PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Measuring patient-centred system performance: A scoping review of patient-centred care quality indicators
AUTHORS	Santana, Maria-Jose; Ahmed, Sadia; Lorenzetti, Diane; Jolley, Rachel; Manalili, Kimberly; Zelinsky, Sandra; Quan, Hude; Lu, Mingshan

VERSION 1 – REVIEW

REVIEWER	Tiago S. Jesus, Ph.D Global Health and Tropical Medicine (GHTM), WHO Collaborating Centre for Health Workforce Policy and Planning, Institute of Hygiene and Tropical Medicine - NOVA University of Lisbon (IHMT-UNL), Rua da Junqueira 100, Lisbon 1349-008, Portugal.
REVIEW RETURNED	19-Apr-2018

GENERAL COMMENTS	Thank you for the opportunity to review this manuscript. Major strengths: This study is both timely and needed. It is well streamlined within a set of (prospected) research activities. The review process seems adequate for the task, is transparent, sufficiently comprehensive, and detailed in the methods report(s) by the most part - there is an a priori protocol published. A large number of an articles were screened and the review of the grey literature proved useful. There are some important results uncovering weaknesses of the reviewed literature (e.g. the lack of the use a standard definition of quality indicators by the reviewed articles). Major weaknesses: There is an overall lack of preciseness and sometimes ambiguity in the paper's report. The reader often needs to finger out by the context or other elements of the paper what authors specifically mean or rather want to say. What authors want to say is often a bit different from what they actually say, by what I was able to infer. I provide several examples below. That occurs in key parts of the paper in which clarity/preciseness is more than required, such as – but not only - in the statement of the research questions or the first statement of the Discussion. I also feel the literature on PCC is under-represented in both the Introduction and Discussion. Sometimes statements are not supported – or even are inaccurately supported - by the literature, when there are many relevant examples in that literature (I cite some) which would be relevant for the context of the statements. I provide a detailed section-by-section review below:

Abstract

The results do not resemble a systematic type of review, even a scoping one. How many articles were included? Out of many found? In the Conclusion of the Abstract you mention lack of evaluation and implementation – where is that above?
For what is those results now, you could simply state something along the lines that many ways aimed to measure PCC as quality indicators are not measurable/quantifiable; as such, cannot be classified as actual quality indicators. I miss something very simple and clear about this issue in many key parts of the paper.

Line 6: comma before the actual verb.

(Summary of) Strengths:
“Involvement of our patient partner in the study”. I did not see that articulated in the main paper. It is also important to understand how that contributed to be a strength.

Introduction

First sentence: Improves inefficiencies is odd – either it reduces inefficiencies or improves efficiency. More importantly, I’d not buy this as a first argument. If PCC improves other quality dimensions (e.g. efficiency, safety), great. Independently of that, PCC is a dimension of quality in its own right. That argument likely comes first and foremost and it is omitted in this Introduction.

Second sentence: Eventually the widespread “adoption”. There are many examples of organizations implementing PCC without PCC quality indicators. On “second, (it requires) the assessment of the impact of delivering PCC on healthcare system and patient outcome”. It comes without a reference, while it has been studied… there is at least one recent systematic reviews on that:
- Dwamena F, Holmes-Rovner M, Gaulden CM, Jorgenson S, Sadigh G, Sikorskii A, Lewin S, Smith RC, Coffey J, Olomu A. Interventions for providers to promote a patient-centred approach in clinical consultations. Cochrane Database Syst Rev. 2012, Vol. 12:CD003267.

Page 4 line 35 “The search was guided by the questions”. Eventually, the review was guided.

On the questions:
Crucially, the need to be more explictly and clearly framed within the context of PCC quality indicators – the one of this study.
First question: this review does not, literally, review “How is patient-centred care measured?” but how it has been attempted/recommented to be measured as (self-labelled) quality indicators. Other (review) works exist on the measurement of PCC when not framed as quality indicators:
- Epstein RM, Franks P, Fiscella K, Shields CG, Meldrum SC, Kravitz RL, Duberstein PR. Measuring patient-centered communication in patient-physician consultations: theoretical and practical issues. Soc Sci Med. 2005, Vol. 61(7), pp. 1516-28.
- Silva, D. Helping measure person-centred care: A review of evidence about commonly used approaches and tools used to help measure person-centred care. s.l. : Health Foundation, 2014.

