

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

| | |
|----------------------------|--|
| TITLE (PROVISIONAL) | Perceptions about the implementation of physiotherapist prescribing in Australia: a national survey of Australian physiotherapists |
| AUTHORS | Noblet, Timothy; Marriott, John; Jones, Taryn; Dean, Catherine; Rushton, Alison |

VERSION 1 - REVIEW

| | |
|------------------------|---|
| REVIEWER | Martin Hey Consultant Physiotherapist Pain Services Mid Yorkshire Hospitals NHS Trust Wakefield England |
| REVIEW RETURNED | 19-Oct-2018 |

| | |
|-------------------------|---|
| GENERAL COMMENTS | <p>As a UK based NMP Physiotherapist this submission was of great interest and I recognise the commonality of participant viewpoints expressed in the study.</p> <p>I respectfully suggest a couple of minor revisions that I believe would improve the read;</p> <p>Pg 6, line 3 should read "disseminated" (typo)</p> <p>Pg 7 line 15 recommend re-ordering of States and % list for more natural flow when read</p> <p>Pg 17 line 30 should read "wish" not which (typo)</p> <p>The data on page 8 in many sections does not add to the overall figure of 883 "full respondents" that you mention earlier in the piece. If there is missing data you should acknowledge and make this clear in each section where it affects the data accuracy. Or the alternative is that you remove the statement that 883 participants fully responded if some of the data is missing / unusable.</p> <p>Little emphasis is placed upon a significant finding amongst responders that believed having NMP rights would not change the care they delivered.....could you discuss this further or expand upon this thematic response?</p> <p>Finally, it may be wise to draw overt attention to the fact that the study participants represent 3% of the Physiotherapy fraternity in Australia.....in terms of interpreting the findings in light of potentially influencing future professional and legislative policy this is quite a significant point which potentially could be made clearer to avoid suggestions of bias</p> <p>I very much hope this is found to be constructive feedback.</p> |
|-------------------------|---|

| | |
|------------------------|--|
| REVIEWER | Rakhee Raghunandan University of Otago, New Zealand |
| REVIEW RETURNED | 11-Nov-2018 |

| | |
|-------------------------|---|
| GENERAL COMMENTS | <p>Thank you for the opportunity to review this paper. This subject area is relevant and highly topical across many of the allied health professions in Australia. The paper is well written and provides evidence to help inform policy change regarding the inclusion of physiotherapist prescribing in the physiotherapist scope of practice in Australia.</p> <p>I do have the following comments:</p> <p>1). Page 3, line 12: "Difficulties in accessing medicines for Australians living in rural and remote areas alongside recognised health equities between minority groups..." I think you mean "health inequities" here?</p> <p>2). Page 6, line 3: "The results will be deiminated to all..." Do you mean "disseminated"?</p> <p>3). Page 9, lines 33-34: "Six hundred and eight participants (71.2%) would be extremely likely (n=397, 47%) or somewhat likely (n=211, 25%) to train..." It would be better to list the actual percentages i.e. 46.5% and 24.7% as per Fig 3, so that it adds up to the 71.2% total that you first mention in this sentence.</p> <p>4). Page 13, line 30-32: This last sentence is an insightful and honest interpretation of the participants' concerns about physiotherapist prescribing. Well done!</p> <p>5). Page 17, line 9: Incorrect use of the word "elude" in this sentence. You mean to use "allude" here. You could change to "...alluding to the possibility that medical doctors might see the introduction of physiotherapist prescribing as a direct challenge to their authority and private businesses, leading them to reduce referrals to physiotherapy."</p> <p>6). Page 20, lines 7-9: I don't think that you can say "predicted". Participants were suggesting these as possible outcomes of introducing physiotherapist NMP, not predicting that these will happen.</p> |
|-------------------------|---|

| | |
|------------------------|--|
| REVIEWER | Nicky Wilson University of Southampton United Kingdom |
| REVIEW RETURNED | 18-Dec-2018 |

