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Opportunities to improve the reporting of primary care research: An international survey of researchers

--Manuscript Draft--

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Abstract:	Opportunities to improve the reporting of primary care research: An international survey of researchers Abstract Purpose: To assess opportunities to improve reporting of primary care (PC) research to better meet the needs of its varied users. Methods: International, inter-professional online survey of PC researchers and users. Respondents used Likert scales to rate frequency of difficulties in interpreting, synthesizing and applying PC research reports. Free-text short answers were categorized by template analysis to record experiences, concerns and suggestions. Areas of need were checked across existing reporting guidelines. Results: Survey yielded 286 respondents across 24 nations, including: women 54.1% (138), physicians 60% (169), scientists 11% (32), educators 7% (20) and public health professionals 6% (18). Overall, 37.4% indicated difficulties using PC research reports "50% or more of the time." The most common problems were synthesizing findings (58%) and assessing generalizability (42%). Difficulty was reported by 49% for qualitative, 46% for mixed methods and 38% for observational research. Most users wanted richer reporting of theoretical foundation (53.7%); teams, roles and organization of care (53.4%); and patient involvement in the research process (52.7%). Few reported difficulties with research ethics or disclosure of funding or conflicts. Free-text answers described special challenges in reporting PC research: context of clinical care and setting; practical details of interventions; patient-clinician and team relationships; and generalizability, applicability and impact in the great variety of PC settings. Cross-check showed that few current reporting guidelines focus on these needs. Conclusions: Opportunities exist to improve the reporting of PC research to make it more useful for its many users, suggesting a role for a PC research reporting guideline.
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Opposed Reviewers:	
Response to Reviewers:	Opportunities to improve the reporting of primary care research: An international survey of researchers JABFM-20-0266 Revision Table: Author Responses to Reviewer Comments •Thank you for your interest in our manuscript and for the opportunity to revise and resubmit it. •We thank the JABFM editorial team and reviewers for their positive review and constructive comments that have helped improve our report. •Below are our responses to each comment. •We look forward to your editorial assessment and final decision on our revised manuscript. We would be happy to make further changes to help our report be most useful to JABFM readers. •Revised word count: 2,759 •Please see our "Author Notes" at the bottom of this table. Please find below the reviewer comments in BLACK text and author responses in BLUE text. We have underlined the changes in the revised manuscript. Line numbers cited by the reviewers refer to the version 1 ms. Line numbers cited in our responses refer to the version 2 ms. Editor – no specific comments Reviewer 1 1This paper points out the lack of standard reporting for primary care research and begins the process of identifying the problems with current haphazard PC research reporting. The effort aims to identify the components of PC research that may be unique and in need of improved reporting. Most reporting guidelines are for researchers who, when conducting research in primary care settings or when publishing in primary care journals, try to squeeze their clinical research into a PC setting or apply a specialty study to a PC population. Typically, with disappointing results. It is time for PC to create our own Research Reporting Guidelines. The idea is terrific, and the discipline of PC is in need of such a guideline. Applaud the effort of the research team and authors. RESPONSE: Thank you for your enthusiasm for our work and for the potential for new CRISP guidance to improve the reporting of PC research. 2I would appreciate a bit more about the survey development. Does it collect what it was intended to collect? How was survey validity confirmed. It may have only gathered what the authors felt was PC research. could benefit from a bit (just a small bit) of validity discussion in the methods or discussion section. RESPONSE: To better describe the development of our questionnaire with regard to validity, we expanded this sentence in the Methods section:

"We field-tested several drafts with a multidisciplinary, international group of PC academics and clinicians, to improve readability, construct validity and comprehension of scale items." (L162-163)

To specifically address the possibility that respondents may have understood PC research differently than we intended, we added this note to the Discussion section: "We specified definitions for general health and PC research, but some respondents may have used other designations or had difficulty differentiating these two categories." (L320-322)

3At the end of the last paragraph of the introduction it would be good for the authors to describe the long-term goal of creating a useful PC Research reporting guideline.

RESPONSE:
Thank you for your encouragement to outline our larger program of research. To set this study in that context, we have added - as suggested - this short paragraph at the end of the Introduction section:
"Our long-term goal is to formulate useful guidance to help improve for the reporting a PC research. This survey has two specific aims. First, to assess the usefulness of, and characterize possible problem areas with, the current reporting of PC research. Second, to gather suggestions, topics and report elements for possible inclusion in such guidance. Informed by these findings, we plan a broad-based Delphi study to identify and prioritize items for PC research reports." (L149-154)

4Great international response.
Thank you. We were happy to successfully engage PC researchers from 24 nations.

However, the authors then only name North America and Europe. Other continents are relegated to the "other countries" category. And the #2 country (and I believe it is a continent as well) was Australia. Just don't name some of the continents. Or list all of them.

RESPONSE:
As suggested, we have added Australia to the list of nations with the most respondents. All major nations and regions are detailed in Table 1.
"Just over half were from North America, 55.6% (132), with 20% (47) from Australia, 15.6% (37) from Europe and 28.7% (68) from other countries. (See Table 1.)" (L217-218)

5I appreciate the "comments" section of the results. Too often journals can't seem to find the space to include much qualitative research, and this section adds considerably to the value of this manuscript.
That being said, I think Table 3 could be an appendix.

RESPONSE: Thanks for your special interest in the comment categories and quotations in Table 3. Reviewer 2 definitely wants to keep Table 3. We believe it demonstrates the breadth and depth of the needs of PC researchers for better reporting. It displays the key findings of the study, the elements of research reporting that we will enter into the Delphi process to identify consensus reporting items.

6I would like to see the current Appendix 3 brought into the article. It really sets up how inadequate the current research reporting guidelines are for PC Research.

RESPONSE: Thanks for your interest in this part of our research. The table in Appendix 3 (now numbered Appendix 2 in v2) is big and complex. We include it to provide a "crosswalk" from our study findings on Comment Categories (Table 3) to the available published guidelines, for those readers who want to make comparisons in more detail than is possible within the scope of our article. We prefer to keep it as an appendix.

NOTE TO EDITOR: We will be happy to follow your editorial guidance on this decision.

7Overall, the discussion is good.
Thanks.

While I appreciate the conclusion, it is a bit stronger than is supported by the findings. would be better in the discussion. and the conclusion could be toned down a bit.

RESPONSE:
We have reviewed our Conclusion section carefully and revised it to stay more tighly within the direct evidence we present in our Results section. It now reads:
"The findings of this international, interprofessional survey of PC researchers document difficulties they encounter in interpreting, synthesizing and applying the findings in the rich contexts of PC practice, research and healthcare systems. Opportunities exist for improvement in the reporting of context, relationships, patients, problems, care settings, relevance and implementation. There may be a role for added guidance to help investigators report their research in more effective ways to optimize its value to the many users of PC research." (L380-385)

 8Table 2.
A. Please truncate the % to whole numbers.
RESPONSE:
A. We chose to display the percentage figures with one decimal place. (Table 2)

NOTE TO EDITOR: We would be happy to round them all to whole numbers, if the editors prefer that form. Copy editors might make this choice.

B. Consider listing the categories within each section by rank order. would be easier to read and follow.

B. Done. We initially displayed the items in the order they were asked in the questionnaire. We agree with the reviewer that a rank order display may be easier to read, so we have re-ordered them in this manner.
We have added a footnote to Table 2 to clarify this change:
"In each section, items are listed in rank order by percent, not in order of presentation on the questionnaire." (L400-401)

9I appreciate the description of gender in the table. and this may be important to include in future PC Research reporting guidelines.

RESPONSE: Thank you. Reporting participant gender is a challenging task with our expanding commitment to inclusion, particularly when it is done across nations, languages and cultures.

10In the "comments" analysis it is unclear how the quote identifiers add to the results. The quotes include some respondent identifies like gender, work, country, etc.) These do not add and actually detract. The quotes should stand whether they are from a woman in Australia or a man in Canada.

RESPONSE: The quotes stand as examples of the categories of comments, but we believe the extra information on the respondents helps document the diversity of the concerns. Many readers of quotation data value this type of identifying information: profession/medical specialty; research roles; nation; gender. We prefer to keep these identifying data with the quotes in Table 3.

NOTE TO EDITOR: We will be happy to follow your editorial guidance on the decision to include this information.

11A major finding that did not get much comment in the discussion was the finding that >50% of respondents wants more reporting on how patients were involved in the research. This is a major finding and deserves a bit more discussion and call out.

RESPONSE:
To highlight this important finding, we haven added two sentences to the Discussion section:
"Most respondents (52.3%) want better description and documentation of the involvement of patients and communities in the studies reported, citing problems half or

more of the time. This may reflect a commitment to participation and partnership in the research process among the PC research community." (L317-320)

Reviewer 2

1Thank you for submitting this manuscript for review. As a primary care physician for 25 years, I was intrigued what this may indicate.

RESPONSE: Thanks for your special interest. It appears you were "hooked" by our research question and by the potential for improving the reporting of PC research and its application to patient care.

2Introduction:

Second sentence needs some clarification. "...work done by PC, in PC and by others about PC." What does "in PC" actually mean? Who is doing that? Are you saying research done "by PC" is not "in PC?" I would make a suggestion but I not sure what this means.

