PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	General practitioners' (GPs) understanding and views on breast density in Australia: a qualitative interview study
AUTHORS	Nickel, Brooke; Dolan, Hankiz; Carter, Stacy; Houssami, Nehmat; Brennan, ME; Hersch, Jolyn; Kaderbhai, Alia; McCaffery, Kirsten

VERSION 1 – REVIEW

REVIEWER	Møller, Tom The UniversityHospital of Copenhagen
REVIEW RETURNED	25-Feb-2021

GENERAL COMMENTS	Review BMJ Open February 2021: General practitioners' (GPs) understanding and views on breast density in Australia: a qualitative interview study Comments and concerns: The aim of this paper is to provide more insight in General practitioners' (GPs) understanding and views on breast density in Australia. The study is conducted as a qualitative study of 30 informants/GPs throughout Australia and carried out as telephone interviews. In overall, I find the paper relevant within a partly overlooked and combined public health and clinical topic. However there exist some concerns regarding the qualitative methodology that needs revision and clarification. One of the major concerns is the selection and recruitment of informants. This was done using a multifaceted convenience sampling strategy involving e-mails distributions to e.g. the Royal Australian College of General Practitioners Breast Medicine Special Interest Group mailing list, which obviously may have a clear interest in the study. Moreover, Facebook advertising was used for recruitment. Since the authors aim to investigate General practitioners' (GPs) understanding and views on breast density in Australia and reflects on difference practices for breast cancer screening and breast density notification across regional areas, does not justify a convenient sampling approach. A purposeful sampling representing variation in regional areas and breast cancer experience would have been a stronger approach. At least, the sampling strategy must be stated as a clear limitation since e.g. selection of informants representing urban areas and being younger females are overrepresented. This is not a surprise but it's a limitation concerning the transferability/external validity. It is noteworthy positive that the authors distinguish between GPs with special interest and non-special interest GPs and reflects underlying regional practices. The issue of recruitment selection is of highly importance since the scope (background, methods, results, conclusion) for this article is directed towards policymaking

	and not to understand the GP's health priorities as breast density against numeral and various competing health challenges. Even that the scope is fixed on BD , the authors do try to balance pros and cons concerning an increased notification of breast density related to standard breast screening. Analysis: The authors uses a framework analyses style and the method description are useful though somewhat superficial. For me, it more looks like the authors applied a template analytic style acknowledging the high structured interviewguide. Even that BD contributes as an independent risk factor for breast cancer, you could say that the participants could not 'escape' once the interview was set and thereby not allowing the participants to take an oppositional stand in concern of various unmet needs that may be seen and prioritized in their practices. An example of the audit trail/coding tree on the analytic process would increase credibility and transparency by providing examples on how initial text units were coded and became categories to themes and subthemes including potential deviance from the interviewguide? Several examples on this may be found in published qualitative scientific literature. There is no doubt that breast density and breast cancer risk is a matter of the heart for the authors. The authors state in the discussion that "A substantial proportion of the GPs in this sample had a special interest in women's health, therefore among the broader GP population the lack of knowledge may actually be greater and there may be less understanding around the potential implications of widespread BD notification." However, due to the convenience approach in sampling, there might be several reasons for not signing up for an interview including e.g. competing clinical interests involving an individual judgement of relevance. My advice should be that the authors is very clear of this limitation and 'black box'. I would recommend a more critical stand and less pushed agenda towards policymakers. The words of the interviewee are a relevant contribution and the authors interpretative analysis seem adequate in trying to balance pros and cons.

REVIEWER	Neuman , Heather University of Wisconsin
REVIEW RETURNED	26-Feb-2021

GENERAL COMMENTS	The authors present a qualitative study examining the views of Australian GP's around reporting of breast density. The authors do a very good job framing the gap the study was addressing, and summarizing how the findings fit within the broader existing literature. I did have some questions regarding the analysis. It is not entirely clear to from the methods description how the analysis happened, i.e. how did the initial framework translate into themes. More detail about the process would be beneficial in assessing the study findings. As a second point, I found there to be a lot of redundancy in the results. There were 6 main points highlighted, which I assume match the identified themes. However, there was significant overlap between them. I would recommend streamlining the results significantly, as the key findings can probably conveyed much more succinctly. This would greatly strengthen the manauscript.