Available at:
http://www.health.org.uk/public/cms/75/76/313/4697/Helping%20measure%20person-centred%20care.pdf?realName=Lnl7Fn.pdf.
And this review does not include any of that scope of work a link to an quality indicator or performance measurement was an eligibility requirement. Precision here, on the exact scope, is crucial – and especially in a scoping review.

Second question: “Is this a patient-centred quality indicator?” I ask what “this” means?

Methods:
Page 5 Line 54: “All extracted indicators were classified”…. by whom.

Results:
Overall, the suffer from the same issue of preciseness/clarity.

End of Page 7
“How is patient-centred care measured?
From the sources included, a total of 502 ways of measuring PCC were identified, of
which 25 identified were actual indicators.”
That is unclear/unprecise: The 502 ways (e.g. items!?) were explictly (or implicitly?) identified by studies’ authors as quality indicators, then you have identified/classified only 25 of them as being actual (i.e. measurable/quantifiable) indicators? Is that what you mean? It took me a couple of reads of the whole paper to infer, and tt is not up to the reader to infer or finger it out.

Page 8 (1st paragraph): the example you provide is present both in Table 2 and Table 3. We get confused. “Table 2 presents examples of measuring PCC classified according to the person-centred care framework”. Perhaps restrain to examples of the 502 ways that are not, simultaneously, one of the 25 ‘actual’ indicators. These latter are on table 3. The organization needs to be very clear and explicit.

Page 8
The middle part of the last paragraph pertains to the Methods section, not Results.

Table 2 – last row: I have my doubts, for example that “Does patients' health improve or stabilise?” relates in any way with PCC, at least as stated. If you are merely reflecting what the primary sources explictly identified, this – and others of the kind - should be Discussed then.

You label table 3 as such: “Table 3. Patient Centred Care Indicators classified according to the person-centered care Framework”. Probably to report something on the following lines “Table 3. Patient Centred Care Indicators extracted from the literature that can be classified as actual indicators (i.e. were measurable/quantifiable); they are organized/displayed according

	to components the person-centered care Framework”. The original version lacks preciseness. Table 3: Although authors were grounded into a framework, it does not make sense to me classify “access to care” as an outcome, even a healthcare system outcome. An outcome is result/impact of something (a care process) in something (patient’s health status, or healthcare system outcomes such as length-of-stay, readmissions). Access to care is a pre-requisite for the care process to happen; so, more of a requirement/determinant than an outcome. It can be outcome, though, of healthcare systems’ or health policy measures aimed to increase coverage, reduce disparities in access to care, etc. I’m not sure that framing of “access” as an “outcome” of a designated health policy process applies to the scope of this paper. Page 12 line 25: “many of the sources”… How many? Please report the percentage – that is a review result, and eventually cite those who did not…. Page 12 line 26. The example provided was one that did report or did not report? Again, we need to read several times and eventually try to infer. Discussion First sentence “This review specifically examined existing ways to measure PCC”. That is not true…. from what I understood from the paper. This work is on quality indicators (the inclusion criteria required that) and the ways to measure PCC in that context. There are other ways to measure PCC that may not have been framed within the context of quality indicators and, as such, those were not reviewed here. Once again, lacks precision. First paragraph: “For instance, all included articles in the review used the term ‘indicator,’”. Here you justify my previous comment. This sentence is key and should come much earlier in the paper. In the Discussion, the context of the whole sentence makes no sense. If that comes to be an eligibility requirement, logically all included articles had it. Page 30 first paragraph: “PCC continues to be operationalized and measured differently.2” The statement is true, but the reference you cite does not specifically support that. Here you have some options: Smith RC, Dwamena FC, Grover M, Coffey J, Frankel RM. Behaviorally defined patient-centered communication--a narrative review of the literature. J Gen Intern Med. 2011, Vol. 26(2), pp. 185-91. Epstein RM, Franks P, Fiscella K, Shields CG, Meldrum SC, Kravitz RL, Duberstein PR. Measuring patient-centered communication in patient-physician consultations: theoretical and practical issues. Soc Sci Med. 2005, Vol. 61(7), pp. 1516-28. One gets to wonder wheter the PCC literature is sufficiently represented and accurately cited troughout. I did not check for all cases.