RESPONSE: We have added clarification and detail in a revised sentence, now reading:
"It is a broad enterprise, including work done by PC investigators, studies conducted in PC settings and research about PC done by those in other specialties and disciplines." (L113-115)

3Also consider adding something about the diversity of subject matter - direct medical care, communication, health systems science, management of care and so many others.

RESPONSE: To amplify the description of PC research, we have added one sentence:
"PC research addresses not only direct clinical care, but also diverse subjects, including communication, health systems, implementation, evaluation, public health sciences, education, public policy and the biopsychosocial model."

4Consider using another word vs "broad" as used twice in one sentence. I understand the word --- maybe variety, diverse, myriad, expansive, wide-ranging or all-encompassing.

RESPONSE: Done. Thanks for the suggestion. We have changed the second "broad" to "wide-ranging" variety of clinical and community settings. (L116)

5I am not an editor but line 44-46 seems, to the reader, as it should be included in the paragraph above.

RESPONSE: We have chosen to leave these two sentences as a stand-alone paragraph, to emphasize the gap between what is needed by PC research and what is available in current reporting guidelines.

6Line 51 should "PR" be "PC?"
RESPONSE: Done. Thanks for catching this typo. Changed to "PC." (L136)

7Methods:

Thank you for explaining how the survey was designed. I especially applaud the field testing.
It would be more robust is you added the number of people you field tested the survey, and their roles (physicians, academician, etc.). This would demonstrate that readability of the survey to the population you sent the survey to in your research.

RESPONSE: Thanks for your endorsement of our survey development methods.

To amplify our description of the development of our questionnaire, we have revised a

sentence and added a second sentence in the Methods section:
"Iterative drafts aimed to capture the most common and important functions of research reports. We field-tested several drafts with a multidisciplinary, international group of PC academics and clinicians, to improve readability, construct validity and comprehension of scale items." (L167-168)
"This test group included a variety of potential survey respondents from seven nations, including physicians, nurses, mental health clinicians and public health professionals; FP/GP academics, researchers, practitioners and educators; PC researchers, PhDs, social scientists and other research team members." (L169-173)

NOTE TO EDITOR: We are not sure of the added value of this second sentence (This test group included...) and leave the decision about its inclusion to your discretion.

8 I think lines 76-80 could be more clearly worded. " We used a five-point Likert scale (scale parenthetically) to assess the frequency of problems potentially encountered reading PC research." Or something like that.

RESPONSE: Done. Thanks for pointing to an opportunity to clarify. With this guidance, we have changed the sentence to read:
"We asked respondents to estimate the frequency of encountering problems reading reports of PC research, using a five-point Likert scale (always, most of the time, about half the time, sometimes, never, or not applicable/not sure)." (L1750176)

9 The word "problems" in your manuscript is left hanging. The following sentence uses "questions" which relates to "problems." Possibly uses "The problems covered in the survey included..." would be a more clear way to link. Or - "we had questions related to the following problems..." These are just my thoughts but try to be more clear.

RESPONSE: Done. To further clarify the content of the survey questions, we made the changes noted above in Reviewer 1 comment 8 and also revised in the next sentence to read:
"The questions covered potential problems with . . ." (L177-178)

10 Line 82-86 - how many organizations? How many national vs international?

RESPONSE:
The breadth of our survey distribution effort and our use of the snowball method make it very difficult to count the number of organizations contacted. Also, it's hard to differentiate between national and international organizations relevant to PC research. To emphasize the world-wide reach of our survey, we added this sentence:
"We sent email invitations with the survey link to individuals and/or organizations in over 54 nations on six continents." (L185-187)

When you speak about "non-physicians" were you looking specifically for certain populations?

RESPONSE: For more detail, we revised the sentence to read:
"... emphasizing the recruiting of those outside of North America, non-clinician researchers and non-physician members of PC teams." (L189-190)

11 Line 98 -105 thank you for giving the background of team members.
RESPONSE: Thanks. We like to report the composition of our data review team.

I suggest being explicit on the number of times you coded the data. You say "iterative" but it looks like twice? Or did you handle different open-ended questions differently? It says the "first" open ended questions done one way followed by "each of the open-ended questions," in the next sentence.

RESPONSE:
Thanks for your interest in our transparent and reflective process. To clarify our method, we added this:
"... we repeated the process for each question...." (L191-192)

12Results:

Line 138 - I suggest giving the percentage vs "fewer respondents." You are interpreting instead of letting the reader make his/her own decision.

RESPONSE: Done.
As suggested, we added percentage figures for these findings in the Results section:
"Fewer respondents indicated insufficiencies in the reporting of the role of funders (21%), potential conflicts of interest (18%) ethical conduct of research and institutional approval
(7%)." (L242-243)
Also, all numbers and percentages are detailed in Table 2.

13I am struggling with the labels "difficulties with research reports" and "comments." Possibly "quantitative survey results" and "qualitative comments." Otherwise it seems as if the comments are about something other than difficulties with research reports.

RESPONSE:
The "Difficulties with research reports" subheading introduces the quantitative survey results. The "Comments" subheading introduces the respondents' free-text short answers. We have been careful to avoid portraying these data as qualitative research, since we used a simple template approach to analysis, reporting "categories" instead of "themes." The comments often go well beyond the questions asked in the survey about problems with current PC reports, as the reviewer notes.

Reviewer 1 (comment 5) valued these respondent comments highly.

To clarify the nature of these comments, we revised a line in the Methods section to read:
"After each section, we invited open-ended short text comments on all aspects of PC research reporting, asked for specific examples of concerns and solicited suggestions for improvement." (L181-182)
We also changed, in the Results section, the subheading label for "Comments" to "Respondent Comments." (L248)

14Line 194. It seems to me this should link back to line 94 telling the reader what you will do. In the Intro it seems you are looking broadly for guidelines and yet here you only cite that you scanned the EQUATOR Network. I suggest that you either explain to the reader in the intro this is the only place you will look and why (are there no other locations?) or expand your search and add that to the results.

RESPONSE:
In our Introduction,
1) We cite the EQUATOR network as the largest and most authoritative collection of research reporting guidelines.
2) We also state that, "we can find no reporting guidelines focused on PC research and limited published research on the quality or content of reports of PC research." This is the result of our general search of published literature and guideline, not restricted to EQUATOR.
3) We state, "We also reviewed existing reporting guidelines to assess coverage of the needs reported by PC researchers."

To clarify reader expectations, after the helpful alert from this reviewer, we have revised that last sentence to read:
"We also reviewed existing reporting EQUATOR network guidelines to assess coverage of the needs reported by PC researchers." (L146-147)

15Discussion:

Line 200 - Is there a national survey? Is it the first survey altogether?

RESPONSE:
This is the first large survey of any kind published on this topic, national or international. Our systematic scoping review (ready to submit for publication) did not

identify any other similar survey. We have revised the sentence to read, simply: "This is the first survey published on user experience with PC research reports."(L306)

16Line 229 - I do not like the first sentence. "usual limits" is vague and leave much for the reader to interpret. It also does not follow requirements for scholarly work regarding reflective critique (....

RESPONSE:
We have revised this paragraph and the discussion of study limitations. (L341-344)
We deleted the words, "the usual limitations..."
We now write: "This study has limitations associated with online surveys, informal sampling methods, Likert scales and free-text responses."
We then go on to enumerate and discuss each potential limitation.

17Line 238 - How do you know you successfully targeted the group? What is the denominator of that group that your respondents are enough?

RESPONSE:
This is a good question that we considered carefully in planning our survey and sampling methods. We have expanded discussion of our respondent population with the following revisions to our Discussion section.

We changed:
"We successfully engaged an expert group of producers and users of PC research." (L352)

We added:
"Our respondents cannot be considered representative of all individuals and groups involved in PC research. With our purposeful and snowball sampling methods, we intentionally sought broad participation and inclusive numerators at the expense of defined populations and precise denominators. This approach served our purpose of capturing diverse experiences and wide-ranging suggestions to inform our Delphi process." (L357-361)

18The limitations need to be expanded and explicitly discussed. "usual limits" is not enough when it comes to reflective critique of scholarly work.

A. RESPONSE: Please see our detailed response to this reviewer's comment 16, above, including our revisions to address this concern.

Specifically, the drop out of survey respondents that do not answer the end of the survey. Is the lower percent then related to the drop out and not truly a smaller percentage? The reader does not realize this until close to the last paragraph of the manuscript.

B. RESPONSE:
Thanks for pointing out an area for potential reader confusion.
We calculated all percentages of answers in the text and tables using the number of respondents to each question, thereby correcting for any drop-off in response rates. To clarify, we revised a sentence and added a new sentence in our Discussion section to read:
"The long questionnaire risked survey fatigue, as a few respondents noted in their comments. We observed some fall-off in response to later questions, but we calculated all answer percentages using the denominators of responses to each question. (See tables.)" (L349-352)

You need to comment on how broadly you looked at guidelines.
C. RESPONSE: Please see our detailed response to this reviewer's comment 14, above, including our revisions to address this concern.

19One strength of the study of recognizing areas of improvement which you superficially discuss in lines 203-208. (L310-315 in v2) I think that making stronger statements about the need to consider a format for PC manuscripts that allow for the description of context and application in the patient care arena. Word counts blunt this

and authors often opt for longer unnecessary introductions.

