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Editorial

Wise choices: making physiotherapy care more valuable

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There is a growing global awareness of the problem of low-value healthcare. Low-value healthcare broadly refers to the use of medical tests, diagnoses and treatments that provide patients with little-to-no benefit or cause harm.[1] By providing unnecessary care to one group of patients, we divert finite health resources away from where they could be much better deployed. Elshaug et al recently identified at least 150 low-value healthcare practices currently listed on the Australian Medicare Benefits Schedule.[1] While much of the literature about low-value care relates directly to medical tests and treatments, we believe that the problem is highly relevant to physiotherapy. In this article, we focus on one of the most common conditions seen by physiotherapists – low back pain. Low back pain causes the highest burden of any health condition worldwide and has considerable evidence to suggest that its management is permeated by low-value care.

What is low-value healthcare?

Scott and Duckett define low-value care as:

> *use of an intervention where evidence suggests it confers no or very little benefit on patients, or risk of harm exceeds likely benefit, or, more broadly, the added costs of the intervention do not provide proportional added benefits.*[2]

The concept of low-value care is related to a range of other challenges, including overdiagnosis and overtreatment, which, put simply, are situations where people receive a diagnosis or treatment that will bring them more harm than good.[1] Collectively, these problems are known as the health challenge of 'Too Much Medicine'[3] and 'Right Care',[4] which are the titles of current campaigns being run by two of the world's leading medical journals: *The BMJ* and *The Lancet*. Table 1 lists a number of related concepts, as defined by Carter et al,[5] and we have added some illustrative examples that are relevant to physiotherapy practice.[6–10]

Examples of low-value healthcare

There is growing evidence suggesting that low-value medical care is prevalent in health problems commonly seen by physiotherapists. In 2012 and 2013, Australian surgeons performed 33 682 knee arthroscopies, despite high-quality evidence from randomised trials that these procedures are not effective compared to placebo for patients with degenerative meniscal tears.[11] Prescription of opioids for back pain is rising, despite their poor efficacy in patients with chronic low back pain and significant risk of harm.[12] At the same time, prescriptions for alternative analgesics with a better safety profile are declining. There is also increasing evidence that practitioners overuse imaging for patients with non-specific low back pain, which, apart from being very costly, exposes patients to the harms of ionising radiation, diagnostic labelling, and unnecessary surgeries.[8] These examples are not simply the responsibility of doctors and their patients; physiotherapists frequently influence decisions about imaging, medication and surgery by the advice they provide to their patient or by their referrals.

Indeed, like all areas of healthcare, physiotherapy also faces the problem of unnecessary tests and treatments. As part of the Australian 'Choosing Wisely' initiative, the Australian Physiotherapy Association surveyed members in 2015 and developed a list of six low-value physiotherapy practices, accompanied by evidence that the test or treatment provided little benefit or caused harm (Box 1). Some well-known examples of low-value practices were referral for x-rays without the use of a validated decision tool, electrotherapy for low back pain, and ongoing manual therapy for adhesive capsulitis of the shoulder. The Association promoted the list to members and health consumers as areas of practice that should be questioned.

In 2014, the American Physical Therapy Association surveyed their 88 000 members and developed a list of five low-value physiotherapy practices. That list included using: whirlpools for wound management, deep or superficial heat to promote long-term improvements in musculoskeletal conditions, and continuous passive motion machines for patients after total knee replacement. Interestingly, there was no overlap between the Australian and American Choosing Wisely lists for physiotherapy care, which could reflect: international differences in scope of practice, international differences in which low-value interventions are used, a lack of consensus on the most important low-value physiotherapy practices to address, or differences in the way that lists are developed between countries.

Indeed, the process of identifying low-value practices is controversial. Clinicians, for example, rarely consider an intervention to have zero value for all patients. More commonly, a test or treatment is effective for certain patients, but becomes much more widely used, including with those for whom it will bring little or no benefit. The most useful methods to identify low-value care are to combine systematic literature searches with clinical expert panel discussions.[1] Developing a standardised framework for identifying low-value services, and changing practice, are both important ongoing areas for future research.