REVIEWER	Lamort-Bouché, Marion Universite de Lyon
REVIEW RETURNED	28-Feb-2021

GENERAL COMMENTS	The authors describe a research project on the GPs' knowledge and awareness of breast density in mammography. A qualitative study was conducted among Australian GPs. The article is extremely clear, in particular about the methodological process. It is consistent with the research question and corresponds to the standards of qualitative methodology. I have some suggestions for improvement. Summary: The conclusion of the abstract should be closer to the results, in particular highlighting the expectation of validated scientific information (recommendations) about breast density. Implantation of new practices will follow and not precede these evidence-based recommendations. Discussion The discussion deserves to be completed on certain points. Regarding limitations, the choice of conducting telephone and non-face-to-face interviews and its impact on the interview data should be discussed. General practitioners were calling for scientific evidence on the association between breast density and breast cancer risk level and for recommendations for management. Thus, the issue of informing patients about their breast density fits into the more general issue of information about the value of breast cancer screening. It seems to me that these issues should be included in the discussion. Appendix In Appendix 1 it would appear that the respondents may be practice nurses, but this population is not presented in the results. Can you explain this? Abbreviations should be made explicit in the appendix p.23 l.6-7. In summary, I recommend the publication of this article once the suggested changes have been incorporated.

REVIEWER	Kaur, Manraj McMaster University, School of Rehabilitation Science
REVIEW RETURNED	10-Mar-2021

GENERAL COMMENTS	I would like to congratulate the authors on identifying an important gap in the literature - dissemination of BD info to women - and using qualitative methods to fill that gap. The introduction is succinct and highlights the problem. I would suggest moving the objective from the methods section to the background. In the methods section 1) please clarify if heterogeneity in age, years of practice, gender was sought in terms of recruitment. 2) please elaborate on what thematic consistency means in framework analysis and how it was tracked. 3) Please clarify what is meant by consumer representatives? Would these be members of the general population or patients? If yes, consider refining the line that states that patients and the public were not involved in the study design.

	4) How were the interviews transcribed? Did the researchers transcribe the interviews or used a professional transcriptionist? 5) For data analysis, please elaborate on what techniques were used for familiarization of the data. 6) It would be helpful to include a section on how rigor was ensured in data analysis. The authors mention that the framework was reviewed by two other researchers and the larger research team was debriefed on the framework. These are both techniques that are used to ensure rigor (often also known as credibility) and so is verbatim transcription. Were any other techniques used? What about reflexivity? 7) Would be helpful to include a few lines on what is framework analysis and why that was chosen as the qualitative method for this study. 8) Did the authors examine the differences in viewpoints of GP based on their characteristics? Typically, one would pull in the characteristics in the excel during data analysis and examine differences if any. In the results section 1) I think the authors have done a wonderful job of summarizing a large amount of data and the selection of the quotes is on points 2) women's vs womens' 3) I would encourage the authors to consider if the way the participant details are provided can impact participant confidentiality. Will a participant reading this paper be able to identify their quotes? 4) Provide info on interview time In the discussion section 1) I would encourage the authors to draw similarities or differences from other countries where similar programs have been implemented (the US perhaps? and beyond what is provided in the strengths and limitations para) 2) Most of the sample identified as females (and therefore not surprising had an interest in womens' health) and had less than 10 years of experience could have impacted the findings. It would be helpful if the authors could reflect on this 3) An important limitation of the study is patient-participants or members of the general public were not included. Is a study underway or being planned to get that perspective in this research? 4) Did other themes come up that were not fully developed in the qualitative interviews? the interview guide is thorough so I wonder if there are issues that were not reported. 5) It would be helpful to include pragmatic ideas on how to incorporate info on BD into the training of GPs (CMEs?) Overall, the manuscript is well written and addresses an important area within the breast cancer field. Well done!

VERSION 1 – AUTHOR RESPONSE

Reviewer 1

1. The aim of this paper is to provide more insight in General practitioners' (GPs) understanding and views on breast density in Australia. The study is conducted as a qualitative study of 30 informants/GPs throughout Australia and carried out as telephone interviews.

In overall, I find the paper relevant within a partly overlooked and combined public health and clinical topic. However there exist some concerns regarding the qualitative methodology that needs revision and clarification. One of the major concerns is the selection and recruitment of informants. This was done using a multifaceted convenience sampling strategy involving e-mails distributions to e.g. the Royal Australian College of General Practitioners Breast Medicine Special Interest Group mailing list, which obviously may have a clear interest in the study. Moreover, Facebook advertising was used for recruitment.