RESPONSE: Done
Thanks for your interest in our study findings.
At the suggestion of this reviewer, we added this sentence:
"Changes in reporting format and dissemination strategies might be needed to meet these needs." (L315-316)

20I like the tables. Whatever the journal decides, I would leave these in.

RESPONSE:
Thank for your interest in this level of detail in our findings. We prefer to keep Tables 1-2-3, and to keep other material as appendices.

NOTE TO EDITOR: We will be happy to follow your editorial guidance.

21General comments: I realize this is a lengthy review. I hope my comments help enhance explicitness while recognizing the known author word count problem. Tangibly these are options:

RESPONSE:
Thank you for your helpful comments. We will work with the editorial team to add and subtract content to reach the optimal length and format for this report.

22(1) Decrease or delete the comments within the text of the paper and just have them in the table.

RESPONSE:
Many readers of PC research value such participant comments, as all three of our reviewers emphasized. Many expect to see them presented as supporting data in the text of the Results section. We have highlighted in the text special comments that do not fit directly into Table 3, which is structured to present the categories that resulted from our analysis.

23(2) Add those 2-3 sentences of fragments to the methods to enhance your rigor.

RESPONSE: Done. See above for details on our revisions to the text on Methods. Reviewer 2, comments 7-11. We have also made several other revisions in response to the comments of other reviewers.

24(3) Expand the discussion to be clear about the limits.

RESPONSE: Done. See above for details on our revisions to the text on study limitations in the Discussion section. Reviewer 2, comments 716, 17, 18. We have also made several other revisions in response to the comments of other reviewers.

25(4) Lines 238-252 condense and be confident --- These are future areas of research ---#1 and #2. It is clear from your appendix that is your plan. I agree that practicing physicians need to be queried because if those people cannot use the information printed, why print it?

RESPONSE: Done. See above, Reviewer 2 comment 16, and our revisions. (L358-362)
In the Introduction section, we have expanded the explanation of the larger CRISP program of research. We have also expanded this area of our Discussion section.

26Thank you again for a thought-provoking manuscript.

RESPONSE: Thanks for appreciating our research and for all your helpful suggestions.

Reviewer 3

General comments - Reviewer 3

1The authors attempted to assess the state of primary care research reporting and identify areas in which reporting could be improved. They recruited an international, interprofessional sample of respondents, and obtained responses to a very lengthy survey.
Thank you.

A. Unfortunately, I question the underlying theoretical and measurement components of this project. The authors mostly achieved their objective of identifying areas in which primary care research reporting could be improved. They have quantitative and qualitative data that would suggest certain areas for targeting intervention regarding reporting guidelines. However, I'm not convinced that the issues faced in primary care research reporting are qualitatively different from those in other fields.

RESPONSE:
Our study had two major objectives, now revised to clarify reader expectations and to address this reviewer's concern:
"This survey has two specific aims. First, to assess the usefulness of, and characterize possible problem areas with, the current reporting of PC research. Second, to gather suggestions, topics and report elements for possible inclusion in such guidance. Informed by these findings, we plan a broad-based Delphi study to identify and prioritize items for PC research reports." L1490-154)
This reviewer appears to agree that these two objectives have been largely met.

We did not set out to demonstrate that, "the issues faced in primary care research reporting are qualitatively different from those in other fields," but our findings strongly speak to important differences.
1) Our quantitative survey data identify problematic areas that we believe readers will recognize as more characteristic of PC research than other medical research.
2) Our respondent comments speak clearly to differences in PC research and emphasize elements of research reports that are not typically addressed in general health research or in published reporting guidelines. We address this question directly on pages 11-12. See extensive quotations in our "Comments" section: Lines 256-258, 260-262, 264-267 and 286-288. See also the quotations highlighted in Table 3, under the heading, DISSEMINATION OF RESEARCH FINDINGS, Research Reporting, Guidance from PC research reporting guidelines that are different than currently exist.
3) Our Appendix 2 describes a simple scan to demonstrate that most of the PC research needs identified in our survey are not addressed by most available guidelines.
This reviewer seems a want a deeper analysis of other guidelines. We share that interest, but it is beyond the scope of this survey study.

2 B. Furthermore, some of their findings reflect the conduct of primary care research, rather than the reporting of it.

RESPONSE:
See our detailed response to the same concern from this reviewer, below: Reviewer 3 comment 14.

3 C. The authors frame this study as a way to determine whether specific reporting guidelines are needed for primary care research. They state in their discussion that they believe there is a role for additional guidelines, but they don't tie this conclusion to their results, specifically in that new or different guidelines are needed for primary care, distinct from existing guidelines presented in the EQUATOR network.

RESPONSE:
See our detailed response to the similar concern from this reviewer, above Reviewer 3 comment 1. We tie this conclusion to our study findings in our Discussion section (L310-315) and in added text (L317-318).

4D. Nor do they provide any suggestions for what these specific guidelines should include.

RESPONSE:

It was not our goal in this study to produce a list of primary care research reporting items.
We have added a sentence pointing readers to Table 3 as a list of specific areas for potential improvement in reports of PC research. We want to avoid much discussion in the text of what can be found in the table. We also link these findings to the next process in our CRISP program, the Delphi study to turn these problem areas into specific reporting items.
"Specific areas for improvements in reporting and for new guidance tailored to the needs of PC research are suggested by the categories listed in Table 3." (L373-374)

Specific thoughts and recommendations follow, both stylistic and substantive - Reviewer 3

5The presentation of the EQUATOR network should be more detailed; the Introduction should introduce the reader to each of the guideline sets, and explain that they are study-type specific, so when they get to Appendix 3, they know what they are looking at. (More on Appendix 3 later.)

RESPONSE:
We have revised the text to clarify the separate discussions of:
1) the EQUATOR network as the main clearing house of reporting guidelines, and
2) our general literature search on guidelines and published studies on PC research reporting.
In our Introduction, we cite the EQUATOR network as the largest and most authoritative collection of research reporting guidelines. We have revised that sentence to read:
"The EQUATOR network4 [https://www.equator-network.org] catalogs the growing array of research reporting guidelines aimed to...." (L124-125)

We later state, as the reviewer notes, the focus of most guidelines on specific research methods: "Most are focused on specific research methods rather than on patient populations or practice settings." (L133-134)

Later, in a separate paragraph, we have revised our note on literature review to now state:
"We can find in the published literature no reporting guidelines focused on PC research and only limited research on the quality or content of reports of PC research." (L138-139)

6Line 51 - "PR" should be "PC.
RESPONSE: Done. Thank you. We corrected this typo, also noted above: Reviewer 2, Comment 6.

7How many people were involved in the question development process? How many iterations did the researchers go through? Were all of the 40+ questions developed from scratch, or was there a foundation from which they began (similar surveys, questions, guidelines)?

RESPONSE:
See our detailed response to Reviewer 2 comment 7, above, on the same topic.
Our questionnaire development process is described in greater detail, with revisions and added content, in the Methods section. Please see L164-182.

8Line 73 - missing the word "of" (group of PC…)
RESPONSE: Done. We corrected this typo. Thanks. (L161)

9Line 82 - delete one of the "onlines."

RESPONSE: Done. We deleted one word and revised the sentence to read:
"We distributed the link to the online survey widely." (L184)

10The paragraph beginning at line 98 contains a variation of the word "category" 6 times, which comes across as very repetitive. Consider using other words. (Now L202-

209 in version 2)

A. RESPONSE:
Thanks for your feedback. The "category" is the essential unit of our template analysis and is used here for precision and consistency. We have read this paragraph carefully and feel that using other words would increase room for reader confusion. This is the Methods section, where we describe an iterative process, so some repetition is necessary.
We did remove the word "categorized" from one sentence where it was not needed for clarity, so it now reads:
"Using the revised category list and an iterative process, we repeated the process for each question and the comments of all respondents...." (L206)
We would be happy to follow further suggestions from the copy editor.

Your appendixes are out of order - Appendix 3 is introduced in the text prior to Appendix 2.

B. RESPONSE: Done.
Yes. Thanks for catching this error. We have corrected it and we now list the three appendixes in the order they are first mentioned in the text. Appendix 2 includes supplemental information on both methods and results, so we call it out in the Methods section. (L215)

11I've never seen a qualitative category list developed based on a single question ("the first open-ended question"). Is there a citation for this? Why was that chosen as the foundational question?

RESPONSE:
We started the process with the first question and then continued in the iterative procedure with each subsequent question. This is typical for the template method of analysis and the constant comparison method. * The initial template starts with the categories identified in analysis of the first question and new categories are added as they emerge from the analysis of the data throughout the remainder of the questions. We believe the text makes this clear. See our added italics. To further clarify this process, we have added new text as shown:
"We each categorized all comments from the first open-ended question and refined the category list through discussion. Then two researchers independently categorized comments from each of the open-ended questions and the team met to discuss and resolve any differences. We added or coalesced categories as needed to include factors that emerged from the data. Using the revised category list and an iterative process, we repeated the process for each question and the comments of all respondents...."
*Using codes and code manuals: A template organizing style of interpretation. In: Crabtree BF, Miller WL, eds. Doing qualitative research, 2nd edition. Newbury Park, CA: SAGE Publications; 1999.

12Your results and abstract indicate 286 respondents, but Table 1 indicates an n of 255, and Table 2 indicates no more than 200 respondents to any question. Please explain or fix the discrepancy. This indicates to me that a large number of respondents answered "Not applicable/Not sure." This number should be reported.