What is causing low-value care?

Evidence about important causes of low-value care is starting to emerge. Drivers include technological, professional, commercial

Table 1
Definitions and examples of different types of low-value healthcare. Adapted from Carter et al.[4]

Term	Definition	Example
Overdiagnosis	An (asymptomatic) person is diagnosed with a condition. That diagnosis does not produce a net benefit for that person.	A young adult being diagnosed with Scheuermann's disease.
Overdetection	A health-related finding is detected in an (asymptomatic) person, probably by testing technology. That finding does not produce a net benefit for that person.	Incidental findings on lumbar imaging. Systematic review found 60% of asymptomatic 50-year olds have disc bulge on CT or MRI.[9]
False positive	Classically: a test indicates that a condition is present, when in fact it is not. In practice: there is often a 'grey zone' between normal and abnormal tissue or function, and in this zone it is not always possible to distinguish false positive results from overdiagnosis.	Red flags to identify serious spinal pathology. A cohort study in Australia found that 80% of 1172 patients with acute back pain had at least one red flag present, but <1% had serious spinal pathology.[5]
Overtreatment	Provision of treatments that have evidence of no net benefit or that cause harm.	Use of ineffective therapies for low back pain. In 2000, a survey of all Thai physiotherapists (n = 559) reported that 61% advocated use of treatments shown to have no net benefit for patients with back pain, such as ultrasound and mechanical traction.[6]
Overutilisation	Establishment of standard practice in health services or systems that do not provide net benefit to patients or citizens.	Imaging for low back pain. 66 million lumbar radiographs were performed in the United States in 2004,[7] despite its discouragement in clinical guidelines.
Expanded definitions or disease mongering	Expansion of official disease or risk categories, or creating new conditions, or promoting more frequent diagnosis of recognised conditions, without net benefit to patients or citizens.	Pharmaceutical companies promoting new variants of non-specific low back pain, eg, 'neuropathic back pain' or 'inflammatory back pain' that require treatment with a medicine the company markets. Evidence is lacking on whether these new classifications lead to improved outcomes.
Overmedicalisation	Altering the meaning or understanding of experiences, so that human problems are re-interpreted as medical problems requiring medical treatment, without net benefit to patients or citizens.	Professional associations promoting early management of acute low back pain, despite its positive natural history. A recent randomised trial found four sessions of physiotherapy provided within 2 weeks of pain onset provides little benefit to people with acute low back pain.[8] Associations promoting pain as the 'fifth vital sign.' Mandating a target of a pain score of 0 vastly expands the number of people who require medical treatment, without any evidence that pursuing this target reduces mobidity or mortality.

CT = computed tomography, MRI = magnetic resonance imaging.

and cultural factors.[3] Improvements in technology and increasingly sensitive diagnostic tests are thought to drive overdiagnosis and overdetection.[3] For example, imaging for back,[10] shoulder[13] and knee pain[14] runs the risk of diagnosing and then subsequently treating clinically insignificant 'abnormalities' that are highly prevalent in asymptomatic people. Another important driver of low-value care is expanding disease definitions. Lowering the threshold at which a person is classified as 'diseased', or creating new disease definitions, increases the likelihood of overdiagnosis and overtreatment. A recent study revealed almost 75% of panel members responsible for making changes to disease definitions or diagnostic thresholds had multiple financial ties to industries that stand to directly benefit from any expansion of the patient pool.[15]

There are also important personal, psychological and wider cultural drivers of low-value healthcare. Many practitioners order tests as a matter of habit. Others do so because they find it difficult to do nothing, have fear of litigation if serious disease is missed, or feel pressured by their patients.[3] In a recent qualitative study by Sears et al,[16] around 50% of all practitioners cited concern about upsetting their patient as a barrier to providing appropriate imaging for back pain. In general, consumers of healthcare can find it difficult to accept uncertainty. Fears and concerns about illness also drive people to consult more often.[17] There is widespread faith in medical technology and beliefs that more care is better care and that early detection of disease is always best.[18] As such, patients tend to overestimate the benefits and underestimate the harms of many tests and treatments.[19] 'False feedback loops', where patients and practitioners wrongly ascribe improvements in a mild condition to the treatment given, also fuel overtreatment.[3]

Box 1. The Australian Physiotherapy Association's list of recommendations on tests treatments and procedures that clinicians and patients should question.