| | |
|-------------------------|---|
| GENERAL COMMENTS | <p>This paper reports on Australian physiotherapist perceptions of the introduction of physiotherapist non-medical prescribing in Australia. Data were gathered from registered physiotherapists across Australia via a national online survey, with the survey link distributed to all members of the Australian Physiotherapy Association. Data from 3% (n=883) of physiotherapists registered with the AHPRA were analysed. The authors found that nearly 80% of participants welcomed autonomous prescribing, with physiotherapists working in the private sector and physiotherapists working in cities more likely to want to train as prescribers. Perceived benefits of physiotherapist prescribing included improvements in the quality, efficiency and effectiveness of</p> |
|-------------------------|---|

| | |
|--|---|
| | <p>healthcare provided, and reduced healthcare associated economic costs. Physiotherapists raised concerns about safe autonomous physiotherapist prescribing practice, remuneration for taking on the role and the impact of physiotherapist prescribing on relations with other healthcare professionals and the public. Physiotherapists anticipated the need for a robust educational framework and a career progression structure to support the introduction of autonomous physiotherapist prescribing in Australia.</p> <p>Major issues and suggestions for improvement</p> <ul style="list-style-type: none"> • A strength of this paper is the breadth of data gathered from Australian physiotherapists about the potential implementation of physiotherapist prescribing practices in Australia. However, there is no reference to other studies and reports investigating physiotherapist perceptions about the implementation of prescribing practices. For example, the national survey of South African physiotherapists undertaken by Unger and Lochner (2006) and a smaller study investigating physiotherapist opinions about enlisting as supplementary prescribers in Nigeria (Onigbinde and Tijani 2014). The findings of the public consultation on the proposal to introduce independent prescribing by physiotherapists in the UK (Department of Health 2012) may provide additional insight. Referring to these studies would help situate the paper in the field of physiotherapist prescribing practices and could enable comparison between countries. • The description of the analysis of the quantitative data is stated and the link to the confidence interval calculator is embedded in the text; this could be clarified by noting the Newcombe-Wilson method without continuity correction and making reference to the Newcombe (1998) paper. That way, if the website and/or spreadsheet are changed and or deleted, there will still be some reference to the actual calculations used. • The authors present three figures in the manuscript that largely just repeat the data in the text. The paper could be improved by better integration of the text and figures. • The authors recommend interviewing current physiotherapist prescribers to further develop this research however, Carey et al. (2017) have published a recent evaluation of physiotherapist and podiatrist independent prescribing in the UK. Reference to this would enhance the discussion and conclusion of this paper. <p>Minor issues</p> <ul style="list-style-type: none"> • Page 2 Abstract: The conclusion refers to AHPRA registered-physiotherapists. The acronym should be included at the first use, i.e. in line 13. • Page 3: The authors refer to submission of a proposal for 'autonomous prescribing' by Australian physiotherapists, but there is no description within the text about what this is (it is described in one survey question in Supplementary File 1). As the framework for non-medical prescribing is different across and within countries, providing a brief explanation of what autonomous prescribing entails in relation to other models of non-medical prescribing (including those in Australia as set out by the Health Professionals Prescribing Pathway) would be beneficial. This would enable the paper to be positioned within the international literature about non-medical prescribing. • Page 3 line 12: Health equity is normally considered to be the absence of avoidable, unfair or remediable differences among |
|--|---|