RESPONSE:
Thanks for your careful reading that identified an error in reporting the N for our survey. We have rechecked all our denominators throughout the abstract, text, tables, and appendices.

Drawn from the Qualtrix dataset, the initial 286 included 32 online encounters that got through the informed consent process but did not complete any survey questions. These should not properly be counted as respondents. We have deleted that figure and now use 255 as the study denominator. We have corrected this in the abstract (L97) and the Results section of the text (L222).

All percent calculations shown in Table 1 are correct and need no changes. For each question, we used the number responding as the denominators and clearly display the

number not responding. Some questions do not total 255 because: 1) more than one response was acceptable (e.g. Roles Played in PC Research), or 2) One respondent group is a subset of another group (e.g. Physician Specialty is a subset of Primary Profession). This is clarified in each question row in Table 1.

In Table 2 and Appendix 3 (which is the expanded Table 2), we used the correct denominator of respondents for each question, as made clear in each answer row. Positive responses indicate the frequency that respondents experienced problems when using research reports. As the reviewer notes, we do not display the "NA/Not Sure" answers but combine them along with the number who did not respond to the question at all.

For example, in Table 2, the first question is: "Overall, how often does the reporting of PC research cause problems for your work?" As shown in that row, 198 survey respondents answered that question with a Likert scale scores. The remainder of respondents (255-198=57) offered no scale score and are not shown. That number includes those who did not answer this question or answered it with, "NA/Not Sure."

We believe this most fairly represents the frequency of readers having problems with current research reports. The point of this table is really about those numerators. We doubt that many readers will be interested in the level of detail suggested by this reviewer regarding the different types of negative answers. If you request, we would be happy to add this information into Appendix 3, which gives extra detail on the Table 2.

To clarify this, we have made 3 changes.
1. In Table 2 and Appendix 3, we changed the table column label to read: "Respondents Answering," to differentiate the row numerators from for the study N for the whole survey. (Table 2, p. 22)
2. We also expanded the footnote to Table 2 and Appendix 3 to now read: "For each question, "Respondents Answering," is the number of survey respondents who answered the question with Likert scale scores. "NA/Not Sure" responses are combined with no answers and are not shown. They total 255 ¬– Respondents Answering." (L428-432)
3. In the text, we added a bit to one sentence in the text of the Results section, so it now reads: "Overall, 37.4% (74) of respondents who answered the question said that PC research reports caused problems...." (L231)

13Give the breadth of the sampling frame, 286 respondents worldwide is not very large. It may not represent researchers across the globe accurately.

RESPONSE:
Please see our detailed response to Reviewer 2, Comment 17, on this topic.
We have revised and expanded our Discussion of study limitations on this sampling issue. Please see L358-362.

We never intended our survey to be representative of the world of PC researchers and are careful avoid any such claim. We aimed to be broad and inclusive, to maximize the catchment of concerns, opinions and suggestions for potential improvements in the reporting of PC research. These findings will inform the next step in our research, the Delphi study to identify and prioritize a set of consensus items for PC research reports. We have made multiple changes throughout the report to clarify this purpose and procedure.

14Many of the qualitative comments pertain to the practice of primary care research rather than the reporting of it. They don't add to the overall conclusion that there are areas that could be improved in the reporting of PC research, nor do they support a recommendation for PC-specific reporting guidelines.

RESPONSE:
We agree there are interesting areas of overlap between conducting research and reporting the conduct a research. Our respondents felt that improvements in research reporting required improvements in training and infrastructure to support PC research, particularly among community-based practitioners. Only one item in our Table 3 appears limited to this issue: PLANNING RESEARCH, Funding and infrastructure,

Support of non-academic writing and reporting. We prefer to leave this item in the category list, since it arose directly from our respondent comments.

15The introductory statement on line 184 is not supported by the following quote. The quote indicates that PC should not perpetuate the problems with publishing, but does not make any mention of instigating change.

RESPONSE:
We believe the quote is relevant to our statement on "improving the conduct and reporting of medical research." (L290-291)
The respondent ends his comment with, "Shame on us if we perpetuate these inadequacies in PC." That suggests he is calling for better reporting practices, even though he does not call for specific changes. (L296-297)

16There is very little evidence in the results that support the statement in lines 203-205 in the discussion. The results might identify specific problematic areas in reporting, but not many (primarily a few quotes) that indicate that PC differs from other fields and is therefore deserving of "special attention."

RESPONSE:
We believe our data - both quantitative survey data and comments - support this statement:
"The PC researchers we surveyed reported concerns about the ways medical research is reported and they identified areas where PC research deserves special attention to issues often not well reported in medical research." (L310-312 in version 2))
We next highlight the categories where PC research needs added attention, each supported by example comments. "These included theoretical foundations, the context of interventions and care, and patient-clinician and team relationships." (L312-313)
We also present quantitative survey data that identify areas of research reporting that our respondents feel need improvement (Table 2). They reported problems with PC research reports half the time or more often, for these topics that are of special relevant to PC:
•Theoretical underpinnings of the research (54%),
•Description of teams, roles and organization of care (53%),
•Involvement of pts/communities, others the research process (52%),
•Description of usual care (48%),
•Description of clinicians/providers (47%),
•Selection of the clinical sites, clinicians or study locations (47%)
•Relationship between researchers and patients/participants (45%),
•etc., etc., etc.

Text comments should not be considered quantitative measures of concern among the respondent group. We do not display all relevant comments and do not tally comments.
They stand as evidence of concerns among PC research users.

17Beginning on line 246, the authors state that "Although existing reporting guidelines help with specific methods used in PC research, none adequately addresses the concerns specific to PC patients, problems and settings, or the rich context of both research and patient care." This seems to directly contradict the information in Appendix 3; if the specific areas of concern can be categorized into specific guidelines, that would suggest that the guidelines address these areas. (L368-370 in version 2)

RESPONSE:
The reviewer apparently does not accept our data or argument that PC research is different in important ways than other kinds of biomedical research and, therefore, might need more attention to other aspects of research reports.

Reviewers 1 and 2 accept our data and value our conclusions.

Almost all published guidelines listed in the EQUATOR network database focus on specific research methods. Our respondents - in both their survey responses and their open comments - call for improvements in areas distinct from generic research

methods. To use one example: They are not asking for better reporting of RCT statistics but more information about the clinicians, patients, communications, relationships, context and application of the interventions tested in the RCTs.

Appendix 2 summarizes a scan of the most relevant reporting guidelines on the EQUATOR network. The scan is not a quantitative assessment but provides a crosswalk between our study findings and current guidelines for those readers who would like to explore how these needs expressed by our PC researchers are dealt with - if it all - in currently available guidelines. The table demonstrates and our text describes how most of the needs expressed by our PC respondents are not dealt with substantially by most of the guidelines currently available. There are some areas of potential overlap and interested readers can use our Appendix 2 table to access the relevant sections of EQUATOR guidelines to assess for themselves how well the PC issue is covered.

As mentioned above, this reviewer seems to want deeper analysis of the other guidelines. We share that interest, but it is beyond the scope of this study.

18Why include both Table 2 and Appendix 2. All of the information in Table 2 is presented in Appendix 2. Why not just use Appendix 2 as Table 2? (Now changed to Appendix 3 in version 2.)

A. RESPONSE:
Correct, Table 2 in the text is a subset of the Appendix 3 data, summarized and reorganized to make it more reader-friendly and to parallel the presentation in the text. The right column of Table 2 presents the number (percent) of respondents that estimated they "encounter problems 'about half or more of the time.' " That is the summary metric we report and discuss. Appendix 3 displays these data for each point on the 5-point Likert scale. Thus, Appendix is more complete but also more burdensome for most readers.

NOTE TO EDITORS: We will be happy to follow your editorial guidance on this decision. We could move Appendix 3 into the body of the report in place of the current Table 2.

In Appendix 2, it would be helpful if the last column (the summary percents) were visually set apart from the response categories. (Now changed to Appendix 3 in version 2.)

C. RESPONSE: Done.
Thanks for your suggestions to improve the readability of this table.
In the table in Appendix 3, we have made 3 changes:
1) We reordered the variables to appear in rank order, by percent of the summary variable in the rightmost column. This parallels what we have done in Table 2 in the body of the report, done at the recommendation of Reviewer 1 comment 8B, noted above. We have also added a footnote to explain this order, again as in Table 2.
2) To better signal the "summary percents" variable noted by the reviewer, we changed the label for the rightmost column to read: "Summary: About half the time or more."
This is further described in both the text and this appendix.
3) Added a double rule to better demarcate the final right column visually from the other variable columns to the left, as the reviewer suggests.

Both the Table and the Appendix would be easier to read if the column headers appeared on each page.
C. RESPONSE: Column headers will be shown on every page when the tables get typeset.

19Appendix 1 - why are the question numbers out of order? It also contains several blank pages.

A. RESPONSE:
Abstract 1 is an image of the questionnaire as downloaded from the Qualtrix program. We are happy to format it is any way that the editorial team suggests to make it most useful to JABFM readers. The numbers are sometimes out of order because the

survey software presents them to respondents in context-specific order that cannot be represented in a linear document. We do not believe these details are of much concern to most readers.