	Page 13 line 45-47. “For PCC, structures, such as policies and education programs can provide an important basis to improve PCC practice.” Authors reverse the previous rationale with this sentence, but with no single bibliographic support and/or a (strong) rationale…. And generally I disagree: Structures affect outcomes through mediation on the care process. If there are good outcomes or care process indicators, likely the structural ones are less needed - if needed at all. Page 13 lines 49-51: Authors actually found it did not even occur. I guess a stronger case on that can be actually made. Strengths and Limitations Page 14, lines 20-21: The statement actually says nothing. Either authors explain what is specifically about this review process that may have led to that, or otherwise that is too much of a generalist and pointless statement. Page 14, lines 33-34. Lovely and ambitious, but globally - as stated - is very complex. The challenges to PCC in a low-income country facing war and a massive undersupply of healthcare resources might not be the same than those in Canada, and likely so the indicators used to measure it. I miss a conclusion in the main text. Abstract

REVIEWER	Alaa Youssef Alaa Youssef, MSc. (c)Institute of Medical Sciences (IMS) Department of Psychiatry, University of Toronto Research fellow| Wilson Centre -Toronto General Hospital, University Health Network (UHN) 200 Elizabeth St, Toronto, ON CANADA
REVIEW RETURNED	17-May-2018

GENERAL COMMENTS	Dear Authors, Thank you for the opportunity to review this work. This review surface essential gaps in the evaluation and implementation of patient-centered care models. It also does a great job distinguishing between PC-QI indicators at the structure, process, and outcome levels. Therefore, this work has significant implications for policy and quality improvement research. Overall, the manuscript is well written, and the research question and aim are clearly stated. The authors provide an excellent description of their methodology consistent with a scoping review approach. Their approach is a strength and as they have highlighted, a scoping review approach is indicated given the heterogeneity and early evolution of the literature. Despite these strengths, I have several concerns that limit the intended impact of this review. Please attempt to address the following concerns:

	1) The first line in the introduction states: “Patient-centred care (PCC) is an approach that has become central to policies and programming to improve healthcare inefficiencies and address patient safety issues.” While patient safety is important, the primary intent for shifting towards PCC is because the care needs of today’s population are mainly aging and chronic illness. Thus, the burden of multimorbidity and poor population outcomes is the chief purpose to shift towards PCC models. https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)60240-2/abstract http://qualitysafety.bmj.com/content/13/4/299 2) While you mention in the protocol that PCC is conceptualized differently among different stakeholders, this is not recapped in the introduction. Furthermore, what are the benefits in the first place for health systems to invest in such care models. Again, this is implicit in your work but needs to be explicit stated for general audiences. 3) Critically, to address in your introduction and reference the exact patient centered care definition you used to guide your review. 4) In the methods sections, I think you did a good job differentiating between PCC quality measure and indicators. However, clarifying the statement on (pg. 5 line 3-6) how PCC measures guide indicators development is essential to avoid confusion, particular to general audience? 5) while your results section addresses how and whether identified measures are PCC, I think a previous question is "How is patient-centered care been defined in the identified articles?" 6) You could recap in your discussion section, the implications of the identified gaps based on your results? (pg.14: lines 12-14). 7) Importantly, your search strategy is missing the terms: - "Patient experience" which is an essential aspect of patient-centered care, particularly that patient satisfaction and experience are not equivalent. - “Health system”? 8) Also, there are few errors in truncations and words redundancy. For example: line 3 and 4 are the same search, so you could probably eliminate line 3 since its captured line 4 and use (.tw.kw.kf). Please see for more guidance: https://guides.library.utoronto.ca/ld.php?content_id=28564774 9) In terms of database search, MEDLINE and EMBASE, run on the same interphase OVID, yet CINAHL and Cochrane Library are independent databases. Thus, search strategy will have to be tailor differently, so could you provide an example of your search strategy on CINAHL or The Cochrane. 10) What is the time period this search was conducted Jan 2017-????

