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Physiotherapists' views on the Australian Physiotherapy Association's Choosing Wisely recommendations: a content analysis

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ABSTRACT

Objectives Choosing Wisely holds promise for increasing awareness of low-value care in physiotherapy. However, it is unclear how physiotherapists' view Choosing Wisely recommendations. The aim of this study was to evaluate physiotherapists' feedback on Choosing Wisely recommendations and investigate agreement with each recommendation.

Setting The Australian Physiotherapy Association emailed a survey to all 20 029 physiotherapist members in 2015 seeking feedback on a list of Choosing Wisely recommendations.

Participants A total of 9764 physiotherapists opened the email invitation (49%) and 543 completed the survey (response rate 5.6%). Participants were asked about the acceptability of the wording of recommendations using a closed (Yes/No) and free-text response option (section 1). Then using a similar response format, participants were asked whether they agreed with each Choosing Wisely recommendation (sections 2–6).

Primary and secondary outcomes We performed a content analysis of free-text responses (primary outcome) and used descriptive statistics to report agreement and disagreement with each recommendation (secondary outcome).

Results There were 872 free-text responses across the six sections. A total of 347 physiotherapists (63.9%) agreed with the 'don't' style of wording. Agreement with recommendations ranged from 52.3% (electrotherapy for back pain) to 76.6% (validated decision rules for imaging). The content analysis revealed that physiotherapists felt that blanket rules were inappropriate (range across recommendations: 13.9%–30.1% of responses), clinical experience is more valuable than evidence (11.7%–28.3%) and recommendations would benefit from further refining or better defining key terms (7.3%–22.4%).

Conclusions Although most physiotherapists agreed with both the style of wording for Choosing Wisely recommendations and with the recommendations, their feedback highlighted a number of areas of disagreement and suggestions for improvement. These findings will support the development of future recommendations and are the first step towards increasing the impact Choosing Wisely has on physiotherapy practice.

Strengths and limitations of this study

- ► This is the first study to explore physiotherapists views on Choosing Wisely recommendations.
- ► Two researchers developed a reliable coding framework to code written feedback from physiotherapists regarding Choosing Wisely recommendations.
- ► Our qualitative data highlight possible targets to increase adoption of Choosing Wisely recommendations among physiotherapists.
- ► The main weakness is the low response rate to the survey (5.6%).
- ► Our sample might not be representative of all physiotherapist members of the Australian Physiotherapy Association.

INTRODUCTION

Low-value care is defined as care that provides no benefit, causes harm or provides a benefit that is too small when compared with its cost.[1] In an effort to reduce low-value care, over 230 professional societies worldwide—such as the Australian Physiotherapy Association—have provided Choosing Wisely recommendations.[2 3] Choosing Wisely is a major public awareness campaign that aims to facilitate open patient–therapist communication about low-value care and ensure patients receive healthcare that is evidence-based, safe and necessary. Professional societies that endorse Choosing Wisely typically release a list of 5–10 Choosing Wisely recommendations. Choosing Wisely recommendations are brief statements that outline tests or treatments that are unnecessary and potentially harmful, and are likely provided by some society members.

Choosing Wisely holds promise for increasing awareness of the need to reduce low-value care in physiotherapy. This is particularly important as the profession is rapidly expanding across countries. In Australia,

the number of physiotherapists has nearly tripled in just under 20 years[4 5] and there are now more practising physiotherapists than any medical specialty (including general practice).[6 7] In the USA, there are nearly 250 000 physical therapists, 250 physical therapy training programmes[8] and the number of physical therapists is estimated to grow 29% within the next 10 years.[9]

Audits of practice suggest that some physiotherapists provide low-value care and fail to provide evidence-based care. For example, 77% use traction for low back pain (survey of n=1001 physiotherapists)[10] and 83% use electrotherapy (eg, ultrasound) (n=274),[11] both are considered low-value according to evidence-based clinical practice guidelines.[12] Conversely, only 42% would provide advice to stay active and 51% prescribe home exercise for patients with chronic low back pain (n=410),[13] both recommended in guidelines.[12]

Understanding physiotherapists' views towards adopting Choosing Wisely recommendations could inform strategies to replace low-value physiotherapy with evidence-based physiotherapy. Given that physiotherapists play a key role in the management of some of the leading causes of disability worldwide (eg, low back and neck pain),[14] facilitating evidence-based physiotherapy has major implications for reducing healthcare costs and improving the health of millions. The primary aim of this study was to evaluate physiotherapists' feedback on a list of Choosing Wisely recommendations that were sent to members of the Australian Physiotherapy Association before final recommendations were endorsed and distributed. The secondary aim was to determine the proportion of physiotherapists that agreed and disagreed with each recommendation.