WG - I WILL DO MORE WORK TO REFINE THIS IMAGE FOR THE APPENDIX BEFORE RE-SUBMISSION.

B. Incidentally, the cover letter included in Appendix 1 unblinds the manuscript.

B. We can "unblind" the questionnaire if the editor thinks this is appropriate. We are comfortable with it as its. (The blinding process refers to the review process, not the publication.)

NOTE TO EDITOR: We will be happy to work with your editorial or production team to optimize the presentation of this document as an online-only appendix.

20Appendix 3 -
A. I think you can probably delete this table. If it is retained, it can be modified to be more readable.
RESPONSE: Reviewer 1 (comment 6) likes this table and asks us to move it into the body of the report. This table in Appendix 3 is big and complex. We include it here to provide a "crosswalk" from our study findings (Table 3) to the available published guidelines, for those readers who want to make comparisons in more detail than is possible within the scope of our article.

NOTE TO EDITOR: We will be happy to follow your editorial guidance on this decision.

B. The text appears to be cut off in the STROBE row of column 1, and in the headers for
RESPONSE: Fixed.

C. "Types of Intervention" and "Funding and Infrastructure."
RESPONSE: Fixed.

D. The columns for "Reference" and "Funding and Infrastructure" are blank. Why are they in the table?
RESPONSE: Because none of these EQUATOR guidelines addressed these categories from our survey. The same occurs with several other categories in the table.

E. I initially looked for notes to explain what the a,b,c,d after the numbers in the body of the table stood for. It took some time to figure out that they reflected the numbering systems from the initial guidelines.
RESPONSE: Fixed. Same as this reviewer's next comment F. See below.

F. I don't know what you mean by this: "The subcategory label is the same as the major category label for general items that do not fit into more specific subcategories."

RESPONSE: Clarified. See below and the revised Appendix 2.

Thanks for these suggestions for improving the display. We have revised the title, major column headings footnotes, which now read:
"Table. Comparison of published reporting guidelines with the categories of concern about primary care research reports expressed by survey respondents*
"SURVEY CATEGORY - SUBCATEGORY†"
"*Numbers in table cells come from the cited guidelines and note the items we identified as matching the category from our survey. (See Table 3)"
"†The subcategory label is the same as the major category label for general items that do not fit into more specific subcategories."

Author Notes

	Thank you for your thoughtful comments and helpful suggestions.

Opportunities to improve the reporting of primary care research:

An international survey of researchers

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Original Research Report

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Tables: 3

Appendixes: 3

1. CRISP Needs Assessment Questionnaire

2. Table. Respondent ratings of frequency of encountering problems with the reporting of primary care research

3. Review of Existing Reporting Guidelines for Primary Care Concerns

Key Words: family medicine, family practice, general practice, journal article, medical research,

primary health care, primary care, research report, research reporting, reporting guidelines

Abbreviations:

PC – primary care

GP – general practice or general practitioner

FP – family physician

CRISP – Consensus Reporting Items for Studies in Primary Care

Abstract

Purpose: To assess opportunities to improve reporting of primary care (PC) research to better meet the needs of its varied users.

Methods: International, inter-professional online survey of PC researchers and users, 2018-2019. Respondents used Likert scales to rate frequency of difficulties in interpreting, synthesizing and applying PC research reports. Free-text short answers were categorized by template analysis to record experiences, concerns and suggestions. Areas of need were checked across existing reporting guidelines.

Results: Survey yielded <u>255</u> respondents across 24 nations, including: women 54.1% (138), physicians 60% (169), scientists 11% (32), educators 7% (20) and public health professionals 6% (18). Overall, 37.4% indicated difficulties using PC research reports "50% or more of the time." The most common problems were synthesizing findings (58%) and assessing generalizability (42%). Difficulty was reported by 49% for qualitative, 46% for mixed methods and 38% for observational research. Most users wanted richer reporting of theoretical foundation (53.7%); teams, roles and organization of care (53.4%); and patient involvement in the research process (52.7%). Few reported difficulties with ethics or disclosure of funding or conflicts. Free-text answers described special challenges in reporting PC research: context of clinical care and setting; practical details of interventions; patient-clinician and team relationships; and generalizability, applicability and impact in the great variety of PC settings. Cross-check showed that few current reporting guidelines focus on these needs.

Conclusions: Opportunities exist to improve the reporting of PC research to make it more useful for its many users, suggesting a role for a PC research reporting guideline.

1 **Introduction**

2 Primary care (PC) research is a growing discipline with great potential to improve patient care

3 and population health.[1] It is a broad enterprise, including work done by PC investigators,

4 studies conducted in PC settings and research about PC done by those in other specialties and

5 disciplines. As with PC practice, PC research has developed its own perspectives and methods

6 to meet its special challenges.[2] It uses a broad array of research methods to study the universe

7 of health problems across a wide-ranging variety of clinical and community settings,

8 emphasizing patient-centered, problem-oriented, relationship-based approaches. PC research

9 addresses not only direct clinical care, but also diverse subjects, including communication,

10 health systems, implementation, evaluation, public health sciences, education, public policy

11 and the biopsychosocial model. PC research embraces many partners and serves many users.

12

13 Investigators across many fields recognize opportunities to improve the planning, conduct and

14 reporting of research.[3] The EQUATOR network[4] [https://www.equator-network.org] catalogs

15 the growing array of research reporting guidelines aimed to: improve the planning, conduct,

16 dissemination, implementation, synthesis and evaluation of research; increase the translation,

17 adoption and evaluation of new knowledge and improvements in patient care and health care

18 systems; reduce delays from bench to bedside to patients and communities; reduce research

19 waste and enhance the impact and value.[5] Reporting guidelines increasingly influence editorial

20 policies of peer-reviewed journals.[6,7,8]

21

22   The EQUATOR Network provides a core set of reporting guidelines that focus on key research

23   methods, but the bulk of the 432 guidelines are specific to disciplines or subjects. Yet, none

24   focuses on PC.

25

26   Primary care is a distinct discipline, with specific needs for knowledge and research, and

27   effective dissemination of findings is necessary to improve practice, patient outcomes and

28   population health.

29

30   However, little is known about the quality of PC research reporting or how well it meets the

31   specific needs of its varied users: clinicians, patients and families, researchers, educators,

32   policymakers and communities. We can find in the published literature no reporting guidelines

33   focused on PC research and very limited research on the quality or content of reports of PC

34   research.

35

36   Our long-term goal is to formulate guidance to help improve the reporting of PC research,

37   recognizing the distinct contribution of PC to patient care and healthcare systems and

38   optimizing the quality and impact of research as a core component of effective PC. This initial

39   stage in our work has two specific aims. First, to assess the usefulness of, and characterize

40   problem areas with, the current reporting of PC research. Second, to gather suggestions, topics

41   and elements for possible inclusion in such guidance. Informed by these findings, we plan a

42   broad-based Delphi study to identify and prioritize items for PC research reports.

43

44   To we conducted an international, interprofessional, inter-specialty online survey of PC

45   researchers, educators and leaders to better understand how often current PC research reports

46   are problematic and to explore opportunities to improve the reporting of PC research. We also

47   reviewed existing reporting <u>EQUATOR network</u> guidelines to assess coverage of the needs

48   reported by PC researchers.

49

50   **Methods**

51   We conducted an online survey using Qualtrics XM software (Qualtrics, Seattle, Wa), October

52   2018 – March 2019. The questionnaire recorded demographic information, research training

53   and experience, profession and specialty, years since completion of training and research role.

54   For this survey, we offered the following working definitions. "Primary care research" is original

55   scholarly work on, in, or about PC. "Research reporting" is final reports published in peer-

56   reviewed professional and scientific journals.

57

58   We drafted survey questions to assess experiences, problems, limitations, concerns, unmet

59   user needs and opportunities for improving the reporting of PC research. Questions came from

60   our international group of experienced PC investigators, authors, reviewers, editors, readers

61   and clinicians. <u>Iterative drafts aimed to capture the most common and important functions of</u>

62   <u>research reports</u>. We field-tested several drafts with a multidisciplinary, international group <u>of</u>

63   PC academics and clinicians, <u>to improve readability, construct validity and comprehension of</u>

64   <u>scale items. This test group included a variety of potential survey respondents from seven</u>

65   <u>nations, including physicians, nurses, mental health clinicians and public health professionals;</u>

66 FP/GP academics, researchers, practitioners and educators; PC researchers, PhDs, social

67 scientists and other research team members.

68

69 We asked respondents to estimate the frequency of encountering problems reading reports of

70 PC research, using a five-point Likert scale (always, most of the time, about half the time,

71 sometimes, never, or not applicable/not sure). (See questionnaire, Appendix 1.) The questions

72 covered potential problems with: application and translation of study findings; study designs;

73 research methods; and the reporting of conflicts of interest, funding and bias.

74

75 After each section, we invited open-ended short text comments on all aspects of PC research

76 reporting, asked for specific examples of concerns and invited suggestions for improvement.

77

78 We distributed the link to the online survey widely, starting with emails and website posts on

79 many national and international PC research organizations, plus social media. We sent email

80 invitations with the survey link to individuals and/or organizations in over 54 nations on six

81 continents. To increase and broaden the study population, we used a snowball sampling

82 method,[9] asking respondents to forward the survey link to PC colleagues, emphasizing the

83 recruiting of those outside of North America, non-clinician researchers and clinicians from

84 diverse PC. disciplines.