| | |
|--|---|
| | <p>groups of people. Do the authors mean health inequities among minority groups?</p> <ul style="list-style-type: none"> • Page 3 line 19: The authors talk about their recent systematic review showing limited evidence of unknown risk of bias. It is not clear to what the 'limited evidence of unknown risk of bias' is referring. • Page 4 line 42: 'The APA membership...representative of all physiotherapy specialities and levels of experience...' Could the authors state that students were included in the invitation to complete the survey? • Page 4 line 43: Placing a comma after 23 in 23153 would make it easier to interpret this number. • Page 5 (line 17): '...closed questions collecting quantitative data' might scan better as 'closed questions to collect quantitative data' • Page 5 line 24: Could the authors state the proportions of qualified physiotherapists and physiotherapy students in the pilot sample? • Page 5: There is no mention of a power calculation although this is described in the protocol for the study. It would be helpful to understand the 3% response rate in relation to this. • Page 5 line 54: Could the authors clarify PPI in the development of the study? • Page 6 line 3: '...will be deiminated to all..' ? typographical error • There is inconsistency in the use of decimal places when reporting percentages throughout the paper. • References – formatting is inconsistent. <p>References: Under M and Lochner R (2006) Pharmacology practice and South African physiotherapists – Part two: A needs analysis. South African Journal of Physiotherapy 62(2): 18-22 Onigbinde AT and Tijani AI (2014) Perception of Nigerian physiotherapists on enlistment, legislation and benefits of supplementary prescribing. American Journal of Health Research 2(5-1) 1-5. Department of Health (2012) Summary of public consultation on proposals to introduce independent prescribing by physiotherapists. Department of Health Carey N, Stenner K, Edwards J, Gage H, Williams P, Otter S, Moore A et al. (2017) Evaluation of physiotherapist and podiatrist independent prescribing, mixing of medicines and prescribing of controlled drugs. University of Surrey.</p> |
|--|---|

VERSION 1 – AUTHOR RESPONSE

| Reviewer 1 | |
|---|---|
| As a UK based NMP Physiotherapist this submission was of great interest and I recognise the commonality of participant viewpoints expressed in the study. I respectfully suggest a couple of minor revisions that I believe would improve the read; | Thank you for your comments and feedback. |
| Pg 6, line 3 should read "disseminated" (typo) Pg 7 line 15 recommend re-ordering of States and % list for more natural flow when read | Edits completed as recommended. |

| | |
|--|---|
| Pg 17 line 30 should read "wish" not which (typo) | |
| The data on page 8 in many sections does not add to the overall figure of 883 "full respondents" that you mention earlier in the piece. If there is missing data you should acknowledge and make this clear in each section where it affects the data accuracy. Or the alternative is that you remove the statement that 883 participants fully responded if some of the data is missing / unusable. | As noted, demographic data were not fully completed by all participants as it was not compulsory as per ethical approval. For clarity and transparency, the first sentence in the demographic results (page 8) has been altered to: 'A total of 883 participants (3% of all AHPRA registered-physiotherapists) completed the questionnaire' The number of participants that answered each demographic question has been added to Table 1. |
| Little emphasis is placed upon a significant finding amongst responders that believed having NMP rights would not change the care they delivered.....could you discuss this further or expand upon this thematic response? | 'The most common deterrent for training to be a prescriber was the belief that this will not change the care that the individual physiotherapist would provide to their patients (n=152, 61.79%).' is stated clearing in the results. Unfortunately, no further qualitative data discussed this finding, therefore to reason why could potentially limit validity and transferability. Further research is required to interrogate this finding. |
| It may be wise to draw overt attention to the fact that the study participants represent 3% of the Physiotherapy fraternity in Australia.....in terms of interpreting the findings in light of potentially influencing future professional and legislative policy this is quite a significant point which potentially could be made clearer to avoid suggestions of bias | Thank you for your comment. Words have been added to the strengths and limitations to ensure this point is more explicit. It now reads: 'A representative survey response rate was achieved. Although only 3% of AHPRA responded, this reflected the response rate of a previous national evaluation of physiotherapists, ³⁰ where similarly, it was not possible to contact all registered physiotherapists directly due to the AHPRA privacy policy. Physiotherapists who were not APA members at the time of the survey would have been unaware of the questionnaire unless they were provided with a link to the questionnaire through professional networks. It is impossible to determine why 97% of AHPRA registered physiotherapists did not participate; therefore, the risk of bias remains unknown and should be considered when interpreting the results.' |
| Reviewer 2 | |
| Thank you for the opportunity to review this paper. This subject area is relevant and highly topical across many of the allied health professions in Australia. The paper is well written and provides evidence to help inform policy change regarding the inclusion of physiotherapist prescribing in the physiotherapist scope of practice in Australia. | Thank you for your comments. |