METHODS

Study design

We performed a cross-sectional online survey that used a content analysis of free-text responses from members of the Australian Physiotherapy Association regarding a list of Choosing Wisely recommendations.

Participants and recruitment

In November 2015, the Australian Physiotherapy Association sent an email invitation to 20 029 physiotherapist members seeking feedback on a draft list of Choosing Wisely recommendations. The draft list of recommendations was developed by a process of consensus over a series of meetings between six and eight physiotherapists (clinicians and academics) from different sub-disciplines (eg, musculoskeletal and cardiorespiratory) and a Choosing Wisely representative. Participants were informed that the Australian Physiotherapy Association would use their feedback to improve the draft Choosing Wisely recommendations. All responses were anonymous as participants were not asked to provide any identifiable information (eg, age, gender and contact details). The draft Choosing Wisely recommendations were largely similar to the current recommendations (table 1).

Data collection

The survey included six sections; each section included a recommendation that was linked to a question (table 2). First, participants were shown a Choosing Wisely recommendation from the American Physical Therapy Association: '*Don't employ passive physical agents except when necessary to facilitate participation in an active treatment program*'. Participants were asked whether the style of wording (ie, using 'Don't') was an acceptable method for engaging the physiotherapy profession in discussions about evidence-based practice. Participants could answer 'Yes' or 'No' (or choose not to answer) and provide feedback in a free-text field. The next five sections presented the draft Choosing Wisely recommendations from the Australian Physiotherapy Association. Participants were shown a recommendation and a brief explanatory note to help them to understand why the Australian Physiotherapy Association selected the recommendation. Participants were then asked if they agreed/disagreed with the recommendation (or neither agreed/disagreed) and were prompted to provide feedback in a free-text field.

Analysis

We used descriptive statistics (counts and percentages) to report agreement with each question and performed a content analysis on all free-text responses.[15] The content analysis allowed us to report the content and frequency of codes expressed in responses; a code is a pre-established category which reflects an important characteristic of a response. The analysis represents the perspectives of physiotherapists working in an academic healthcare setting and private musculoskeletal clinics. Two researchers (JZ and ALP) read through all the responses to familiarise themselves with their content, taking notes and developing codes to represent the key characteristics of responses. The same researchers discussed and refined these codes (which was done separately for each question), and re-read through all the responses to ensure that the codes captured all the important information expressed by participants. The researchers (JZ and ALP) developed a coding framework using an inductive approach, as the aim was to generate new ideas from the data. This coding framework was then applied to a random sample of responses for each question (at least 20%) to test the reliability of the framework (see Results section). Each response was allocated up to five codes based on its content. A detailed outline of the coding framework is presented in online supplementary table 1.

Kappa statistics (k) (95% CIs) and per cent exact agreement were calculated to assess the level of agreement between JZ and ALP for coding the responses for each question. This analysis used 5000 bootstrap replications to calculate the 95% CIs and was performed using STATA statistical software (V.14.1). k were interpreted as follows: <0.00='poor', 0.00 to 0.20='slight', 0.21 to 0.40='fair', 0.41 to 0.60='moderate', 0.61 to 0.80='substantial' and ≥0.81='almost perfect'.[16] The coding checklist for each question was refined until level of agreement on a random

Table 1 Comparison of draft and current Choosing Wisely recommendations from the Australian Physiotherapy Association