- 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).
- Don't routinely use incentive spirometry after upper abdominal and cardiac surgery.
- Avoid using electrotherapy modalities in the management of patients with low back pain.
- Don't provide ongoing manual therapy for patients with adhesive capsulitis of the shoulder.

How can we make physiotherapy care more valuable?

Most commentators accept that the solution is not simply to stop providing low-value care, but rather that high-value healthcare requires the replacement of inappropriate care with appropriate care. As Atul Gawande has argued, 'unnecessary care often crowds out necessary care, particularly when the necessary care is less remunerative'.[20] For example, exercise therapy appears to be a safe and effective alternative to arthroscopic surgery for people with knee pain and signs of a degenerative meniscal tear.[10]

The first step towards making physiotherapy more valuable is to identify low-value services and investigate the reasons why practitioners choose them. The global Choosing Wisely campaigns, which began in the United States in 2012, are now active in 12 countries.[21] However, these campaigns are not without problems. There are ongoing debates about the merits of the Choosing Wisely recommendations as research evidence evolves – some lists might recommend against interventions that researchers are actively researching. This could hinder attempts to strengthen the evidence base for physiotherapy. There is also little evidence that choices are getting any wiser. For example, Choosing Wisely published a recommendation from the American College of Physicians to not order imaging for patients with non-specific low back pain, and yet lumbar imaging rates have not changed since the launch of the US campaign.[22] While it raises international awareness about low-value care, simple passive posting of lists is unlikely to be sufficient to change practice.

There is also a clear need to review the curricula of physiotherapy training programs. Evidence-based practice teaching should include concepts of low-value healthcare, the possibility of overdiagnosis and overtreatment, and strategies to help prevent these from occurring. Emotional distress appears to be an important driver of health services overuse;[17] physiotherapy trainees should therefore be taught the importance of reducing distress through effective reassurance. Brief and structured patient education, for example, has high-quality evidence for its reassuring effects in patients with back pain and is a promising alternative to unnecessary diagnostic tests.[23] Unfortunately, physiotherapists tend to be less reassuring than physicians[23] – a disadvantage that might be improved by additional training in skills such as effective patient education.

Professional organisations need to become more aware of the dangers of unwittingly encouraging low-value care. For example, given the favourable natural history of acute low back pain, campaigns like 'GetPT1st', which promote seeing a physiotherapist within 14 days of pain onset, could increase the proportion of physiotherapy that is provided unnecessarily. One might argue that a session or two of advice and reassurance is unlikely to be harmful, and can have value outside of improving upon natural history, such as reducing fears and concerns.[23] However, marketing by these organisations would be more valuable if targeted towards conditions that usually do not resolve spontaneously and where physiotherapy care is well supported by evidence (eg, exercise for urinary incontinence, knee osteoarthritis, falls and chronic obstructive pulmonary disease).[24]

Another new step towards improving the value of physiotherapy care is the formation of research programs such as 'Wiser Healthcare'. This research initiative will investigate causes of and solutions to low-value healthcare, with a particular focus on overdiagnosis and related overtreatment. Using examples across musculoskeletal problems, cardiovascular disease and cancer, and with strong input from physiotherapists, this 5-year collaboration has the potential to discover new ways to improve the value of healthcare.