	Thank you again for the opportunity to review this work. I believe that address the above points will be an important contribution to the literature and implication on policy and quality improvement initiatives.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1:

Abstract: The results do not resemble a systematic type of review, even a scoping one. How many articles were included? Out of many found? In the Conclusion of the Abstract you mention lack of evaluation and implementation – where is that above?

For what is those results now, you could simply state something along the lines that many

ways aimed to measure PCC as quality indicators are not measurable/quantifiable; as such,

cannot be classified as actual quality indicators. I miss something very simple and clear

about this issue in many key parts of the paper.

RESPONSE: We appreciate the reviewer's comments on lack of clarity. We have revised the results section of the abstract to state the number of articles included in the review and have added the lack of evaluation and implementation in the results section as well. We have revised the conclusion section accordingly to fit with the rest of the abstract.

Introduction: First sentence: Improves inefficiencies is odd – either it reduces inefficiencies or improves efficiency. More importantly, I'd not buy this as a first argument. If PCC improves other quality dimensions (e.g. efficiency, safety), great. Independently of that, PCC is a dimension of quality in its own right. That argument likely comes first and foremost and it is omitted in this Introduction.

RESPONSE: We agree PCC is a dimension of quality independent of improving other quality dimensions. We have reorganized the sentences in the introduction section to reflect that, with a reference to the institute of medicine.

Second sentence: Eventually the widespread "adoption". There are many examples of

organizations implementing PCC without PCC quality indicators. On "second, (it requires)

the assessment of the impact of delivering PCC on healthcare system and patient outcome".

It comes without a reference, while it has been studied… there is at least one recent

systematic reviews on that:

- Dwamena F, Holmes-Rovner M, Gaulden CM, Jorgenson S, Sadigh G, Sikorskii A, Lewin S, Smith RC, Coffey J, Olomu A. Interventions for providers to promote a patient-centred approach in clinical consultations. Cochrane Database Syst Rev. 2012, Vol. 12:CD003267.

RESPONSE: We agree with the reviewer that there are organizations implementing PCC without quality indicators. However, we want to emphasize that it is necessary for organizations to identify appropriate indicators for effective measurement of PCC. What doesn't get measured doesn't get improved. By including this sentence, we hope to drive measurement of PCC and therefore effective implementation of a PCC model. We have added the reference suggested for the second point of the sentence.

On the questions: Crucially, the need to be more explictly and clearly framed within the context of PCC quality indicators – the one of this study.

First question: this review does not, literally, review “How is patient-centred care measured?” but how it has been attempted/recommented to be measured as (self-labelled) quality indicators. Other (review) works exist on the measurement of PCC when not framed as quality indicators:

- Epstein RM, Franks P, Fiscella K, Shields CG, Meldrum SC, Kravitz RL, Duberstein PR. Measuring patient-centered communication in patient-physician consultations: theoretical and practical issues. Soc Sci Med. 2005, Vol. 61(7), pp. 1516-28.
- Silva, D. Helping measure person-centred care: A review of evidence about commonly used approaches and tools used to help measure person-centred care. s.l. : Health Foundation, 2014. Available at: http://www.health.org.uk/public/cms/75/76/313/4697/Helping%20measure%20 person-centred%20care.pdf?realName=Lnl7Fn.pdf.

And this review does not include any of that scope of work a link to an quality indicator or performance measurement was an eligibility requirement. Precision here, on the exact scope, is crucial – and especially in a scoping review.

Second question: “Is this a patient-centred quality indicator?” I ask what “this” means?

RESPONSE: After discussion with the research team, we understand the need for specificity in the research questions. We have reworded questions 1 & 2 to be more specific and fit better with the scoping review.

Methods:

Page 5 Line 54: “All extracted indicators were classified”…. by whom.

RESPONSE: We have specified which two authors classified the indicators and ways to measure PCC

Results:

Overall, the suffer from the same issue of preciseness/clarity.