85

86 For data analysis, we used descriptive statistics to summarize respondent characteristics and

87 their Likert scale responses.

88

89   To describe the short free-form comments, we used a template analysis approach[10] and word

90   processing software. Our initial template was based on the traditional components of the

91   research report. The coding team included an experienced family physician-researcher (US), an

92   early career family physician with research PhD (Australia), a final-year medical student

93   entering a clinical-PhD program in PC (Netherlands), and a final-year medical student

94   (Australia).

95

96   We each categorized all comments from the first open-ended question and refined the

97   category list through discussion. Then two researchers independently categorized comments

98   from each of the open-ended questions and the team met to discuss and resolve any

99   differences. We added or coalesced categories as needed to include factors that emerged from

100   the data. Using the revised category list and an iterative process, we repeated the process for

101   each question and the comments of all respondents, with each comment reviewed by at least

102   two team members and discussions to resolve any differences. The entire investigator group

103   offered final feedback on the analyses.

104

105   After we identified the needs voiced by survey respondents, we reviewed published reporting

106   guidelines to check if they address similar areas of concern. Focusing on EQUATOR Network

107   guidelines on research methods most commonly used in PC research, two reviewers identified

108   components that appear to address concerns about research reporting similar to those voiced

109   by our respondents. (See Appendix 2 for details of methods and results.)

110

111   This study was granted a waiver by the Human Subjects Division of the University of

112   Washington, Seattle. The survey was anonymous, and participants gave informed consent when

113   they proceeded with the online survey.

114

115   **Results**

116   Our survey yielded 255 respondents from 24 nations, including: 54.1% (138) women, 64% (159)

117   with doctoral degrees, 60% (169) physicians, 11% (32) scientists, 7% (20) educators, and 6% (18)

118   public health professionals. Just over half were from North America, 55.6% (132), with 20% (47)

119   from Australia, 15.6% (37) from Europe and 28.7% (68) from other countries. (See Table 1.)

120

121   **[Insert Table 1 about here.]**

122   **Difficulties with research reports**. Respondents reported the frequency of experiencing

123   difficulty when using reports of both general health research and PC research. (See Table 2 and

124   Appendix 3 for detail.) Here, we focus on areas in which respondents reported it is "difficult at

125   least half the time." Overall, 37.4% (74) of respondents who answered the question said that PC

126   research reports caused problems for their work. Fully 58% (109) found difficulty synthesizing

127   findings across studies and 41.9% (83) found difficulty assessing generalizability. Many found

128   reporting to be insufficient for specific methods: 49% (84) for qualitative research, 46% (75) for

129   mixed methods and 8% (65) for cohort/observational research. The elements that were most

130   commonly reported as missing were the theoretical basis of research (54%, 87); description of

131 teams, roles and organizations of care (53%, 86); and how patients were involved in the

132 research process (53%, 78).

133

134 Lower percentages of respondents cited problems with other aspects of PC research reports

135 but over 20% of respondents noted problems with most aspects of PC research reporting

136 "about half or more than half of the time." (See Table 2.)

137

138 Fewer respondents indicated insufficiencies in the reporting of the role of funders (21%),

139 potential conflicts of interest (18%) ethical conduct of research and institutional approval (7%).

140

141 **[Insert Table 2 about here.]**

142 **Respondent comments**. Respondent comments about the reporting of PC research are

143 organized into categories and subcategories, summarized in Table 3, with exemplar quotations.

144 They generally followed the stages of the research process and the conventional format of

145 research reports.

146 **[Insert Table 3 about here.]**

147 One observation ran through the comments of many respondents across the questions: PC is

148 different. Many respondents emphasized that PC - practice, research and research reporting - is

149 different than for other health care and medical practice.

150 "There is a tendency for PC research to be more likely to involve multimorbidity,
151 multiple disciplines, social determinants of health, and community-based sampling. (FP;
152 clinician, editor, reviewer, manager, researcher; Australia; M)
153

154   "Purely because it is setting specific and refers to a much broader population than

155   specialty care." (Health services researcher; community member/patient, reviewer,

156   methodologist, researcher; UK; F)

157

158   "PC has many contexts, types of practitioners and also takes patients into account -

159   patient centered care and factors in multimorbidities and preventative medicine. It is

160   much more complex than hospital care which mostly is single health issue with a fairly

161   passive patient." (FP; advanced researcher/educator; Australia; F)

162

163   A few respondents did not see much difference between the reporting of PC research and

164   medical research in general.

165   "I don't really think the reporting is much different to equivalent research designs in

166   other settings. It's just that there are few RCTs in PC settings, so often the findings are

167   descriptive." (FP; advanced researcher/educator; Australia; F)

168

169   A few questioned the need for a new reporting guideline for PC research.

170   "None of the above seem unique to PC research in any way and are covered already in

171   standards and journal requirements." (FP; advanced researcher/educator; USA; M)

172

173   One respondent worried that PC research was too broad to lend itself to a reporting guideline.

174   "I am not sure of the value of looking for basic consistencies across PC research when

175   the field is so big, eclectic and covering a huge range of topics, methods and contexts.

176   Sometimes reporting will be good sometimes not." (FP; advanced researcher/educator;

177   New Zealand; M)

178

179   However, some highlighted the need for specific guidance for PC research.

180   "It is not much different now but needs to be. Given the complexity of the intervention

181   and of the patients, we need to know far more details of the research than are usually

182   reported." (FP; advanced researcher/educator, reviewer; Canada; M)

183

184   One respondent called for PC research to lead the way in improving the conduct and reporting

185   of medical research.

186   "There is a more fundamental problem in medical publication than PC. As Ionnaidis has

187   pointed out, most published medical research findings are most likely false. The poor

188   study designs, misinterpreted analyses, small or unrepresentative sample sizes, bias due

189   to industry or academic reputation, and outright fraud to achieve publication are some

190   of the reasons that "the evidence (for most of medicine) sucks." Shame on us if we

191   perpetuate these inadequacies in PC." (FP; advanced researcher/educator, policymaker;

192   USA; M)

193

194 **Other Reporting Guidelines.** Using these comment categories summarized in Table 3, we

195 scanned the EQUATOR Network reporting guidelines most relevant to PC research and found

196 that many of the concerns voiced by our respondents are not adequately addressed by

197 currently published guidelines. (See Appendix 2.)

198

199 **Discussion**

200 <u>This is the first survey published on user experience with PC research reports.</u> We identified

201 opportunities for improvement, some specific to PC and others applicable to health research

202 more generally.

203

204 The PC researchers we surveyed reported concerns about the ways medical research is

205 reported and they identified areas where PC research deserves special attention to issues often

206 not well reported in medical research. These included theoretical foundations, the context of

207 interventions and care, and patient-clinician and team relationships. Respondents

208 recommended changes for improving the reports of PC research to make them more valid,

209 useful, generalizable and applicable in practice. <u>Our findings suggest that changes in reporting</u>

210 <u>format and dissemination strategies will be needed to meet these needs.</u>

211

212   <u>Most respondents (52%) want better description and documentation of the involvement of</u>

213   <u>patients and communities in the studies reported, citing problems half or more of the time. This</u>

214   <u>may reflect a commitment to participation and partnership in the research process among the</u>

215   <u>PC research community.</u>

216

217   Optimizing PC research reports - their use, translation and application - is essential if we are to

218   realize the potential of PC research to empower the translation of new knowledge into

219   improved patient care and health outcomes through more effective application of findings into

220   routine PC practice.[1]

221

222   These findings add to the growing literature on deficiencies with the reporting of research

223   across a variety of research fields.[11] Our findings should not be interpreted to suggest that PC

224   research reporting is more or less problematic than research in other fields. We are seeking to

225   understand how to help investigators, reviewers and editors improve the reporting of PC

226   research for all its many users working in diverse settings[12] Guidance that focuses on the issues

227   of particular concern in PC - context, relationships, theory and applicability - may also offer

228   insights to help improve the reporting of health research more broadly.

229

230   Our survey focused on identifying potential difficulties and did not document the strengths of

231   current research and reporting practices in PC. Our study also focused on the content of

232   published reports of PC research. Further research can explore the best alternative formats and

233   dissemination strategies to make research findings most accessible to the full range of users,

234   including practitioners, patients and policymakers.

235

236   This study has limitations associated with online surveys, informal sampling methods, Likert

237   scales and free-text responses. We specified definitions for general health and PC research, but

238   some respondents may have used other designations or had difficulty differentiating these two

239   categories. Likert scales may lead to blunting of answers, but we did not observe ceiling effects.

240   Our questions about the frequency of encountering problems may not be the most sensitive

241   way to measure users' satisfaction and experience with research reports. The short comment

242   format did not allow for deep questioning of participants about the topic. However, we had

243   more than 300 free-text responses with many participants writing in detail about their

244   experiences and concerns. The long questionnaire risked survey fatigue, as a few respondents

245   noted in their comments. We observed some fall-off in response to later questions, but we

246   calculated all answer percentages using the denominators of responses to each question. (See

247   tables)

248

249   We successfully engaged an expert group of producers and users of PC research. Respondents

250   were mostly doctorally qualified researchers, so their responses may not be representative of

251   the broader population using reports of PC research, including clinicians, policymakers and

252   patients. Our respondents cannot be considered representative of all individuals and groups

253   involved in PC research. With our purposeful and snowball sampling methods, we intentionally

254   sought broad participation and inclusive numerators at the expense of defined populations and

255   <u>precise denominators. This approach served our purpose of capturing diverse experiences and</u>

256   <u>wide-ranging suggestions to inform our Delphi process.</u>

257

258   We are currently analyzing a companion survey more focused on an international,

259   interprofessional community of practicing PC clinicians.