Draft recommendations	Current recommendations	Modification
Don't use imaging where validated decision rules indicate imaging is not necessary.	Don't request imaging for patients with non-specific low back pain and no indicators of a serious cause for low back pain. Don't request imaging of the cervical spine in trauma patients, unless indicated by a validated decision rule. Don't request imaging for acute ankle trauma unless indicated by the Ottawa Ankle Rules (localised bone tenderness or inability to weight-bear as defined in the rules).	Split into three recommendations each specifying a different clinical scenario
Don't use incentive spirometry after upper abdominal and cardiac surgery.	Don't routinely use incentive spirometry after upper abdominal and cardiac surgery.	'Don't' was replaced by 'Don't routinely'
Don't use electrotherapy modalities in the management of patients with low back pain.	Avoid using electrotherapy modalities in the management of patients with low back pain.	'Don't use' was replaced by 'Avoid using'
Don't use ongoing manual therapy for patients following acute adhesive capsulitis of the shoulder.	Don't provide ongoing manual therapy for patients with adhesive capsulitis of the shoulder.	'Don't use' was replaced by 'Don't provide' The population was broadened from patients 'following acute adhesive capsulitis' to all patients with adhesive capsulitis
Don't use ongoing physiotherapy in cases where there isn't improvement in measurable patient outcomes.	No recommendation	This recommendation was not included in the current list

sample was k≥0.7, with all disagreements resolved by discussion. Two researchers (JZ and ALP) then applied the final framework to the remaining responses.

Patient or public involvement

Patients and members of the public were not involved in the design of this study.

RESULTS

There were 9764 physiotherapists that opened the email invitation (49%) and 543 that completed the survey (response rate 5.6%). There were 152 (28.0%) free-text responses for section 1, 106 (19.5%) for section 2, 137 (25.2%) for section 3, 180 (33.1%) for section 4, 143 (26.3%) for section 5 and 154 (28.4%) for section 6. Level of agreement between the coding researchers was 'almost perfect' for sections 1–5 (range: k=0.86 to 0.94) and 'substantial' for section 6 (k=0.75, 95% CI 0.54 to 0.94) (online supplementary table 2).

Agreement and disagreement with recommendations

Most physiotherapists agreed that validated decision rules should guide the use of imaging (76.6% agreed and 3.7% disagreed). Fewer agreed that physiotherapists should not provide incentive spirometry after abdominal and cardiac surgery (60.4% agreed and 7.9% disagreed), not use electrotherapy for low back pain (52.3% agreed and 25.4% disagreed), not provide ongoing manual therapy for adhesive capsulitis of the shoulder (59.3% agreed and 16.0% disagreed) and not provide ongoing treatment when there is no improvement in measurable patient outcomes (62.8% agreed and 13.6% disagreed). Most physiotherapists agreed that the wording of Choosing Wisely recommendations is an acceptable method to engage the profession in discussions about evidence-based practice (63.9% agreed and 24.7% disagreed) (table 3).

Feedback on recommendations

Section 1: style of wording of Choosing Wisely recommendations

For responses that suggested disagreement, codes included: unqualified statements are inappropriate (n=49, 32.2%), wording would benefit from further refining (n=34, 22.4%), clinical experience is more valuable than evidence (n=19, 12.5%), shift the framing from negative to positive (n=18, 11.8%), threat to autonomy or the profession (n=16, 10.5%) and new evidence might change recommendations (n=4, 2.6%) (online supplementary table 3). For example:

> *Wording needs to be guidance, not definitive in most situations as individual cases may require alternative approaches* (unqualified statements are inappropriate)
>
> *Provocative. Too black and white … Are we going to drive our patients to masseurs and quacks* (threat to autonomy or the profession)

Table 2 Draft recommendations and survey questions

	Context	Example recommendation from the APTA	Question
Section 1	The Choosing Wisely format deliberately uses 'don't' or similar wording, and is expressly intended to incite discussion about interventions. One of the '5 Things Physical Therapists and Patients Should Question' by the American Physical Therapy Association in 2014 was:	Don't employ passive physical agents except when necessary to facilitate participation in an active treatment program.	In the context of the intent of the Choosing Wisely campaign, do you think style of wording is an acceptable method to engage the physiotherapy profession in a conversation about evidence-based clinical practice?
	Draft recommendation	**Explanation**	**Question**
Section 2	Don't use imaging where validated decision rules indicate imaging is not necessary.	Imaging should only be requested when clinically appropriate. Physiotherapists should use appropriate clinical decision-making tools, such as Ottawa Ankle Rules, Canadian C-Spine Rule and NEXUS, and should not be used imaging in cases of non-specific low back pain with no signs of serious pathology.	Do you agree that physiotherapists should not use imaging when validated decision rules indicate it is not necessary?
Section 3	Don't use incentive spirometry after upper abdominal and cardiac surgery.	Physiotherapists should not routinely use incentive spirometry after upper abdominal and cardiac surgery. Physiotherapists should instead consider adding other interventions to standard care. For example, there is high-level evidence for the addition of preoperative inspiratory muscle training when added to usual care.	Do you agree that physiotherapists should not use incentive spirometry after upper abdominal and cardiac surgery?
Section 4	Don't use electrotherapy modalities in the management of patients with low back pain.	Clinical practice guidelines don't recommend electrotherapy modalities to manage low back pain. Physiotherapists should instead consider other interventions to manage low back pain, for example, exercise prescription and education.	Do you agree that physiotherapists should not use use electrotherapy modalities in the management of patients with low back pain?
Section 5	Don't use ongoing manual therapy for patients following acute adhesive capsulitis of the shoulder.	Physiotherapists should consider a range of other interventions to manage acute adhesive capsulitis, such as exercise to optimise function, education and appropriate management of pain.	Do you agree that physiotherapists should not use ongoing manual therapy for patients following acute adhesive capsulitis of the shoulder?
Section 6	Don't use ongoing physiotherapy in cases where there isn't improvement in measurable patient outcomes.	Physiotherapists should facilitate and empower the patient's independent management of chronic conditions.	Do you agree that physiotherapists should not use ongoing physiotherapy in cases where there is no improvement in measurable patient outcomes?