End of Page 7

“How is patient-centred care measured?

From the sources included, a total of 502 ways of measuring PCC were identified, of

which 25 identified were actual indicators.”

That is unclear/unprecise: The 502 ways (e.g. items!?) were explictly (or implicitly?)

identified by studies’ authors as quality indicators, then you have identified/classified only

25 of them as being actual (i.e. measurable/quantifiable) indicators? Is that what you mean?

It took me a couple of reads of the whole paper to infer, and it is not up to the reader to

infer or finger it out.

RESPONSE: We understand the confusion regarding the way the results are presented. We are hoping to explain to readers the messy landscape of PCQIs, and therefore have clarified the first few sentences of this paragraph.

Page 8 (1st paragraph): the example you provide is present both in Table 2 and Table 3. We

get confused. “Table 2 presents examples of measuring PCC classified according to the

person-centred care framework”. Perhaps restrain to examples of the 502 ways that are

not, simultaneously, one of the 25 ‘actual’ indicators. These latter are on table 3. The

organization needs to be very clear and explicit

RESPONSE: We have decided to take out the example from table 2 to allow for improved clarity in the presentation of the ways to measure PCC and the PCQIs.

Page 8

The middle part of the last paragraph pertains to the Methods section, not Results.

RESPONSE: We have removed that sentence from the Results section, as we explain the framework used in the methods section.

Table 2 – last row: I have my doubts, for example that “Does patients' health improve or stabilise?” relates in any way with PCC, at least as stated. If you are merely reflecting what the primary sources explictly identified, this – and others of the kind - should be Discussed then.

RESPONSE: The inclusion of that example may be confusing for readers of the manuscript. After discussion with the research team, we have decided to remove that example as our focus is on patient-centred quality indicators.

You label table 3 as such: “Table 3. Patient Centred Care Indicators classified according to the person-centered care Framework”. Probably to report something on the following lines “Table 3. Patient Centred Care Indicators extracted from the literature that can be classified as actual indicators (i.e. were measurable/quantifiable); they are organized/displayed according to components the person-centered care Framework”. The original version lacks preciseness.

RESPONSE: We have modified the title for improved clarity.

Table 3: Although authors were grounded into a framework, it does not make sense to me classify “access to care” as an outcome, even a healthcare system outcome. An outcome is result/impact of something (a care process) in something (patient’s health status, or healthcare system outcomes such as length-of-stay, readmissions). Access to care is a prerequisite for the care process to happen; so, more of a requirement/determinant than an

outcome.

It can be outcome, though, of healthcare systems' or health policy measures aimed to increase coverage, reduce disparities in access to care, etc. I'm not sure that framing of "access" as an "outcome" of a designated health policy process applies to the scope of this paper.

RESPONSE: We appreciate the reviewer's feedback on the classification of 'access to care'. As a research team, we have discussed the classification of quality indicators into structure, process, and outcome. We have revisited 'access to care' to be placed under 'process' rather than outcome.

Page 12 line 25: "many of the sources"… How many? Please report the percentage – that is a review result, and eventually cite those who did not….

Page 12 line 26. The example provided was one that did report or did not report? Again, we need to read several times and eventually try to infer.

RESPONSE: We have clarified in the results section the two sources that evaluated quality indicators and provided references to those two sources.

Discussion: First sentence "This review specifically examined existing ways to measure PCC". That is not true…. from what I understood from the paper. This work is on quality indicators (the inclusion criteria required that) and the ways to measure PCC in that context. There are other ways to measure PCC that may not have been framed within the context of quality indicators and, as such, those were not reviewed here. Once again, lacks precision.

RESPONSE: We have specified what the objective of the review was in the first sentence of the discussion.

First paragraph: "For instance, all included articles in the review used the term 'indicator,'".

Here you justify my previous comment. This sentence is key and should come much earlier in the paper. In the Discussion, the context of the whole sentence makes no sense. If that comes to be an eligibility requirement, logically all included articles had it.

RESPONSE: We have added that sentence in the results section where we discuss the different ways authors have presented ‘quality indicators’.