Since the authors aim to investigate General practitioners' (GPs) understanding and views on breast density in Australia and reflects on difference practices for breast cancer screening and breast density notification across regional areas, does not justify a convenient sampling approach. A purposeful sampling representing variation in regional areas and breast cancer experience would have been a stronger approach. At least, the sampling strategy must be stated as a clear limitation since e.g. selection of informants representing urban areas and being younger females are overrepresented. This is not a surprise but it's a limitation concerning the transferability/external validity.

We thank the reviewer for feedback and comments. The reviewer's comments have drawn our attention to the fact that we were not explicit enough about the logic of our sampling strategy – we are grateful for this. We in fact pursued a purposive sampling strategy, because we wanted to be able to compare GPs who were, and were not, experienced in managing breast cancer. For this reason, we combined recruitment through the Royal Australian College of General Practitioners (RACGP) Breast Medicine Special Interest Group (to find GPs experienced in managing breast cancer) and recruitment through general GP contact lists (the Facebook group and our existing email list). We have also realised that we did not provide enough information about the Facebook recruitment. Social media recruitment is increasingly important for both qualitative and quantitative studies.[1] The Facebook group we posted to is one of the largest online communities of Australian GPs, "GPs Down Under", with >8000 members – we have now included this information in the MS. The reviewer is correct that all GPs who met the broader eligibility criteria, consented to participate and were able to schedule an interview were interviewed. The literature[2 3] and our own collective experience in recruiting Australian GPs often point to an ongoing challenge in recruiting and retaining GPs in research studies; this was even more so during the unprecedented times of the COVID-19 pandemic. However, we note that we recruited GPs with a wide range of characteristics, including in terms of years of experience, type and location of practice, gender, and special interest area, and fulfilled our goal of including GPs with and without breast medicine expertise.

We have now clarified our sampling strategy as being purposive under the methods section. Under the limitation section, we further emphasised the nature of this study as being qualitative and the need for study results to be interpreted in light of the participant characteristics.

‘We used a purposive sampling strategy and pursued to recruit GPs with diverse characteristics, including those with or without a special interest in breast medicine and from different Australian states.’ (page 5, Sample and recruitment section)

Qualitative research is not able to generate statistically representative samples in the way that quantitative research does: instead, qualitative researchers seek depth of insight from a smaller sample. The GPs in this study may not be representative of all Australian GPs, in particular many participants were from urban areas, of female gender and had relatively short duration of clinical experience. Study results should be interpreted in light of the participant characteristics. However a strength of our recruitment was the ability to compare GPs with and without special interest in women’s or breast health. (page 17, paragraph 2)

2. It is noteworthy positive that the authors distinguish between GPs with special interest and non-special interest GPs and reflects underlying regional practices. The issue of recruitment selection is of highly importance since the scope (background, methods, results, conclusion) for this article is directed towards policymaking and not to understand the GP’s health priorities as breast density against numeral and various competing health challenges. Even that the scope is fixed on BD, the authors do try to balance pros and cons concerning an increased notification of breast density related to standard breast screening.

Thank you for this comment and positive feedback.

3. Analysis: The authors use a framework analyses style and the method description are useful though somewhat superficial. For me, it more looks like the authors applied a template analytic style acknowledging the high structured interview guide. Even that BD contributes as an independent risk factor for breast cancer, you could say that the participants could not ‘escape’ once the interview was set and thereby not allowing the participants to take an oppositional stand in concern of various unmet needs that may be seen and prioritized in their practices. An example of the audit trail/coding tree on the analytic process would increase credibility and transparency by providing examples on how initial text units were coded and became categories to themes and subthemes including potential deviance from the interview guide? Several examples on this may be found in published qualitative scientific literature.

Thank you for this insightful comment. We have now expanded our description of the data analysis method. We provided a brief explanation of framework analysis method and our rationale for using this method. Consistent with the framework analysis method, our coding was both deductive and inductive. As described in the methods section, the process started with reviewing the transcripts and developing a list of topics (main overarching themes) and sub-themes which became the initial coding framework. Some but not all of the initial topics/themes (especially higher order themes) aligned closely with the a priori interview questions. Subsequently, transcripts were coded deductively when the explicit meanings of the text segments were mapped onto the themes/subthemes in the initial coding framework. Data was coded inductively when the text segments reflected new or interesting perspectives, allowing for the coding framework to be revised and themes and subthemes to be added, removed, clustered, collated or renamed in an iterative manner.