APTA, American Physical Therapy Association; NEXUS, National Emergency X-Radiography Utilization Study.

Evidence-based treatment are those that are proven, but they shouldn't exclude time worn treatments that are yet to be proven ineffective (new evidence might change recommendations).

For responses that suggested agreement, codes included: unqualified statements (ie, those without reservation or limitation) are important (n=22, 14.5%), recommendations provoke discussion (n=20, 13.2%) and recommendations will help to change practice (n=12, 7.9%) (online supplementary table 3). For example:

The wording of these statements should be like a pebble in every physio's shoe challenging our thinking and processes. I personally think the style of wording does that (unqualified statements are important)

Table 3 Agreement and disagreement with survey questions

Section	Question	Agree, n (%)	Disagree, n (%)	Neither, n (%)
1	In the context of the intent of the Choosing Wisely campaign, do you think style of wording is an acceptable method to engage the physiotherapy profession in a conversation about evidence-based clinical practice?	347 (63.9%)	134 (24.7%)	62 (11.4%)
2	Do you agree that physiotherapists should not use imaging when validated decision rules indicate it is not necessary?	416 (76.6%)	20 (3.7%)	107 (19.7%)
3	Do you agree that physiotherapists should not use incentive spirometry after upper abdominal and cardiac surgery?	328 (60.4%)	43 (7.9%)	172 (31.7%)
4	Do you agree that physiotherapists should not use electrotherapy modalities in the management of patients with low back pain?	284 (52.3%)	138 (25.4%)	121 (22.3%)
5	Do you agree that physiotherapists should not use ongoing manual therapy for patients following acute adhesive capsulitis of the shoulder?	322 (59.3%)	87 (16.0%)	134 (24.7%)
6	Do you agree that physiotherapists should not use ongoing physiotherapy in cases where there is no improvement in measurable patient outcomes?	341 (62.8%)	74 (13.6%)	128 (23.6%)

I like the wording because it makes the recommendations clear and may be an alarming prompt for clinicians to change their practice (recommendations will help to change practice).

Section 2: validated decision rules for imaging

For responses that suggested disagreement, codes included: blanket rules are inappropriate (n=27, 25.5%), clinical experience is more valuable than validated decision rules (n=21, 19.8%) and threat to autonomy or the profession (n=5, 4.7%) (online supplementary table 3). For example:

There will always be situations where there is a need to contravene these rules, the statement leaves no scope for this (blanket rules are inappropriate)

In over 40 years of disciplined Physio Practice, I have personally discovered a number of spinal and pelvic tumours in patients, that would otherwise have been missed, had X-rays not been taken (clinical experience is more valuable than validated decision rules).

Most responses that suggested agreement did not have any specific comments (n=43, 40.6%); a small percentage highlighted that educating patients and clinicians will support the adoption of imaging recommendations (n=10, 9.4%). A small percentage of responses suggested that the wording of the above-recommendation would benefit from further refining (n=16, 15.1%) and unqualified statements are inappropriate (n=3, 2.8%) (online supplementary table 3). For example:

There will need to be a great deal of re-education of the public for this to be seen as reasonable for certain clients (educating patients and clinicians will support the adoption of imaging recommendations)

Physios generally don't use imaging, of course, whereas advocate for imaging could be a better phrase (benefit from further refining).