Page 30 first paragraph: “PCC continues to be operationalized and measured differently.2”

The statement is true, but the reference you cite does not specifically support that.

Here you have some options:

Smith RC, Dwamena FC, Grover M, Coffey J, Frankel RM. Behaviorally defined patient-centered communication--a narrative review of the literature. J Gen Intern Med. 2011, Vol. 26(2), pp. 185-91.

Epstein RM, Franks P, Fiscella K, Shields CG, Meldrum SC, Kravitz RL, Duberstein PR. Measuring patient-centered communication in patient-physician consultations: theoretical and practical issues. Soc Sci Med. 2005, Vol. 61(7), pp. 1516-28.

One gets to wonder whether the PCC literature is sufficiently represented and accurately cited throughout. I did not check for all cases.

RESPONSE: We have added that reference to support the sentence. We have also reviewed all references to make sure they sufficiently support the text.

Page 13 line 45-47. “For PCC, structures, such as policies and education programs can provide an important basis to improve PCC practice.” Authors reverse the previous rationale with this sentence, but with no single bibliographic support and/or a (strong) rationale….

And generally I disagree: Structures affect outcomes through mediation on the care process.

If there are good outcomes or care process indicators, likely the structural ones are less needed - if needed at all.

RESPONSE: We would like to thank the reviewer for their comment. After discussion with our research team, we have added in a few more clarifying sentences to build the rationale and added references.

Page 14, lines 20-21: The statement actually says nothing. Either authors explain what is specifically about this review process that may have led to that, or otherwise that is too much of a generalist and pointless statement.

RESPONSE: We agree with the reviewer. We have clarified the limitations section.

Page 14, lines 33-34. Lovely and ambitious, but globally - as stated - is very complex. The challenges to PCC in a low-income country facing war and a massive undersupply of healthcare resources might not be the same than those in Canada, and likely so the indicators used to measure it.

RESPONSE: We have added in a paragraph at the end of discussion section for identified gaps, and have removed the statement in conclusion section.

I miss a conclusion in the main text.

RESPONSE: We have specified within the manuscript the conclusion section

REVIEWER 2:

1)The first line in the introduction states: “Patient-centred care (PCC) is an approach that has become central to policies and programming to improve healthcare inefficiencies and address patient safety issues.”

While patient safety is important, the primary intent for shifting towards PCC is because the care needs of today’s population are mainly aging and chronic illness. Thus, the burden of multimorbidity and poor population outcomes is the chief purpose to shift towards PCC models.

https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(12)60240-2/abstract

http://qualitysafety.bmj.com/content/13/4/299

RESPONSE: We agree with the reviewer the shift towards PCC is necessary to meet the needs of an aging populations and chronic conditions. The intent of our paper is the identification of quality indicators for quality improvement. As we are focusing on quality improvement, we have added a few more sentences in the introduction to provide context.

2) While you mention in the protocol that PCC is conceptualized differently among different stakeholders, this is not recapped in the introduction. Furthermore, what are the benefits in the first place for health systems to invest in such care models. Again, this is implicit in your work but needs to be explicit stated for general audiences.

RESPONSE: We have added more background information in the introduction to address these comments

3) Critically, to address in your introduction and reference the exact patient centered care definition you used to guide your review.

RESPONSE: We have referenced the institute of medicine definition of patient centered care in the introduction

4) In the methods sections, I think you did a good job differentiating between PCC quality measure and indicators. However, clarifying the statement on (pg. 5 line 3-6) how PCC measures guide indicators development is essential to avoid confusion, particular to general audience?

RESPONSE: We have decided to remove that sentence from the methods section as that will move beyond the scope of this paper.

5) while your results section addresses how and whether identified measures are PCC, I think a previous question is "How is patient-centered care been defined in the identified articles?"

RESPONSE: We agree with the reviewer. The research questions of the study have been modified for improved clarity.

6) You could recap in your discussion section, the implications of the identified gaps based on your results? (pg.14: lines 12-14).

RESPONSE: We have added a paragraph in the discussion section recapping the identified gaps.

7) Importantly, your search strategy is missing the terms:

- "Patient experience" which is an essential aspect of patient-centered care, particularly that patient satisfaction and experience are not equivalent.