| | |
|--|--|
| Page 3, line 12: "Difficulties in accessing medicines for Australians living in rural and remote areas alongside recognised health equities between minority groups..." I think you mean "health inequities" here? | Edit completed as recommended. |
| Page 6, line 3: "The results will be deiminated to all..." Do you mean "disseminated"? | Edit completed as recommended. |
| Page 13, line 30-32: This last sentence is an insightful and honest interpretation of the participants' concerns about physiotherapist prescribing. Well done! | Thank you for your feedback. |
| Page 17, line 9: Incorrect use of the word "elude" in this sentence. You mean to use "allude" here. You could change to "...alluding to the possibility that medical doctors might see the introduction of physiotherapist prescribing as a direct challenge to their authority and private businesses, leading them to reduce referrals to physiotherapy." | Edit completed as recommended. |
| Page 20, lines 7-9: I don't think that you can say "predicted". Participants were suggesting these as possible outcomes of introducing physiotherapist NMP, not predicting that these will happen. | Thank you for your comment. This sentence has been changed to reflect your feedback, now reading: 'Improvements in the efficiency of healthcare delivery, access to medicines and reductions in costs across the health economy were suggested as potential benefits.' |
| Reviewer 3 | |
| A strength of this paper is the breadth of data gathered from Australian physiotherapists about the potential implementation of physiotherapist prescribing practices in Australia. However, there is no reference to other studies and reports investigating physiotherapist perceptions about the implementation of prescribing practices. For example, the national survey of South African physiotherapists undertaken by Unger and Lochner (2006) and a smaller study investigating physiotherapist opinions about enlisting as supplementary prescribers in Nigeria (Onigbinde and Tijani 2014). The findings of the public consultation on the proposal to introduce independent prescribing by physiotherapists in the UK (Department of Health 2012) may provide additional insight. Referring to these studies would help situate the paper in the field of physiotherapist prescribing practices and could enable comparison between countries. | Thank you for this comment. In order to aid in the situating this paper for international comparison the following has been added to the introduction: 'Divided opinion between individual clinicians, academics and professional managers/leaders may lead to confusion across the healthcare community, resulting in unwarranted negative thoughts and perceptions about NMP roles and responsibilities. Diverse perceptions regarding the implementation of physiotherapist prescribing and current physiotherapeutic pharmacological knowledge and practices have been reported in national evaluations in Nigeria, South Africa and the UK. ⁶⁻⁹ Data from these evaluations have been utilised to influence national policy and the political drive towards or against the adoption of NMP within the physiotherapy profession in these countries. ⁸⁻⁹ Acceptance and support for prescribing by the Australian physiotherapy profession will be required for successful implementation into local and national health systems. ^{2 10-12} ' |