Section 3: use of incentive spirometry

A large percentage of respondents commented that they did not have the expertise to provide feedback on this recommendation (n=70, 51.1%). For responses that suggested disagreement, codes included: blanket rules are inappropriate (n=19, 13.9%), clinical experience is more valuable than evidence (n=16, 11.7%), questioning the purpose of the recommendation (n=5, 3.6%) and threat to autonomy or the profession (n=3, 2.2%) (online supplementary table 3). For example:

You could still use it if it's the only thing a patient will do to encourage larger tidal volumes (blanket rules are inappropriate)

I do not want my practice methods dictated by anybody, Australian Physiotherapy Association or otherwise (threat to autonomy or the profession).

Most responses that suggested agreement did not have any specific comments (n=17, 12.4%); a small percentage highlighted that the recommendation would help to promote evidence-based care (n=11, 8.0%). A small percentage of responses suggested that the recommendation would benefit from further refining (n=10, 7.3%) and should shift the framing from negative to positive (n=8, 5.8%), and that unqualified statements are inappropriate (n=4, 2.9%) (online supplementary table 3). For example:

Movement and walking are cheaper, more functional alternatives to improving lung function (help to promote evidence-based care)

Can we suggest what should be done instead of incentive spirometry? (shift the framing from negative to

positive).

Section 4: electrotherapy for low back pain

For responses that suggested disagreement, codes included: electrotherapy is appropriate to use as an adjunct to evidence-based care (n=54, 30.0%), clinical experience is more valuable than evidence (n=51, 28.3%), blanket rules are inappropriate (n=51, 28.3%), threat to autonomy or the profession (n=11, 6.1%) and new evidence might change recommendations (n=6, 3.3%) (online supplementary table 3). For example:

> *It can (be) appropriate to use electrotherapy for low back pain to support other evidence-based practice interventions* (appropriate to use as an adjunct to evidence-based care)
>
> *My long experience (40 years) as a Musculoskeletal Physiotherapist shows me that pain, inflammation and muscle spasm is relieved by interferential and sonophoresis, in most low back pain patients* (clinical experience is more valuable than evidence)
>
> *If we tell all other professions that electrotherapy are no longer used in physiotherapy treatment for low back pain, I can't see any difference between our work as a masseur or exercise physiologist in the years to come* (threat to autonomy or the profession).

Most responses that suggested agreement did not have any specific comments (n=23, 12.8%); a small percentage highlighted that the use of electrotherapy needs to be reduced (n=13, 7.2%) and other evidence-based treatments are available (n=11, 6.1%). Codes for feedback on wording included: better define the disease presentation and modality of electrotherapy (n=17, 9.4%), unqualified statements are inappropriate (n=9, 5.0%) and shift the framing from negative to positive (n=4, 2.2%) (online supplementary table 3). For example:

> *Rarely used in last 10 years—always teach movement short of pain as a baseline* (other evidence-based treatments are available)
>
> *This recommendation needs to be re-worded to be more specific about the chronicity of the condition* (better define the disease presentation and modality of electrotherapy)
>
> *Should the statement not be: 'Don't use only electrotherapy modalities in the management of patients with low back pain* (shift the framing from negative to positive).

Section 5: ongoing manual therapy for adhesive capsulitis

For responses that suggested disagreement, codes included: blanket rules are inappropriate (n=43, 30.1%), clinical experience is more valuable than evidence (n=28, 19.6%), threat to autonomy or the profession (n=7, 4.9%), manual therapy is appropriate to use as an adjunct to evidence-based care (n=7, 4.9%) and new evidence might change recommendations (n=6, 4.2%) (online supplementary table 3). For example:

> *This is true most of the time … but there are exceptions* (blanket rules are inappropriate)
>
> *In the subacute to chronic setting, I have effectively used manual therapy to improve shoulder range. I am at a loss as to how this evidence was derived* (clinical experience is more valuable than evidence).

Most responses that suggested agreement did not have any specific comments (n=23, 16.1%); a small percentage highlighted that other evidence-based treatments are available (n=14, 9.8%) and there is no evidence that manual therapy alters natural history (n=4, 2.8%). Codes for feedback on wording included: better define the disease presentation and type of manual therapy provided (n=27, 18.9%) and unqualified statements are inappropriate (n=10, 7.0%) (online supplementary table 3). For example:

> *Problem is perpetuated by poor active movement, so retrain this* (other evidence-based treatments are available)
>
> *(The statement) is too broad and encompassing to say never* (unqualified statements are inappropriate).