Conclusion

Eliminating low-value services from physiotherapy care altogether will be difficult. Some clinicians and patients will find it hard to break old habits and new low-value habits will likely emerge. Others will find it hard to accept that some treatments and tests are simply not beneficial. On their own, 'do not do' lists are unlikely to change practice. Instead, clinicians need practical tools to help them discuss sensitive issues, such as overdiagnosis and unnecessary tests and treatments, with their patients. An increased understanding of these concepts among clinicians, policymakers, and healthcare consumers will be a good start. If we are to ultimately improve the value of physiotherapy care, the logical next step is to translate an improved understanding of low-value healthcare into wiser choices in practice.

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References

1. Elshaug AG, et al. *Med J Aust.* 2012;197:556–560.
2. Scott IA, et al. *Med J Aust.* 2015;203:179–181.
3. Moynihan R, et al. *BMJ.* 2012;344:e3502.
4. Kleinert S, Horton R. *Lancet*. Early online doi:10.1016/S0140-6736(16)32588-0.
5. Carter SM, et al. *BMJ.* 2015;350:h869.
6. Henschke N, et al. *Arthritis Rheum.* 2009;60:3072–3080.
7. Pensri P, et al. *Physiother Res Int.* 2005;10:201–212.
8. Chou R, et al. *Radiol Clin North Am.* 2012;50:569–585.
9. Fritz JM, et al. *JAMA.* 2015;314:1459–1467.
10. Brinjikji W, et al. *Am J Neuroradiol.* 2015;36:811–816.
11. Thorlund JB, et al. *BMJ.* 2015;350:h2747.
12. Abdel Shaheed C, et al. *JAMA Intern Med.* 2016;176:958–968.
13. Yamamoto A, et al. *J Shoulder Elbow Surg.* 2010;19:116–120.
14. Guermazi A, et al. *BMJ.* 2012;345:e5339.
15. Moynihan RN, et al. *PLoS Med.* 2013;10:e1001500.
16. Sears ED, et al. *JAMA Intern Med.* 2016;176:1866–1868.
17. Traeger AC, et al. *Eur Spine J.* 2016;25:2767–2773.
18. McCaffery KJ, et al. *BMJ.* 2016;352:i348.
19. Hoffmann TC, et al. *JAMA Intern Med.* 2015;175:274–286.
20. Gawande A. *Overkill*. The New Yorker; 2015 In: http://www.newyorker.com/magazine/2015/05/11/overkill-atul-gawande.
21. Levinson W, et al. *BMJ Qual Saf.* 2015;24:167–174.
22. Rosenberg A, et al. *JAMA Intern Med.* 2015;175:1913–1920.
23. Traeger AC, et al. *JAMA Intern Med.* 2015;175:733–743.
24. Kamper SJ, et al. *Br J Sports Med.* 2015;49:907–909.

Websites

wiserhealthcare.org.au

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Paper of the Year 2016

The Editorial Board is pleased to announce the 2016 *Paper of the Year* Award. The winning paper is judged by a panel of members of the International Advisory Board who do not have a conflict of interest with any of the papers under consideration. They vote for the paper published in the 2016 calendar year that, in their opinion, has the best combination of scientific merit and application to the clinical practice of physiotherapy.

The winning paper is 'Video and computer-based interactive exercises are safe and improve task-specific balance in geriatric and neurological rehabilitation: a randomised trial'.[1] The authors are Maayken van den Berg from Flinders University and her colleagues from Adelaide, Sydney and the Sunshine Coast.

People with mobility problems due to age or neurological conditions benefit from inpatient exercise rehabilitation,[2–5] especially with higher doses of exercise.[6–8] However, engaging older people in exercise rehabilitation is a challenge and many inpatients receiving geriatric and neurological rehabilitation are inactive for large portions of their day.[9,10] The winning study by van den Berg et al[1] examined whether interactive computer or video games that are driven by the player's gross physical movements (known as 'exergames') can improve the effects of geriatric and neurological rehabilitation. This randomised trial identified that individually prescribed exergame-based exercises were a safe and feasible way to increase the amount of repetitive task practice for inpatients in geriatric and neurological rehabiliation. Furthermore, the intervention group ended the trial with significantly better balance than the control group. The exergames were rated favourably for usability and enjoyment by most participants in the experimental group.