During the data collection, although we probed them about their knowledge of breast density and breast cancer risk, we as interviewers took a neutral stand and did not attempt to correct, endorse, oppose or influence participants’ answers. For example, participants were asked “how important do you think breast density is as an issue for women” or “why might breast density be of interest or relevant to women”. Participants were given time and opportunity to deliberate on what they knew, heard, and experienced. We then probed them on whether and what they knew about the

relationship between breast density and breast cancer risk, age and family history if not already mentioned. We did not appraise any participant responses as right or wrong. Therefore, participants were free to and did express oppositional views and opinions. In the latter part of the interviews, we provided brief background information about breast density, US legislation, current policy stance in Australia and consumer movements for those who were not familiar with these issues (see interview topic guide). Again, participants were free to express their views.

As suggested, we have now provided our analysis framework as a supplementary document which illustrates our coding framework/tree.

4. There is no doubt that breast density and breast cancer risk is a matter of the heart for the authors. The authors state in the discussion that "A substantial proportion of the GPs in this sample had a special interest in women's health, therefore among the broader GP population the lack of knowledge may actually be greater and there may be less understanding around the potential implications of widespread BD notification."

However, due to the convenience approach in sampling, there might be several reasons for not signing up for an interview including e.g. competing clinical interests involving an individual judgement of relevance. My advice should be that the authors is very clear of this limitation and 'black box'. I would recommend a more critical stand and less pushed agenda towards policymakers. The words of the interviewee are a relevant contribution and the authors interpretative analysis seem adequate in trying to balance pros and cons.

Thank you for this comment and feedback. As suggested in the previous comment, we have now expanded the description of our recruitment strategy, and discussed sampling directly in the limitations section, including that the study results should be interpreted in light of the participant characteristics.

Reviewer 2

5. The authors present a qualitative study examining the views of Australian GP's around reporting of breast density. The authors do a very good job framing the gap the study was addressing, and summarizing how the findings fit within the broader existing literature.

I did have some questions regarding the analysis. It is not entirely clear to from the methods description how the analysis happened, i.e. how did the initial framework translate into themes. More detail about the process would be beneficial in assessing the study findings.

We thank the reviewer for the positive comment on the study's contribution to the literature.

As for data analysis, we have now added our analysis framework as a supplemental file, which demonstrates the hierarchical order of themes and subthemes. Each of the lowest order sub-themes was accompanied by supporting quotes/text segments from participants in our Excel spreadsheet. We also added to the description of our analysis method as follows:

Transcripts were coded deductively when the explicit meanings of the text segments were mapped onto the themes/subthemes in the a priori coding framework. Data was coded inductively when the text segments reflected new or interesting perspectives, allowing for the coding framework to be revised iteratively. (page 7, paragraph 1)

6. As a second point, I found there to be a lot of redundancy in the results. There were 6 main points highlighted, which I assume match the identified themes. However, there was

significant overlap between them. I would recommend streamlining the results significantly, as the key findings can probably conveyed much more succinctly. This would greatly strengthen the manuscript.

Thank you for this comment. The six main points highlighted were the main overarching themes, with some accompanied by several sub-themes. As with the qualitative approach employed within this study, we tried to capture both the internally homogenous and externally heterogenous aspects of the participant accounts within each theme. However, we do acknowledge that inevitably there might have been overlap between themes and what's been described within them. We have now thoroughly re-read the results section and deleted content that was redundant or overlapping and combined some themes/subthemes to streamline the results significantly. For example, we moved original subtheme '3d. views on BreastScreen Australia position' under the theme two '2. Views on current landscape of BD notification in Australia'. We renamed theme three as 'views on informing women of BD' and moved original theme four 'Specific views on notifying all women of their BD during population screening' under theme three as a subtheme. For detailed changes, please refer to the tracked version of the MS. The revised manuscript current have five main themes after streamlining the results.

Reviewer 3

7. The authors describe a research project on the GPs' knowledge and awareness of breast density in mammography. A qualitative study was conducted among Australian GPs. The article is extremely clear, in particular about the methodological process. It is consistent with the research question and corresponds to the standards of qualitative methodology.

Thank you for the positive feedback.

8. I have some suggestions for improvement.

Summary:
The conclusion of the abstract should be closer to the results, in particular highlighting the expectation of validated scientific information (recommendations) about breast density. Implantation of new practices will follow and not precede these evidence-based recommendations.

