTSD and/or substance use disorders). Finally, I think that it would be beneficial for the authors to assess the methodological quality of included studies; there are a number of study quality scales that can be used to accomplish this task.

Ethics and dissemination:
This first sentence does not quite align with the objective of this scoping review -- throughout the manuscript you state the objective is to explore how *unnecessary* psychiatric readmissions are measured. I suggest explicitly stating here that there is no need to seek informed consent for study approval as there are no human research participants involved. You can also elaborate on whether the involvement of your patient stakeholders will involve informed consent, anonymity, etc. and whether their participation requires ethics approval from your institution.

Other comments and recommendations:
- Include in the text (rather than in a supplementary file) an estimate of the number of articles you will be reviewing after the database search has been conducted. I suggest doing this for one database.
- There is no indication that duplicates will be deleted. You will find that when searching the databases, there will be several duplicates and redundancies that should be deleted immediately before the first round of screening. This can be difficult with Excel alone -- I suggest making use of a reference management software (like Mendeley, which is free). There is also paid software that can specifically help with managing reviews.
- I recommend including some strategy for calculating inter-rater reliability/agreement between reviewers, at least at the first stage of

	screening, to help validate the clarity of your inclusion/exclusion criteria. This can also be calculated in the second screening stage, before data extraction, if the number of studies included is manageable. - Include some discussion of anticipated limitations and strengths of your scoping review findings. - Include a timeline of your research activities.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1's comments:

R1.1. There is some inconsistency between the title, abstract and text body on what is the aim of the review exercise: is it to assess measurement of "unnecessary psychiatric readmissions" (as per the title and much of the text body) or is it to assess any measurement of psychiatric re-admissions (as per the abstract).

•   Thank you for pointing us to this inconsistency. We have now made certain that the title, {Abstract}, and text body {Introduction section, fifth and sixth paragraphs; also throughout the manuscript} consistently reflect that our aim is to assess measurement of "unnecessary psychiatric readmissions."

R1.2. I believe that defining the research question in a clearer way might help to ensure that the search and selection processes deliver what the authors wish to achieve. I understand the questions are: 1). What durations are used as the psychiatric readmission time interval? 2) What criteria are applied to designating a psychiatric readmission as unnecessary? 3) What risks are adjusted for in calculating psychiatric readmission rates?
My concern with these questions is that they may require a thorough exploration of the mental health literature as psychiatric re-admissions are a very commonly used outcome. Is this the intention of the authors? Or are they focusing on how psychiatric re-admissions are measured when testing care transition interventions??

•   Thank you very much for this advice to carefully consider this scoping review's focus. We cannot agree more that psychiatric readmissions are indeed a very commonly used outcome.
•   To optimally balance (i) our interest in this measure's impact on studying care transitions (ii) as well as accounting for non-intervention studies that can also be very informative for our understanding of where the field currently is in terms of measuring unnecessary psychiatric readmissions (as noted by Comment R2.4 below), we have decided to keep the research questions as they are and be more specific (related to our response to Comment R2.4 below as well) in our inclusion criteria that studies should have been conducted in (and explicitly mentions) the context of some care transition process that is either already being carried out (for non-intervention studies) or is being tested as an intervention (for intervention studies) {Methods and Analysis section, first paragraph under the "Stage 3: Study selection" subsection}.

R1.3. I am not sure I understand why the authors are extracting data on intervention and controls (as per Table 1) for each study if their interest is in measurements of psychiatric re-admissions? This should be clarified and justified

•   We have now included an explanation in {Methods and Analysis section, paragraph under the "Stage 4: Data extraction" subsection} that we are opting to extract data on intervention and controls, if applicable to the study being reviewed, to understand in detail the context under which the study used its approach to measuring unnecessary psychiatric readmissions.

Reviewer 2's comments:

Objective

R2.1. This was very clear. My question is whether you are interested in particular subgroups of psychiatric readmissions (e.g., pediatric vs. adult populations, voluntary vs. involuntary admission, comorbidity with substance use disorders, trauma, etc.). I suspect that the way unnecessary readmissions are measured may differ across these patient populations. I would like to see some further elaboration on this in the introduction and scoping methodology.
•   Thank you for this recommendation to better articulate our plan to account for potential differences in how unnecessary readmissions are measured for different populations. We have now described our focus on the adult population and acknowledgement of potential differences in measurement for different populations {Introduction section, last paragraph}.
•   Also, we have now delineated our plans to extract data from reviewed studies on voluntary versus involuntary re/admissions, as well as on diagnoses and comorbidities {Table 1}.

Methods and analysis

R2.2. "Scoping review" and "scoping study" seem to be used interchangeably throughout the manuscript. For consistency, I would default to "scoping review."
•   We have now made certain that "scoping review" is consistently used throughout the manuscript {Abstract, second paragraph; also throughout the manuscript}.

R2.3. Your conceptual definition of "unnecessary readmission" is important but should be moved into the introduction to frame the purpose of conducting this scoping review.
•   We have now moved the definition of "unnecessary readmission" into the {Introduction section, fourth paragraph}.

R2.4. It is unclear why the inclusion criteria in the full-text screening phase specifies that the article must be in regard to an intervention -- what about epidemiological studies that are not specific to a particular intervention?
•   Thank you very much for noting this need to clarify the inclusion criterion regarding reviewed studies' association with an intervention. We agree that non-intervention studies can offer just as much information on how unnecessary psychiatric readmissions were measured.
•   Readmission rate is a very commonly used measure that is available based on administrative data, and thus is likely to be collected by many studies even for non-primary analyses (as noted by Comment R1.2 above). Therefore, related to our response to Comment R1.2 above as well, we have now clarified our inclusion criteria in the full-text screening phase to be that included studies should have been conducted in (and explicitly mentions) the context of some care transition process that is either already being carried out (for non-intervention studies) or is being tested as an intervention (for intervention studies) {Methods and Analysis section, first paragraph under the "Stage 3: Study selection" subsection}.