| | |
|---|--|
| | |
| The description of the analysis of the quantitative data is stated and the link to the confidence interval calculator is embedded in the text; this could be clarified by noting the Newcombe-Wilson method without continuity correction and making reference to the Newcombe (1998) paper. That way, if the website and/or spreadsheet are changed and or deleted, there will still be some reference to the actual calculations used. | Thank you for your advice. This has been actioned within the manuscript. |
| The authors present three figures in the manuscript that largely just repeat the data in the text. The paper could be improved by better integration of the text and figures. | Thank you for your comment. We hope that by integrating the reviewers' and editorial teams' feedback the manuscript will fulfil the needs of the readers. |
| The authors recommend interviewing current physiotherapist prescribers to further develop this research however, Carey et al. (2017) have published a recent evaluation of physiotherapist and podiatrist independent prescribing in the UK. Reference to this would enhance the discussion and conclusion of this paper. | <p>Thank you for this comment. This reference has been added to the discussion and conclusion of the article:</p> <p>'These findings concur with those reported by student physiotherapists in Australia reported a related article, as well as reflecting an evaluation of physiotherapist and podiatrist independent prescribers in the UK,²² strengthening the external validity and transferability of the results.'</p> <p>'It would be valuable to interview current physiotherapist prescribers to interrogate the perceived benefits and concerns about physiotherapy prescribing identified by the Australian physiotherapists. Lessons learnt in the UK could thus be utilised to inform implementation internationally.'</p> |
| MINOR COMMENTS: | |
| Page 2 Abstract: The conclusion refers to AHPRA registered-physiotherapists. The acronym should be included at the first use, i.e. in line 13. | Edit completed as recommended. |
| Page 3: The authors refer to submission of a proposal for 'autonomous prescribing' by Australian physiotherapists, but there is no description within the text about what this is (it is described in one survey question in Supplementary File 1). As the framework for non-medical prescribing is different across and within countries, providing a brief explanation of what autonomous prescribing entails in relation to other models of non-medical prescribing (including those in Australia as set out by the Health Professionals Prescribing Pathway) would be beneficial. This would enable the paper to be positioned within the | <p>Thank you for this feedback. We have added an explanation for autonomous prescribing so that the reader is able to position this paper within the context of the international literature.</p> <p>'In July 2015, the Australian Physiotherapy Association (APA) in collaboration with the Australia Physiotherapy Council (APC) and Council of Physiotherapy Deans Australia and New Zealand (CPDANZ) submitted a proposal for the endorsement of registered physiotherapists for autonomous prescribing to the Physiotherapy Board of Australia. ² To autonomously prescribe medicines, a practitioner must be responsible for the assessment and diagnosis of the patient,</p> |

| | |
|---|---|
| international literature about non-medical prescribing. | prescribing drugs from a specified formulary within their individual scope of practice. The clinician manages ongoing therapy without the requirement of protocols or supervision. ^{3'} |
| Page 3 line 12: Health equity is normally considered to be the absence of avoidable, unfair or remediable differences among groups of people. Do the authors mean health inequities among minority groups? | Edit completed as recommended. See Reviewer 2. |
| Page 3 line 19: The authors talk about their recent systematic review showing limited evidence of unknown risk of bias. It is not clear to what the 'limited evidence of unknown risk of bias' is referring. | This has been reworded to clarify for the reader: 'The clinical and cost-effectiveness of NMP remains unclear, with a recent systematic review finding only minimal empirical evidence with unknown risk of bias ^{3'} |
| Page 4 line 42: 'The APA membership...representative of all physiotherapy specialities and levels of experience...' Could the authors state that students were included in the invitation to complete the survey? | Suggestion added. The sentence now reads: 'The APA membership was selected as the recruitment platform as it is representative of all physiotherapy specialties and levels of experience (qualified and student physiotherapists) across Australia' |
| Page 4 line 43: Placing a comma after 23 in 23153 would make it easier to interpret this number. | Edit completed as recommended |
| Page 5 (line 17): '...closed questions collecting quantitative data' might scan better as 'closed questions to collect quantitative data' | Edit completed as recommended |
| Page 5 line 24: Could the authors state the proportions of qualified physiotherapists and physiotherapy students in the pilot sample? | Thank you for this comment, this information has been added. 'Ten participants (n=7 registered physiotherapists, n=3 student physiotherapists) were purposely sampled to represent the physiotherapy profession in Australia' |
| Page 5: There is no mention of a power calculation although this is described in the protocol for the study. It would be helpful to understand the 3% response rate in relation to this. | Thank you for your comment. Additional words have been added within the strengths and weaknesses discussion to reference the power calculation featured in the protocol paper: 'A representative survey response rate (as per precursory power calculations) was achieved. ⁸ Although only 3% of AHPRA responded, this reflected the response rate of a previous national evaluation of physiotherapists, ³⁰ where similarly, it was not possible to contact all registered physiotherapists directly due to the AHPRA privacy policy.' |
| Page 5 line 54: Could the authors clarify PPI in the development of the study? | This is clarified in the Patient and Public Involvement subsection and clearly states that due to the study's objectives, patients and the general public were not utilised in design of the study. The reasoning as to why (the study objectives) is explicit. |