Thank you for this suggestion. We have now added in the abstract conclusion that "Australian GPs require education, support and evidence-based guidelines to have discussions with women with dense breasts and help manage their risk, especially if widespread notification is to be enacted in population-based screening programs."

9. Discussion

The discussion deserves to be completed on certain points.
Regarding limitations, the choice of conducting telephone and non-face-to-face interviews and its impact on the interview data should be discussed.

Thank you for this suggestion. All interviews were conducted over the phone given the ongoing COVID-19 pandemic at the time of conducting the research. However, current evidence comparing the data collected from phone interviews and face-to-face interviews suggest that these two methods can be equally productive and valid in producing rich data.[4 5]

We have now added the following under the strength and limitations section.

All interviews were conducted over the phone, which may have had disadvantages in terms of visual cues. However, current evidence comparing the data collected from phone interviews and face-to-

face interviews suggest that these two methods can be equally productive and valid in producing rich data. [4 5] Advantageously, phone interviews also enabled us to interview GPs in other states or locations that were geographically inaccessible or too costly to travel to for the researchers. (page 17, paragraph 2)

10. General practitioners were calling for scientific evidence on the association between breast density and breast cancer risk level and for recommendations for management. Thus, the issue of informing patients about their breast density fits into the more general issue of information about the value of breast cancer screening. It seems to me that these issues should be included in the discussion.

Thank you for this suggestion. The following sentence has been revised to include the information about the value of breast cancer screening.

Before and after any such guidelines exist, GP training and discussions should be directed around how to discuss women's individualised risk factors for breast cancer, inclusive of BD, the value of breast cancer screening in relation to risk level, and the possible benefits, harms and trade-offs for women in regard to options for supplemental screening for women with high BD. (page 16, paragraph 2)

11. Appendix

In Appendix 1 it would appear that the respondents may be practice nurses, but this population is not presented in the results. Can you explain this?

At the beginning of this research study, we had planned to recruit primary care nurses to explore their understanding and views on the topic of breast density. However, it later came to our attention that in the Australian model of primary healthcare, practice nurses were not directly involved in advising or discussing breast cancer screening or results with patients. Therefore, during the recruitment stage, practice nurses were not specifically targeted, nor did any practice nurses express interest in the study. We have now removed the reference to practice nurses from Appendix 1 to avoid confusion.

12. Abbreviations should be made explicit in the appendix p.23 l.6-7.

We have now clarified the abbreviation in page 3 (i.e., Royal Australian College of General Practitioners (RACGP)) in the Appendix as suggested and other abbreviations that appear in the Appendix.

13. In summary, I recommend the publication of this article once the suggested changes have been incorporated.

Thank you for your positive comments and for recommending the publication of our article. We hope that we have satisfactorily addressed your concerns and helpful suggestions.

Reviewer: 4

14. I would like to congratulate the authors on identifying an important gap in the literature - dissemination of BD info to women - and using qualitative methods to fill that gap.

Thank you for your positive feedback.

15. The introduction is succinct and highlights the problem. I would suggest moving the objective from the methods section to the background.

Thank you for this suggestion. We have now moved the objective from the methods section to the background.

16. In the methods section

please clarify if heterogeneity in age, years of practice, gender was sought in terms of recruitment.
Thank you for this comment. We did not purposively seek heterogeneity in age, years of practice and gender during recruitment, and all GPs who expressed an interest and consented to the study were interviewed; however, we did record this information so we could present it as context. We have expanded the recruitment and sampling section of the MS to provide further explanation of our sampling decisions.

17. Please elaborate on what thematic consistency means in framework analysis and how it was tracked.

Thank you for pointing out the use of term 'thematic consistency' without clarification. We have now replaced 'consistency' with 'saturation'. We also clarified what we meant by thematic saturation by adding "i.e., existing themes were consistently adequate in capturing recurring patterns in the data" to the sentence. The data saturation was agreed upon by team members who engaged in continuous monitoring of data and discussion of the process.

18. Please clarify what is meant by consumer representatives? Would these be members of the general population or patients? If yes, consider refining the line that states that patients and the public were not involved in the study design.

Thank you for pointing out the inconsistencies in our description of consumer involvement. Two consumer representatives from Breast Cancer Network Australia and Health Consumers New South Wales, respectively, were involved in advising team's breast density research stream. However, they were not directly involved in developing study materials, conducting the interviews, analysing the data and reviewing of manuscript for the current GP study. To improve accuracy and clarity, we have now deleted the reference to consumer representatives from the description of interview schedule development and added the following to the patient/public involvement statement.