Section 6: ongoing physiotherapy without improvement in patient outcomes

For responses that suggested disagreement, codes included: physiotherapy could prevent or reduce deterioration in patients' symptoms (n=46, 29.9%), blanket rules are inappropriate (n=39, 25.3%), concern over the use of outcome measures (n=18, 11.7%) and threat to autonomy or the profession (n=17, 11.0%) (online supplementary table 3). For example:

> *Need, also, to consider situation where without contact with physio, patient demonstrates deterioration* (physiotherapy could prevent or reduce deterioration in patients' symptoms)
>
> *Sometimes the patient may need to rely on the therapist's intervention as they may not be able to independently exercise correctly* (blanket rules are inappropriate)
>
> *In my clinic, we have had a good example of why this is not a reasonable blanket statement. We've had low back pain clients who have shown some activity of daily living and subjective improvement, while their Oswestry outcome measure was relatively insensitive to the improvement* (concern over the use of outcome measures).

Most responses that suggested agreement did not have any specific comments (n=38, 24.7%); a small percentage highlighted that physiotherapy should focus on outcomes and try to reduce overtreatment (n=15, 9.7%). Codes for feedback on wording included: better define ambiguous terms (n=27, 17.5%), unqualified statements are inappropriate (n=5, 3.2%) and shift the framing from negative to positive (n=4, 2.6%) (online supplementary table 3). For example:

> *Physiotherapists have a role in being upfront to patients when no outcome has been achieved from ongoing physiotherapy*

(physiotherapy should focus on outcomes and try to reduce overtreatment)

The reasons sweeping statements like these don't tend to work (with a few exceptions) are that very few conditions are black and white, or can be covered by a single statement (unqualified statements are inappropriate).

DISCUSSION

Statement of principal findings

The majority (63.9%) of physiotherapists agreed with the style of wording for Choosing Wisely recommendations and with draft recommendations (ranging from 52.3% to 76.6%), although a number of areas of disagreement and suggestions for improvement were identified. Many physiotherapists believe blanket rules are inappropriate, clinical experience is more valuable than evidence and the recommendations threaten physiotherapists' autonomy and the profession. Many also suggested that the recommendations need to better define key terms and shift the framing from negative to positive. Since there are few differences between the draft Choosing Wisely recommendations and current recommendations (online supplementary table 1), the findings from this study are an important step towards developing and testing strategies to increase adoption of Choosing Wisely recommendations and replace low-value physiotherapy with evidence-based physiotherapy.

Strengths and weaknesses of the study

A strength of this study is that two researchers developed a reliable coding framework to code written feedback from physiotherapists regarding Choosing Wisely recommendations. Level of agreement between the two researchers coding responses ranged from 'substantial' (section 6) to 'almost perfect' (sections 1–5). The main weakness is the low response rate to the survey (5.6%). Our sample might, therefore, not be representative of all members of the Australian Physiotherapy Association; this reduces our confidence in the quantitative results of our study. Further, as we have no demographic data for the participants, this might limit external validity. Nevertheless, our qualitative data highlights possible targets to increase adoption of Choosing Wisely recommendations among physiotherapists.

Meaning of the study

We found that some physiotherapists believe blanket recommendations should not guide treatment choices and that clinical experience is more valuable than evidence. This is largely consistent with a qualitative study of 31 physicians in emergency medicine, internal medicine, hospital medicine and cardiology from the USA.[17] Many physicians felt that Choosing Wisely recommendations should act as guide and not be a strict set of rules for clinicians, while others disagreed with certain recommendations (eg, general health checks) based on their clinical experience.

Disagreement with blanket recommendations and valuing clinical experience over evidence could explain why some physiotherapists do not use guidelines to inform their treatment choices.[10 13 18 19] For example, previous research found only 46% of physiotherapists believe guidelines should inform the management of low back pain (survey of n=274),[11] 66% apply guidelines to more than half of their patients with acute ankle sprains (survey of n=214)[18] and 39% use guidelines to inform the management of whiplash more than three-quarters of the time (survey of n=237).[19] Challenging these beliefs could be an important first step towards replacing low-value care with evidence-based care in physiotherapy.