- “Health system”?

RESPONSE: We understand the reviewer’s concern with the search strategy. From a preliminary search, the results were too broad and irrelevant to our research objects when we included patient experience in the search terms. Most of the results were focused on development of measures. For the term ‘health system’, it is embedded within the search terms “health care”, “performance monitoring”, “clinical audit”. As we are specifically identifying papers with patient centred quality indicators (PCQIs), we specified our search strategy terms further in accordance with the research objectives.

8) Also, there are few errors in truncations and words redundancy. For example: line 3 and 4 are the same search, so you could probably eliminate line 3 since its captured line 4 and use (.tw.kw.kf). Please see for more guidance: https://guides.library.utoronto.ca/ld.php?content_id=28564774

RESPONSE: We have modified the formatting of the search strategy

9) In terms of database search, MEDLINE and EMBASE, run on the same interphase OVID, yet CINAHL and Cochrane Library are independent databases. Thus, search strategy will have to be tailor differently, so could you provide an example of your search strategy on CINAHL or The Cochrane.

RESPONSE: We have added the search strategy for CINAHL.

10) What is the time period this search was conducted Jan 2017- ????

RESPONSE: The search was conducted 1990-2017.

We thank the reviewers for their valuable comments that has strengthened our manuscript. We look forward to hearing from you soon.

VERSION 2 – REVIEW

REVIEWER	Tiago S. Jesus, Ph.D Global Health and Tropical Medicine (GHTM), WHO Collaborating Centre for Health Workforce Policy and Planning, Institute of Hygiene and Tropical Medicine - NOVA University of Lisbon, Portugal
REVIEW RETURNED	31-Jul-2018

GENERAL COMMENTS	Thank you for the opportunity to review again this manuscript, now in its revised form. The manuscript is much improved, and issues raised by the reviewers overall addressed. The manuscript reporting is much more specific, with added clarity and preciseness, inclusively in key

parts of the paper (e.g. questions, initial paragraph of the discussion) in which the key issues were not well specified before. That being said, still there are a few issues requiring further attention – most of which relatively minor. In the flow diagram of the Results, however, the reasons to exclude studies are missing which is a failure in reporting, at least. Please see the specific issues by section below.

Box: What this study adds?
Maybe important to state that most (self-labeled) indicators found in the literature are not measurable and thus not quality indicators

Introduction
It was added that “PCC is an approach that has become central to policies and programming to improve healthcare efficiencies and address patient safety issues”
and then that: “A PCC approach not only benefits patients, but also healthcare organizations in reducing costs, for instance through decreasing the length of hospital stays and readmission rates.6 7 However, patient-centred care is conceptualized differently among different stakeholders, impacting effective implementation in care settings.8”…
Overall, it may be sensible not to be that decisive on the positive effects/outcomes of PCC approaches as the results are typically mixed (e.g. https://www.ncbi.nlm.nih.gov/pubmed/23235595) and one of the reasons for that is, precisely, told in the second sentence: PCC approaches achieve mixed results first and foremost as they are framed, operationalized and implemented in many different ways.

Methods
“All extracted indicators were classified by two authors”. Did they do that independently? In duplicate?

End of the section: “The involvement of patients is key to patient centred care, and therefore our patient-research partner was vital for this review.”
Even though patient involvement in “care” is need for PCC, making the direct link – with the “therefore” – between the need to be involved in care with this involvement in research seems a bit abusive. I guess the point for this sentence is on the need to involve patients in “research” and especially in a research for advancing PCC – and there is a full body of research on that which isn’t cited (e.g. https://www.ncbi.nlm.nih.gov/pubmed/23395286).

Results
PRISMA flow diagram:
Important reporting issue here. The PRISMA checklist, which authors indeed have filled out, requires authors to provide reasons for exclusions at each stage, but authors only mention: “irrelevant articles excluded” and “full texts excluded”. That, clearly, is not enough with such regards. Operationally speaking, authors need to specify in which regards articles were “irrelevant” and by which reasons they were excluded, hopefully with stratified numbers for each reason – the latter at least for the Level 2/full text screening.