'Two consumer representatives from Breast Cancer Network Australia and Health Consumers New South Wales, respectively, were involved in advising team's breast density research stream. However, they were not directly involved in developing study materials, conducting the interviews, analysing the data and reviewing of manuscript for the current GP study.' (page 5)

19. How were the interviews transcribed? Did the researchers transcribe the interviews or used a professional transcriptionist?

The interviews were transcribed by a professional transcriptionist. We have now clarified this in text under the data collection section. (page 6, paragraph 1)

20. For data analysis, please elaborate on what techniques were used for familiarization of the data.

Thank you for this comment. The first author and second author, who conducted the individual interviews, continually met to discuss the data and themes arising during the data collection process. This formed the initial familiarisation process of the data. We have now clarified this in page 6, paragraph 2. We also wrote memos periodically during the data collection and while reading and coding the transcripts, which helped to record our evolving impressions of the data and the course of our analytical thinking.

21. It would be helpful to include a section on how rigor was ensured in data analysis. The authors mention that the framework was reviewed by two other researchers and the larger

research team was debriefed on the framework. These are both techniques that are used to ensure rigor (often also known as credibility) and so is verbatim transcription. Were any other techniques used? What about reflexivity?

We have now added the following statement under the data analysis section. The research team background, including qualitative research experiences were mentioned in page 7, paragraph 2.

The trustworthiness and rigor of data analysis were established by: engaging with data for a prolonged period of time; keeping reflective notes throughout data collection and analysis; double-coding a sub-portion of the transcripts; frequent debriefing with multidisciplinary team members; and using a matrix-based analysis method which allowed for thorough documentation and version control (audit trail) of data coding and theme development.

22. Would be helpful to include a few lines on what framework analysis is and why that was chosen as the qualitative method for this study.

Thank you for this comment. The following sentences have been added to the analysis section in page 6.

Framework analysis is a matrix-based method which uses a spreadsheet for organising and charting data.[6 7] This method allows for easy comparison of data by cases (rows) and by codes (columns).[7] This method was chosen for data analysis because it allowed for systematic reduction and structured analysis of data, which assists with team collaboration and transparency, while allowing for flexibility in accommodating emergent themes or reflective enquiry.[7]

23. Did the authors examine the differences in viewpoints of GP based on their characteristics? Typically, one would pull in the characteristics in the excel during data analysis and examine differences if any.

Thank you for this comment. The framework analysis method allowed us to examine the differences in viewpoints of GPs based on their characteristics, such as special interest in women's or breast health, gender, geographic location (Western Australia vs other) and years of clinical experience. In our Excel spreadsheet, each participant was assigned a row and their quotes/text segments were entered into cells that corresponded with the assigned codes (columns). This allowed us easy visualisation of the data and capacity to compare across participants with different characteristics.

Throughout the manuscript we have we noted differences where they occurred: these were primarily differences in the accounts of GPs from Western Australia and other states in terms of experiences and views of breast density notification, as well as differences for GPs with a special interest in women's health.

24. In the results section

I think the authors have done a wonderful job of summarizing a large amount of data and the selection of the quotes is on points

Thank you for your positive feedback.

25. I would encourage the authors to consider if the way the participant details are provided can impact participant confidentiality. Will a participant reading this paper be able to identify their quotes?

Thank you for this comment. Participant details were anonymised in the manuscript and were provided in a format that included participant number, gender and years of clinical experience. A similar format for participant anonymisation was used in one of our previous publications.[8] By using this format, it is impossible for readers (apart from participants themselves) to identify the participants as we have not included any personally identifying information (i.e., names, exact age, address). However, we do acknowledge that the gender and exact number for years of experience combined might not be sufficient for deidentification purposes, especially for the participants themselves reading the paper. Therefore, we have now used categories for the years of experiences, i.e. YE 10-19, for greater anonymity.

26. Provide info on interview time

The requested information about interview duration was provided in page 6, paragraph 2. Interviews lasted 20 to 51 minutes.

27. In the discussion section

I would encourage the authors to draw similarities or differences from other countries where similar programs have been implemented (the US perhaps? and beyond what is provided in the strengths and limitations para)

Thank you for this comment. The comparison with the study findings conducted in the US had been mentioned in page 16, paragraph 1. We have added the following in page 16, paragraph 2.