260

261   Having identified areas for improvement, we believe there is a role for additional guidance for

262   researchers, authors and journals to improve the usefulness and applicability of PC research

263   reports. Although existing reporting guidelines help with specific methods used in PC research,

264   none adequately addresses the concerns specific to PC patients, problems and settings, or the

265   rich context of both research and patient care.

266

267   <u>Specific areas for improvements in reporting and for new guidance tailored to the needs of PC</u>

268   <u>research are suggested by the categories listed in Table 3</u>. Using data from the current survey

269   and our planned practitioner survey, we plan to conduct a Delphi study to help distill these

270   concerns and suggestions into a priority list of consensus items to help optimize the reporting

271   of PC research.

272

273   **Conclusions**

274   The findings of this international, interprofessional survey of PC researchers highlight the

275   challenges encountered in interpreting, synthesizing and applying findings in the complex world

276   of PC. Our findings suggest there is a role for added guidance to make reports more valuable to

277   the many users of PC research.

278 **References**

279 1. van Weel C, Rosser WW. Improving health care globally: A critical review of the necessity of

280 family medicine research and recommendations to build research capacity. *Ann Fam Med*.

281 2004;2 Suppl 2:5. doi: 2/suppl_2/s5.

282 2. Kidd M. The importance of being different: Inaugural Dr. Ian McWhinney lecture. *Can Fam*

283 *Physician*. 2015;61(12):1033-1038. doi: 61/12/1033.

284 3. Simera I, Moher D, Hirst A, Hoey J, Schulz KF, Altman DG. Transparent and accurate reporting

285 increases reliability, utility, and impact of your research: Reporting guidelines and the EQUATOR

286 network. *BMC Med*. 2010;8:24-24. doi: 10.1186/1741-7015-8-24.

287 4. Altman DG, Simera I. A history of the evolution of guidelines for reporting medical research:

288 The long road to the EQUATOR network. *J R Soc Med*. 2016;109(2):67-77. doi:

289 10.1177/0141076815625599.

290 5. Chalmers I, Glasziou P. Avoidable waste in the production and reporting of research

291 evidence. *Lancet*. 2009;374(9683):86-89. doi: 10.1016/S0140-6736(09)60329-9.

292 6. Shamseer L, Hopewell S, Altman DG, Moher D, Schulz KF. Update on the endorsement of

293 CONSORT by high impact factor journals: A survey of journal "Instructions to authors" in 2014.

294 *Trials*. 2016;17(1):301. doi: 10.1186/s13063-016-1408-z.

295 7. Orkin AM, Phillips WR, Stange KC. Research reporting guidelines and the new annals

296 instructions for authors. *Ann Fam Med*. 2016;14(6):500-501. doi: 10.1370/afm.2008.

297   8. Moher D, Simera I, Schulz KF, Hoey J, Altman DG. Helping editors, peer reviewers and authors

298   improve the clarity, completeness and transparency of reporting health research. *BMC*

299   *Medicine*. 2008;6:13. doi: 10.1186/1741-7015-6-13.

300   9. Snowball sampling. In: Lewis-Beck MS, Bryman A, Liao T, eds. *The SAGE Encyclopedia of Social*

301   *Science Research Methods.* Thousand Oaks, CA: SAGE Publications; 2004.

302   10. Using codes and code manuals: A template organizing style of interpretation. In: Crabtree

303   BF, Miller WL, eds. *Doing qualitative research, 2nd edition.* Newbury Park, CA: SAGE

304   Publications; 1999.

305   11. Simera I, Kirtley S, Altman DG. Reporting clinical research: Guidance to encourage accurate

306   and transparent research reporting. *Maturitas*. 2012;72(1):84-87. doi:

307   10.1016/j.maturitas.2012.02.012.

308   12. van Weel C, Tamblyn R, Turnbull D. Variation matters and should be included in health care

309   research for comparison of outcomes. *Prim Health Care Res Dev*. 2017;18(2):183-187. doi:

310   10.1017/S14634236160004

311

312   **Appendixes** - online

313   1. CRISP Needs Assessment Questionnaire
314
315   2. Review of Existing Reporting Guidelines for Primary Care Concerns
316
317   3. Table. Respondent ratings of frequency of encountering problems with the reporting of
318   primary care research
319

Table 1

1

Table 1. Characteristics of survey respondents		
	Number	**%**
Total Respondents	255	100%
Gender (N = 255 answering)		
Male	114	45%
Female	138	54%
Other gender categories*	3	1%
Nationality (N = 237 answering)		
United States of America	112	47%
Australia	47	20%
Canada	20	8%
United Kingdom	13	5%
Netherlands	12	5%
Europe (other)	12	5%
South America	11	5%
Oceania (other)	5	2%
Asia	5	2%
Not answered	18	
Primary Profession (multiple options possible, N = 254 answering)		
Physician	169	67%
Scientist	32	13%
Educator	20	8%
Public Health	18	7%
Nursing and nursing practice	9	4%
Other (e.g. pharmacy, administration, dietitian, behavioral science)	34	13%

Types of Physicians (Total physicians = 169. N = 168 answering)		
Family medicine/General practice	154	92%
Internal medicine (including subspecialties)	6	4%
Other (e.g. obstetrics/gynecology, pediatrics, sports medicine)	8	5%
Not answered	1	
Level of Research Experience (N = 252 answering)		
Novice	39	15%
Intermediate	103	41%
Advanced	110	44%
Not answered	3	
Highest Research Degree Obtained (N = 247 answering)		
Bachelor's Degree	10	4%
Master's Degree	52	21%
Doctoral Degree (e.g. PhD, MD)	159	64%
None	21	9%
Other	5	2%
Not answered	8	
Years since completion of professional training (N = 245 answering)		
0-9	57	22%
10-19	52	20%
20-29	53	21%
30-39	56	22%
40-49	23	9%
50-59	4	2%
Not answered	10	4%
Roles played in PC research (more than one option possible, N = 255)		
Research/investigator	205	80%
Clinician	140	55%

	Journal reviewer	130	51%
	Educator	123	48%
	Editor	42	16%
	Manager	40	16%
	Methodologist	40	16%
	Community member/patient	20	8%
	Policymaker	16	6%
	Trainee	14	5%
	Other (e.g. mentor, administrator)	12	5%

2   <u>Online survey October 2018-2019.</u>

3   *Other gender category includes: non-binary/third gender, prefer to self-identify and prefer not

4   to answer.

Table 2. Areas of primary care research reports where respondents encounter problems "about half or more of the time."		
Question*	Respondents Answering†	Encounter Problems†† N (%)
Overall, how often does the reporting of PC research cause problems for your work?	198	74 (37.4)
How often do reports of primary care research make it difficult for you to:		
Synthesize findings across studies	188	109 (58.0)
Apply the findings to primary care policy	189	97 (51.3)
Replicate research findings	168	83 (49.4)
Assess the generalizability/transportability of the findings to my patients, practice or community	198	83 (41.9)
Identify specific actions that apply to primary care patient care/practice	200	81 (40.5)
Apply the findings to primary care education	194	74 (38.1)
Apply the findings to further primary care research	193	60 (31.1)
How often have you found reporting to be insufficient for these different types of PC research?		
Qualitative studies	170	84 (49.4)
Mixed methods studies	163	75 (46)
Single arm intervention trials	145	65 (44.8)
Randomized Controlled Trials	164	71 (43.3)
Surveys	158	65 (41.1)
Cohort studies	171	65 (38)
Meta-analysis	164	56 (34.1)

Case study research	146	47 (32.2)
Systematic Reviews	169	53 (31.4)

In general, how often is the reporting of PC research problematic in these areas?

Authorship and relative contributions of research team members	157	45 (28.7)
Role of funders in research and reporting	163	35 (21.5)
Potential conflicts of interest of researchers/authors	158	29 (18.4)
Ethical conduct of research and institutional approval	163	12 (7.4)

How often do you see problems with the reporting of these components of PC research?