Barriers to following Choosing Wisely recommendations emerged from our study. Some physiotherapists expressed that recommendations do not consider clinical reasoning or experience, and make treatment 'recipe-based'. Others expressed that there will always be exceptions to practice recommendations, such as patient preference and fear of missing an important diagnosis. Similar barriers were identified in a Choosing Wisely report; 73% of physiotherapists were willing to perform low-value testing if requested by a patient and 61% when uncertain of a diagnosis.[20] However, a qualitative study of 19 physicians in Canada identified different barriers of time pressure, uncertainty about what constitutes necessary care and fear of litigation.[21] This highlights the importance of exploring barriers to adopting Choosing Wisely recommendations across professions.

Physiotherapists appear to view practice recommendations as a recipe that does not allow for clinical reasoning nor considering patient preference; this belief could make increasing adoption of Choosing Wisely recommendations challenging. We believe that providing individualised care and adhering to guideline recommendations are not mutually exclusive. For example, physiotherapists need to tailor guideline-recommended treatments for low back pain, such as education and exercise, because of patient-level factors, including health literacy and exercise preference. Clinical reasoning is also extremely important when it comes to deciding whether a patient with low back pain requires imaging. This is illustrated by the fact that 'clinical suspicion' is one of the few red flags endorsed in guidelines that are useful for identifying patients with a serious pathology.[22]

Some physiotherapists expressed that research evidence is not consistent with the treatment outcomes they observe in the clinic. This opens up an interesting debate about the value of healthcare and potential issues with using clinical experience to justify treatment choices. One argument is that it is reasonable to conclude a treatment is appropriate if the patient improves and they are happy with the care provided. The counter-argument is that many factors could explain why clinicians observe improvement in patient outcomes despite providing treatment not supported by strong evidence. These include the confounding effects of natural history, regression to the mean, placebo effects and other non-specific treatment

effects. In other words, the same patient might have got similar results from no treatment or better results from a treatment supported by evidence. Views about the value of clinical experience versus evidence could be the most difficult barrier to replacing low-value physiotherapy with evidence-based physiotherapy.

The high proportion of physiotherapists that agreed with the draft Choosing Wisely recommendations might explain why only minor changes were made to the final list published by the Australian Physiotherapy Association. Further, our content analysis highlighted key areas of disagreement with the recommendations that might have been difficult to incorporate into a brief 'do not do' message (eg, feedback that recommendations do not consider clinical reasoning or experience, and make treatment 'recipe-based'). Nevertheless, the Australian Physiotherapy Association did not ignore this feedback and introduced the Choosing Wisely recommendations with the following statement: '*The recommendations are not prescriptive—instead, they should help to start a conversation about what is appropriate and necessary in individual patient consultation*'.

Unanswered questions and future research directions

This study provides insight into how physiotherapists view their association's Choosing Wisely recommendations, although a more in-depth understanding of the barriers and facilitators to adopting Choosing Wisely recommendations is needed. We plan to conduct qualitative research to address this knowledge gap and further explore the barriers and facilitators to replacing low-value physiotherapy with evidence-based physiotherapy.

Future research should explore how different aspects of the language of Choosing Wisely could either support or discourage adoption of recommendations. Some physiotherapists expressed that unqualified recommendations were key to changing practice, while others believed that recommendations should be qualified to allow for clinical reasoning. Further, some suggested that recommendations should focus on a positive message; either by providing an alternative to low-value care or stating when a typically low-value intervention could be provided. Choice experiments, such as discrete choice experiments or best–worst scaling surveys, are a useful tool for eliciting preferences in healthcare[23] and could be used to determine whether modifying the language of Choosing Wisely recommendations could increase clinicians' willingness to follow them. Understanding how language influences the adoption of Choosing Wisely recommendations has implications for refining existing and developing new recommendations for the Australian Physiotherapy Association, as well as for the 230+ professional societies worldwide with Choosing Wisely lists.

CONCLUSION

Physiotherapists' views regarding Choosing Wisely recommendations highlight a number of areas of disagreement and suggestions for improvement. These findings could prove valuable for developing and testing strategies to increase physiotherapists' willingness to follow Choosing Wisely recommendations and so replace low-value physiotherapy with evidence-based physiotherapy.

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Data availability statement
Data may be obtained from a third party and are not publicly available.

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