In studies from US and South Korea, women who knew their own BD level were found to be more likely to intend to complete mammogram in the future. [9 10]

28. Most of the sample identified as females (and therefore not surprising had an interest in womens' health) and had less than 10 years of experience could have impacted the findings. It would be helpful if the authors could reflect on this

Thank you for this comment. We have now reflected on this as part of our limitation discussion as follows:

Qualitative research is not able to generate statistically representative samples in the way that quantitative research does: instead, qualitative researchers seek depth of insight from a smaller sample. The GPs in this study may not be representative of all Australian GPs, in particular many participants were from urban areas, of female gender and had relatively short duration of clinical experience. Study results should be interpreted in light of the participant characteristics. (page 17)

29. An important limitation of the study is patient-participants or members of the general public were not included. Is a study underway or being planned to get that perspective in this research?

Thank you for this comment. This study was undertaken in parallel with a focus group study with a community sample of Australian women to gather evidence on their perspectives on issues surrounding breast density. The manuscript reporting the women's study is currently under review.

30. Did other themes come up that were not fully developed in the qualitative interviews? the interview guide is thorough, so I wonder if there are issues that were not reported.

Thank you for this comment. There were themes that were not reported in this paper due to word-count limits and the need for making the paper more concise. For example, we asked participants to

elaborate on their approach to advising women about breast cancer screening in general and identified themes in participant accounts. However, these themes were not reported in this manuscript because our main research questions were focused on issues specific to breast density.

31. It would be helpful to include pragmatic ideas on how to incorporate info on BD into the training of GPs (CMEs?)

Thank you for this suggestion. We have now added the following sentence to the page 16 under the discussion section.

Such GP training could be delivered via continuous professional development programs, conferences or workshops, online or in-person learning modules, and specialist lectures or seminars.

32. Overall, the manuscript is well written and addresses an important area within the breast cancer field. Well done!

We thank the reviewer for their thorough reading of the manuscript, constructive comments and positive feedback.

We hope that the above response satisfactorily addresses the Reviewers' concerns and suggestions. Please do not hesitate to contact me should you require further information or clarification.

Sincerely,
Dr Brooke Nickel

References

1. Bennetts SK, Hokke S, Crawford S, et al. Using Paid and Free Facebook Methods to Recruit Australian Parents to an Online Survey: An Evaluation. J Med Internet Res 2019;21(3):e11206. doi: 10.2196/11206 [published Online First: 06.03.2019]
2. McKinn S, Bonner C, Jansen J, et al. Recruiting general practitioners as participants for qualitative and experimental primary care studies in Australia. Australian Journal of Primary Health 2015;21(3):354-59. doi: https://doi.org/10.1071/PY14068
3. McKay-Brown L, Borland R, Balmford J, et al. The challenges of recruiting and retaining GPs in research: findings from a smoking cessation project. Australian Journal of Primary Health 2007;13(1):61-67.
4. Stephens N. Collecting data from elites and ultra elites: telephone and face-to-face interviews with macroeconomists. Qualitative Research 2007;7(2):203-16. doi: 10.1177/1468794107076020
5. Sturges JE, Hanrahan KJ. Comparing Telephone and Face-to-Face Qualitative Interviewing: a Research Note. Qualitative Research 2004;4(1):107-18. doi: 10.1177/1468794104041110
6. Ritchie J SL, O'Connor W. Carrying out qualitative analysis. Qualitative research practice: a guide for social science students and researchers. London Sage 2003:219-262.
7. Gale NK, Heath G, Cameron E, et al. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. BMC medical research methodology 2013;13(1):1-8.
8. Nickel B, McCaffery K, Houssami N, et al. Views of healthcare professionals about the role of active monitoring in the management of ductal carcinoma in situ (DCIS): Qualitative interview study. Breast (Edinburgh, Scotland) 2020;54:99-105. doi: 10.1016/j.breast.2020.09.002 [published Online First: 2020/09/15]
9. Santiago-Rivas M, Benjamin S, Andrews JZ, et al. Breast Density Awareness and Knowledge, and Intentions for Breast Cancer Screening in a Diverse Sample of Women Age Eligible for Mammography. J Cancer Educ 2019;34(1):90-97. doi: 10.1007/s13187-017-1271-y