Theoretical underpinnings of the research	162	87 (53.7)
Description of teams, roles and organization of care	161	86 (53.4)
Involvement of pts/communities, others the research process	148	78 (52.3)
Reporting effect sizes	153	76 (49.7)
Description of usual care	161	78 (48.4)
Description of clinicians/providers	163	76 (46.6)
Selection of the clinical sites, clinicians or study locations	161	75 (46.6)
Relationship between researchers and patients/participants	145	65 (44.8)
Description of place/setting of research	160	62 (38.8)
Analysis methods – mixed methods	151	58 (38.4)
Selection of the patients/subjects/participants	163	62 (38)
Qualitative methods	159	57 (35.8)
Description of patients/subjects/participants	162	57 (35.2)
Analysis methods – qualitative	155	53 (34.2)
Measurement tools used	160	54 (33.8)
Synthesis methods in systematic reviews or meta-analysis	143	47 (32.9)
Blinding procedure	154	50 (32.5)
Description of control/comparison groups	161	51 (31.7)

Reporting uncertainty bands (e.g. confidence intervals)	152	46 (30.3)
Description of interventions	162	48 (29.6)
Purpose and context of the research question	166	48 (28.9)
Study registration	135	37 (27.4)
Randomization including allocation concealment	148	40 (27)
Analysis methods – statistical	158	41 (25.9)
Definition of the health problems/conditions under study	161	35 (21.7)
Description of interventions	162	48 (29.6)
Purpose and context of the research question	166	48 (28.9)
Study registration	135	37 (27.4)
Randomization including allocation concealment	148	40 (27)
Analysis methods – statistical	158	41 (25.9)
Definition of the health problems/conditions under study	161	35 (21.7)

2

3 Online survey October 2018-2019.

4 See Appendix 3 for more detailed results.

5 In each section, items are listed in rank order by percent, not in order of presentation on the
6 questionnaire.

7 * Answers were on a five-point Likert scale with frequency measures. Responses were not
8 compulsory to move forward in the survey.

9 † For each question, "Respondents Answering," is the number of survey respondents who
10 answered the question with Likert scale scores. "NA/Not Sure" responses are combined with no
11 answers and are not shown. They total 255 – Respondents Answering.

12 In each section, items are listed in rank order by percent, not in order of presentation on the
13 questionnaire.

14 †† "About half or more than half of the time."

Table 3

1

Table 3. Categories of comments on reporting of primary care research
CATEGORY **Sub-Category** *Summary comment** • "Respondent quotation." (respondent characteristics†)
PC RESEARCH IS DIFFERENT *Recognition and adaptation to the special character of PC practice and PC research*
PLANNING RESEARCH *Description of the way clinicians, patients and community members are involved throughout the research process* • "Every study done in or on PC should have PC experts involved from the initial stages and throughout the process to the final report writing. The same might be proposed for patients or members of the communities studied or affected." (FP; clinician, researcher; USA; M)† **Research question** *Explanation of the origin of the research question* • "Failing to describe where the research question came from." (FP; clinician, researcher; USA; M) **Funding and infrastructure** *Support of non-academic writing and reporting* • "Assure a research writer for clinicians." (Behavioral scientist; educator, researcher; USA; F)
CONTEXT OF PC RESEARCH *Description of the complex contexts of patients, problems and practice* • "It's not so much the reporting but the many different contexts that family medicine can represent." (FP; clinician, community member/patient, educator, reviewer, researcher; nation not stated; F) • "PC has many contexts, types of practitioners and also takes patients into account - patient centered care and factors in multimorbidities and preventative medicine. (Public health scientist; researcher; Australia, F) **Patient population** *Description of patients and populations in practice and community-based research* • "PC research includes a wide variety of patients and demographics which are oftentimes not directly applicable to larger studies conducted elsewhere." (FP; researcher, trainee; USA; M) **Problem studied** *Recognition and description of illness as it occurs in PC* • "Also the single disease single intervention is not always how patients present. A depressed childhood abuse survivor is not as interested in diabetic dietary guidelines when they are struggling with complex chronic trauma." (FP; clinician, community member/patient, educator, reviewer, researcher; country not stated; F) **Clinicians**

Description of clinicians, teams and how they are organized
- "Types of clinicians, teams and how they are organized is impt and different. Clustering of pts, clinicians, teams and clinics is impt and often not reported adequately or accounted for in data analysis." (FP; clinician, community member/patient, editor, educator, reviewer, researcher; USA; M)

Types of interventions

Description of pragmatic and complex interventions in PC
- "PC research tends to be more pragmatic and complex interventions and the reporting of methods is often less clear than in other settings." (Pharmacy; reviewer, researcher; Australia; F)

Healthcare setting

Recognition and description of the complex settings of care and work in PC
- "Often the study is locale - and setting - specific, without much description of the ways in which protocol and implementation were shaped by these specifics." (FP; clinician, editor, educator, reviewer; USA; F)
- "Health care setting is often not reported." (FP; clinician, editor, educator, researcher; Norway; F)
- "Contextual factors are critical, yet not often reported. What kind of settings was the research performed in matter."? (FP; journal reviewer, researcher; USA; M)

Relationships

Recognition and description of the relationships among patients, families, clinicians and other members of PC teams
- "Ideally I think relationship building is also important in both the research and the implementation and this should also be reported." (FP; clinician, educator, reviewer, researcher; Australia; F)

RESEARCH METHODS

Study methods

Presentation of the underlying theory behind the research
- "It would be helpful to allow a section for theoretical underpinnings. PC research often lacks theory, although researchers use theories, they may or may not be aware of them. Theories people draw on in designing a study, collecting and analysis data must be made explicit." (Scientist; researcher; Canada, F)

Analytic Methods

Description of how findings and interpretation were checked with study participants
- "It would be great if those undertaking the research reported how they corroborated their interpretation of the findings with study participants. This is rarely reported." (Nursing; educator, reviewer, researcher; New Zealand, F)

DISSEMINATION OF RESEARCH FINDINGS

Presentation of findings in accessible and comprehensible way to patients and communities affected
- "Clinicians and researchers should strive to make their research accessible beyond their peer group, especially when patients and community members were involved in the research. We

should strive to make our findings accessible and comprehensible to the communities we serve." (Public health; educator, manager, community member/patient; USA; F)

Presentation of findings in accessible and comprehensible way to PC clinicians

- "The strengths and drawbacks of reporting depends on the audience. Is the reporting for a solo physician or small group, in which case the reporting is too technical, focusing on research and not practical implementation, and difficult to know how it applies to one's own clinic population? If the audience is researchers, there's different ways to improve the reporting more along the lines of methods and statistics. If the audience is large group practices looking for system or policy solutions, then it gets back to generalizability and implementation." (FP; researcher; USA; F)

Research Reporting

Guidance from PC research reporting guidelines that are different than currently exist

- "We need standards for reporting mixed methods research which don't currently exist (Equator does not have any) - PC research includes lots of mixed methods research. (Health services researcher; methodologist, reviewer, community member/patient; UK, F)
- "A checklist would be beneficial for both peer reviewers and authors. Provide authors a standardized checklist specific to PC research." (Editor; educator, reviewer, methodologist, researcher; Australia, M)

Publication process

Adequate space to adequately space to describe PC research methods, results and context.

- "Good PC research often requires a larger word limit than the usual to describe things like the theoretical stance used, the context of the research setting, how qualitative analysis was undertaken, and in the case of qualitative or mixed methods - space to give results. The solution to this is for more on-line publications to prevail and the encouragement therefore of use of supplementary files." (FP; educator, reviewer, researcher; Australia, F)

IMPLICATIONS OF RESEARCH FINDINGS

Richer discussion of implications for research, practice, education and policy

- "Adding to research reporting, whatever is appropriate: Implications for future research, implications for practice, implications for policy." (FP; researcher; Canada, M)

Generalizability

Description of the context in sufficient detail to assess generalizability to variety of PC contexts

- "It is important to have a good sense of context to assess whether the findings can be used in a different PC context, under which circumstances they can work and when not." (Scientist; researcher; Canada, F)

Relevance

Demonstration that researchers and authors have grounded understanding of PC

- ". . . the SPRINT study and the hypertension guidelines that came from that: authored by specialists who had little understanding of PC." (FP; editor, reviewer, researcher; USA, M)
- "Articles written by specialists for a PC audience are also often flawed because they at best only partially understand PC." (FP; editor, reviewer, manager, researcher; Australia; M)

IMPLEMENTATION OF RESEARCH

Description in details sufficient for implementation, application and translation
- [A major] "national demonstration project. Introduced a team-based approach hard to replicate without the additional support of the grant dollars and institutional infrastructure. Created a model of care that was formidable to the 80% of practices who did not have that infrastructure and are small 2-4 clinician practices. Offered no meaningful information about how to make the case with leadership to promote adoption of such a model. Why should a clinician take the risk to hire a full-time employee with no billable hours when already working close the profit line? Answers are actually easy... but not reported" (Health services researcher; educator, reviewer, methodologist; USA; F)

ETHICAL ISSUES

Conflicts of interest

Information to help readers better assess potential conflicts of interest
- "It is very difficult to measure the conflict of interest." (W, Hungary, Pharmacy, educator, journal reviewer, researcher)
- "La falta de financiación para este tipo de estudios, hace que los investigadores se asocien a empresas que tienen altos intereses." (Google translation - "The lack of funding for this type of studies, makes researchers associate with companies that have high interests.) (Public health scientist; clinician; Argentina; M)

Authorship

Description of contributions among large, multidisciplinary collaborative author groups
- "PC research often involves collaboration of large groups of individuals from various backgrounds, who often don't discuss or agree upon authorship prior to starting the research.... It becomes very unclear whether some of them actually made any contribution to the study design, analysis, interpretation or writing of the results" (Family Medicine Scientist; methodologist, researcher; Canada, F)

2   Online survey October 2018-2019.

3   *PC research reports would be more useful if they provided more....

4   †Respondent identification: (Profession/medical specialty; research roles; nation; gender)
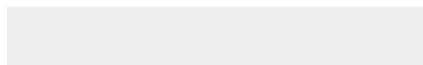
5   Abbreviations: FP - family physician; Gender: F-female, M-male

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