| | |
|--|--|
| | 'The development of this study was informed by the experiences of patients and the general public acknowledged in the literature. Due to the study's objectives, patients and the general public were not utilised in design of the study or in participant recruitment. The results will be disseminated to all interested parties through publication and presentation at professional conferences.' |
| Page 6 line 3: '...will be deiminated to all..' ? typographical error | Edit completed as recommended |
| There is inconsistency in the use of decimal places when reporting percentages throughout the paper. | Thank you for this feedback. The use of decimal places is now standardised at 1 DP when required. |
| References – formatting is inconsistent. | Unfortunately, this was due to changes in the computer programmes used during review. This has been edited. |

VERSION 2 – REVIEW

| | |
|------------------------|---|
| REVIEWER | Dr Nicky Wilson University of Southampton UK |
| REVIEW RETURNED | 10-Feb-2019 |

| | |
|-------------------------|---|
| GENERAL COMMENTS | <p>Thank you for the opportunity to review this resubmission. The revisions made have benefitted this version. The following minor comments are predominantly stylistic for the authors to consider.</p> <p>Minor issues</p> <p>Page 2 Abstract: 'To explore (1) the views ...implementation of non-medical prescribing (NMP).' Could the authors state that implementation is in Australia?</p> <p>Page 3 line 12: 'To autonomous prescribe medicines ...' This doesn't scan - could be replaced with 'to prescribe medicines autonomously..'</p> <p>Page 3 line 14: 'and diagnosis of the patient, ..'</p> <p>Page 4 line 14-15: 'This article reports data ...in Australia'. Could the authors state what the survey is evaluating?</p> <p>Page 5 line 4: ...examining barriers to and facilitators of...</p> <p>Page 13 line 10: 'multi-model skills'. Do the authors mean multimodal?</p> <p>Page 13, line 29: CPD – please write in full for first use.</p> <p>There is inconsistent use of 'Prescriber' and 'prescriber' in the paper.</p> <p>Could the authors please check that there are no outstanding formatting issues with the references, in particular, reference 10.</p> |
|-------------------------|---|

VERSION 2 – AUTHOR RESPONSE

| | |
|----------------------------|--|
| Editors/Reviewers Comments | Changes made or Reason(s) for not making changes |
|----------------------------|--|

| | |
|---|--|
| Reviewer 4 | |
| Thank you for the opportunity to review this resubmission. The revisions made have benefitted this version. The following minor comments are predominantly stylistic for the authors to consider. | Thank you for your comments. |
| Minor issues: | |
| Page 2 Abstract: 'To explore (1) the views ...implementation of non-medical prescribing (NMP).' Could the authors state that implementation is in Australia? | Completed as suggested. |
| Page 3 line 12: 'To autonomous prescribe medicines ...' This doesn't scan - could be replaced with 'to prescribe medicines autonomously..' | Actioned as advised. |
| Page 3 line 14: 'and diagnosis of the patient, ..' | Actioned as advised. |
| Page 4 line 14-15: 'This article reports data ...in Australia'. Could the authors state what the survey is evaluating? | The manuscript now reads: 'The data collected evaluating the views and perceptions of student physiotherapists about the implementation of physiotherapist prescribing in Australia is presented in the related article (bmjopen-2018-026327) published independently'. |
| Page 5 line 4: ...examining barriers to and facilitators of... | Actioned as advised. |
| Page 13 line 10: 'multi-model skills'. Do the authors mean multimodal? | Actioned as advised. |
| Page 13, line 29: CPD – please write in full for first use. | Actioned as advised. |
| There is inconsistent use of 'Prescriber' and 'prescriber' in the paper. | Standardised throughout |
| Could the authors please check that there are no outstanding formatting issues with the references, in particular, reference 10. | Formatting checked and errors corrected. |