	Discussion: End of the section: “Second, there needs to be development of standard PC-QIs for all healthcare settings.” Something is grammatically wrong with this sentence. The same applies to “Therefore, indicators from weak and strong studies is considered” in the Strengths and Limitations.

REVIEWER	Alaa Youssef Institute of Medical Sciences, University of Toronto, CANADA
REVIEW RETURNED	29-Jul-2018

GENERAL COMMENTS	Thank you for the opportunity to review this work. Your revisions have addressed core issues in this scoping review that strengthened and made this review a meaningful contribution to the literature.

VERSION 2 – AUTHOR RESPONSE

Reviewer: 1

Thank you for the opportunity to review again this manuscript, now in its revised form.
The manuscript is much improved, and issues raised by the reviewers overall addressed. The manuscript reporting is much more specific, with added clarity and preciseness, inclusively in key parts of the paper (e.g. questions, initial paragraph of the discussion) in which the key issues were not well specified before. That being said, still there are a few issues requiring further attention – most of which relatively minor. In the flow diagram of the Results, however, the reasons to exclude studies are missing which is a failure in reporting, at least. Please see the specific issues by section below. Box: What this study adds? Maybe important to state that most (self-labeled) indicators found in the literature are not measurable and thus not quality indicators

Response: As the Editor has advised us to take out the box, we have deleted it from the manuscript.

Introduction
It was added that “PCC is an approach that has become central to policies and programming to improve healthcare efficiencies and address patient safety issues”
and then that: “A PCC approach not only benefits patients, but also healthcare organizations in reducing costs, for instance through decreasing the length of hospital stays and readmission rates.6 7 However, patient-centred care is conceptualized differently among different stakeholders, impacting effective implementation in care settings.8”…
Overall, it may be sensible not to be that decisive on the positive effects/outcomes of PCC approaches as the results are typically mixed (e.g. https://www.ncbi.nlm.nih.gov/pubmed/23235595) and one of the reasons for that is, precisely, told in the second sentence: PCC approaches achieve mixed results first and foremost as they are framed, operationalized and implemented in many different ways.

Response: Thank you for your feedback. We have revised that sentence to add that the literature suggests PCC to be correlated with improved health outcomes. Our aim with this paper is to focus on the measurement of PCC – through quality indicators that is inconsistent in the literature.

Methods

"All extracted indicators were classified by two authors". Did they do that independently? In duplicate?

Response: We have added clarification to that sentence. Classification was done collaboratively with discussions.

End of the section: "The involvement of patients is key to patient centred care, and therefore our patient-research partner was vital for this review."

Even though patient involvement in "care" is need for PCC, making the direct link – with the "therefore" – between the need to be involved in care with this involvement in research seems a bit abusive. I guess the point for this sentence is on the need to involve patients in "research" and especially in a research for advancing PCC – and there is a full body of research on that which isn't cited (e.g. https://www.ncbi.nlm.nih.gov/pubmed/23395286).

Response: We have decided to remove that sentence as the rest of the paragraph describes how we involved our patient research partner in this project.

Results

PRISMA flow diagram:

Important reporting issue here. The PRISMA checklist, which authors indeed have filled out, requires authors to provide reasons for exclusions at each stage, but authors only mention: "irrelevant articles excluded" and "full texts excluded". That, clearly, is not enough with such regards. Operationally speaking, authors need to specify in which regards articles were "irrelevant" and by which reasons they were excluded, hopefully with stratified numbers for each reason – the latter at least for the Level 2/full text screening.

Response: We have added the reason for exclusion of articles to the PRISMA flow chart; as we had discussed originally these reasons in our methods section and have added in the reporting checklist reasons for exclusion as well.

Discussion

End of the section: "Second, there needs to be development of standard PC-QIs for all healthcare settings." Something is grammatically wrong with this sentence. The same applies to "Therefore, indicators from weak and strong studies is considered" in the Strengths and Limitations.

Response: We have modified both sentences for improved clarity.

Thank you for your comments,

VERSION 3 – REVIEW

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GENERAL COMMENTS	Authors have addressed the issues raised.