R2.5 The data extraction tool is very detailed. My only comment is to also include a "Study population" domain in which you can indicate whether the study was specific to a subgroup (as mentioned above). I think it would be important to note whether admissions and readmissions were in/voluntary, and would like to see some consideration for different psychiatric diagnoses.
•   We have now included "study/target population," "voluntariness of re/admissions," and "diagnoses and comorbidities" as additional domains in the data extraction tool {Table 1}.

R2.6 It's great to see patient and public involvement being considered. Seeing as how patient representatives are a part of VERG, this further reinforces my suggestion to consider specifying the psychiatric inpatient subgroups and comorbidities found in the literature (e.g., trauma/PTSD and/or substance use disorders).
•   Related to our responses to Comments R2.1 and R2.5 above as well, we have now specified that we will focus on the adult population {Introduction section, last paragraph} and extract data on diagnoses and comorbidities when reviewing the studies {Table 1}.

R2.7 Finally, I think that it would be beneficial for the authors to assess the methodological quality of included studies; there are a number of study quality scales that can be used to accomplish this task.
•   Thank you very much for this suggestion. We carefully thought through the implications of including this quality measurement. Especially given that we are not limiting our review to intervention studies (as suggested by Comment R2.4 above), it is likely that our reviewed studies will range a multitude of designs levels of quality, both contextually and methodologically.
•   After further deliberation and anchoring on how scoping reviews such as ours are not intended for synthesizing knowledge on effectiveness (which would indeed require careful consideration of study quality), we decided to keep our focus specifically on assessing how unnecessary psychiatric readmissions were measured by our reviewed studies. We have now noted this as a limitation under the newly added (in response to Comment R2.13 below) {"Anticipated Limitations and Strengths of Scoping Review Findings" section following the Methods and Analysis section}.

Ethics and dissemination

R2.8 This first sentence does not quite align with the objective of this scoping review -- throughout the manuscript you state the objective is to explore how *unnecessary* psychiatric readmissions are measured.
•   We have now revised the {first sentence of the Ethics and Dissemination section} to accurately state that the objective is to explore how *unnecessary* psychiatric readmissions are measured.

R2.9 I suggest explicitly stating here that there is no need to seek informed consent for study approval as there are no human research participants involved. You can also elaborate on whether the involvement of your patient stakeholders will involve informed consent, anonymity, etc. and whether their participation requires ethics approval from your institution.
•   We have now explicitly stated that there is no need to seek informed consent for study approval, given that no human research participants are involved {Ethics and Dissemination section, first paragraph}.
•   We have also included additional explanation regarding our collaboration with patient stakeholders (rather than their involvement as research subjects), for which informed consent, anonymity, and ethics approval from our institutions are not applicable {Ethics and Dissemination section, first paragraph}.

Other comments and recommendations

R2.10 Include in the text (rather than in a supplementary file) an estimate of the number of articles you will be reviewing after the database search has been conducted. I suggest doing this for one database.

•   We have now included in the text as well, for one database, an estimate of the number of articles that we will be reviewing {Methods and Analysis section, second paragraph under the "Stage 2: Identifying relevant literature" subsection}.

R2.11 There is no indication that duplicates will be deleted. You will find that when searching the databases, there will be several duplicates and redundancies that should be deleted immediately before the first round of screening. This can be difficult with Excel alone -- I suggest making use of a reference management software (like Mendeley, which is free). There is also paid software that can specifically help with managing reviews.
•   We have now indicated that duplicates will be deleted {Methods and Analysis section, second paragraph under the "Stage 2: Identifying relevant literature" subsection}.
•   And thank you very much for the helpful suggestion to use Mendeley or a different reference management software. We have further consulted Washington University in St. Louis' librarians with extensive expertise and experience in conducting literature reviews, with whom we will be working closely on this review, and have decided to adopt their use of EndNote for managing our references {Methods and Analysis section, first paragraph}.

R2.12 I recommend including some strategy for calculating inter-rater reliability/agreement between reviewers, at least at the first stage of screening, to help validate the clarity of your inclusion/exclusion criteria. This can also be calculated in the second screening stage, before data extraction, if the number of studies included is manageable.
•   We have now included our planned calculation of Cohen's kappa and percent agreement to assess inter-rater reliability/agreement between reviewers during the screening stages {Methods and Analysis section, second paragraph under the "Stage 3: Study selection" subsection}.

R2.13 Include some discussion of anticipated limitations and strengths of your scoping review findings.
•   We have now included an additional {"Anticipated Limitations and Strengths of Scoping Review Findings" section following the Methods and Analysis section}, further elaborating on the points mentioned in the Article Summary.

R2.14 Include a timeline of your research activities.
•   We have now included an additional {"Anticipated timeline of research activities" subsection under the Methods and Analysis section}, in which we have used a Gantt chart to visualize our anticipated timeline.

VERSION 2 – REVIEW

REVIEWER	Domenico Giacco East London NHS Foundation Trust
REVIEW RETURNED	21-Jun-2019

GENERAL COMMENTS	Happy with authors' answers to my comments.

REVIEWER	Mark Ferro University of Waterloo, Canada
REVIEW RETURNED	24-Jun-2019

GENERAL COMMENTS	The authors have adequately addressed each of my comments.