10. Tran ATN, Hwang JH, Choi E, et al. Impact of Awareness of Breast Density on Perceived Risk, Worry, and Intentions for Future Breast Cancer Screening among Korean Women. Cancer Res Treat 2021;53(1):55-64. doi: 10.4143/crt.2020.495 [published Online First: 2020/08/18]

VERSION 2 – REVIEW

REVIEWER	Møller, Tom The UniversityHospital of Copenhagen
REVIEW RETURNED	20-Apr-2021

GENERAL COMMENTS	Second Review: General practitioners' (GPs) understanding and views on breast density in Australia: a qualitative interview study Thank you for providing me the opportunity for providing a second review of the paper. The revised manuscript is more balanced and transparent in methods and analytic presentation. Concerning the 'box' strength and limitations: The authors state that "Like all qualitative research, participants' views may not be representative". More specific, the authors could claim that: Informants from urban areas and being younger females represented a majority. Concerning the sample description: We could have a long discussion on whether the authors used a purposive or a convenient sampling strategy on in order to pursue recruitment of GPs with diverse characteristics. At least in the method section, the authors need to state that "potential candidates initially were selected among self-referrals, which might influence the nationwide GP representation". This could replace the following sentence from the discussion section since this represents a 'normative phrase'. "Qualitative research is not able to generate statistically representative samples in the way that quantitative research does: instead, qualitative researchers seek depth of insight from a smaller sample." Suggestion: The authors could improve their argument for enhanced examination of BD throughout Australia by incorporating a study by Janni Leung et al Screening mammography uptake within Australia and Scotland in rural and urban populations, Prev Med Rep 2015 Jun, - suggesting no difference in rural or urban breast cancer screening attendance.

REVIEWER	Neuman , Heather University of Wisconsin
REVIEW RETURNED	23-Apr-2021

GENERAL COMMENTS	The reviewers have been responsive to the critiques.

REVIEWER	Lamort-Bouché, Marion Universite de Lyon
REVIEW RETURNED	11-May-2021

GENERAL COMMENTS	Thank you for the careful editing of the manuscript. I have no additional comments.

VERSION 2 – AUTHOR RESPONSE

Reviewer 1

- Thank you for providing me the opportunity for providing a second review of the paper. The revised manuscript is more balanced and transparent in methods and analytic presentation.

We thank the reviewer for the thorough review of the manuscript during both rounds of revision and providing us with valuable feedback and suggestions.

- Concerning the 'box' strength and limitations:

The authors state that "Like all qualitative research, participants' views may not be representative".

More specific, the authors could claim that: Informants from urban areas and being younger females represented a majority.

As suggested, we have now added "GPs from urban areas and being younger females represented a majority" to under strengths and limitations box. (see page 3, line 14)

- Concerning the sample description:

We could have a long discussion on whether the authors used a purposive or a convenient sampling strategy on in order to pursue recruitment of GPs with diverse characteristics. At least in the method section, the authors need to state that "potential candidates initially were selected among self-referrals, which might influence the nationwide GP representation".

This could replace the following sentence from the discussion section since this represents a 'normative phrase'. "Qualitative research is not able to generate statistically representative samples in the way that quantitative research does: instead, qualitative researchers seek depth of insight from a smaller sample."

As per reviewer's suggestion, we have now added the following sentence to the methods section.

"Potential GPs initially were selected among self-referrals.' (see page 5, line 38)

Under the discussion section, we have deleted the sentence "qualitative research is not able to generate statistically representative samples in the way that quantitative research does: instead, qualitative researchers seek depth of insight from a smaller sample". The following sentence was refined to reflect that initially GPs were recruited by self-referral.

“As GPs were initially recruited by self-referral, the GPs in this study may not be representative of all Australian GPs. In particular many participants were from urban areas, of female gender and had relatively short duration of clinical experience.” (see page 17, line 35)

Suggestion:

- The authors could improve their argument for enhanced examination of BD throughout Australia by incorporating a study by Janni Leung et al Screening mammography uptake within Australia and Scotland in rural and urban populations, Prev Med Rep 2015 Jun, - suggesting no difference in rural or urban breast cancer screening attendance.

We thank the reviewer for the suggestion. We have now added the following sentence under discussion section.

‘Given the recent data has shown that there is no difference in screening mammography attendance in rural and urban areas in Australia, GP training in BD discussions could have broader implications nationwide.’ (see page 17 line 3).

We hope that the above response satisfactorily addresses the Reviewers’ concerns and suggestions. Please do not hesitate to contact me should you require further information or clarification.