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Australian GP attitudes to clinical practice guidelines and some implications for translating osteoarthritis care into practice

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Abstract

Clinical practice guidelines (CPGs) have been shown to improve processes of care and health outcomes, but there is often a discrepancy between recommendations for care and clinical practice. We sought to explore general practitioner attitudes toward CPGs, in general and specifically for osteoarthritis (OA) with the implications for translating OA care into practice. A self-administered questionnaire was conducted in January 2013 of a sample of 228 GPs in New South Wales and South Australia. Seventy-nine GPs returned questionnaires (response rate 35%). Nearly all GPs considered that CPGs support decision making in practice (94%) and medical education (92%). Very few respondents regarded CPGs as a threat to clinical autonomy, and most recognised that individual patient circumstances must be taken into account. Shorter CPG formats were preferred over longer and more comprehensive formats, with preferences being evenly divided amongst respondents for short, 2-3 page summaries, flowcharts or algorithms and single page checklists. GPs considered accessibility to CPGs to be important, and electronic formats were popular. Familiarity and use of The Royal Australian College of General Practitioners OA Guideline was poor with most respondents either not aware of it (30%; 95% CI 27% - 41%), had never used it (19%; 95% CI 12% - 29%), or rarely used it (34%; 95% CI 25% - 45%). If CPGs are to assist with the translation of evidence into practice, they must be easily accessible and in a format that encourages use.

Key words: arthritis, primary care, evidence-based medicine, decision making

Summary statement

What is known about the topic?

- Clinical practice guidelines (CPGs) can improve processes of care and health outcomes, however, there is often a gap between evidence-based recommendations for care and clinical practice.

What does this paper add?

- A better understanding of GP attitudes toward CPGs helps to explain potential barriers to the uptake of evidence-based practice and provides guidance on remedial action that may lead to better health outcomes.

Background

Clinical practice guidelines (CPGs) are widely promoted as a means to standardise clinical care in accordance with evidence or consensus based “best practice”. (National Health and Medical Research Council 1999) When implemented effectively, CPGs have been shown to improve processes of care and health outcomes, (Woolf, Grol *et al.* 1999) however, translation into practice is not always successful, often due to deficiencies in CPG quality and format. (Grol and Buchan 2006; Grol and van Weel 2009; Runciman, Coiera *et al.* 2012) Patient and organisational factors have also been cited as barriers to the widespread adoption of CPGs. (Davis and Taylor-Vaisey 1997) As a consequence, many doctors may not be following what is defined in CPGs as “best practice”.

Osteoarthritis (OA) is a chronic disease affecting more than 1.9 million Australians (over 8% of the population) (Arthritis and Osteoporosis Victoria 2013) and is the sixth most common condition managed by general practitioners (GPs) in Australia. (Britt H, Miller GC *et al.* 2011) There is abundant material to guide the clinical management of OA; for example, thirty four CPGs for OA of the hip and/or knee were identified in a recent report. (Misso, Pitt *et al.* 2008) However, despite the plethora of CPGs, a number of international studies have provided evidence of inappropriate healthcare for patients with OA. McGlynn and colleagues showed that for a representative sample of the US population, only 57% received recommended care for OA, (McGlynn, Asch *et al.* 2003) whilst the CareTrack Australia (CTA) study, a population-based study of the appropriateness of care for 22 common conditions, reported 53% compliance with a range of OA indicators. (Runciman, Hunt *et al.* 2012) Other studies from the US and UK have also reported sub-optimal standards of patient care for OA. (Broadbent, Maisey *et al.* 2008; Ganz, Chang *et al.* 2006)

The majority of Australians with symptomatic OA are managed in primary care. Therefore, it is important to know whether Australian GPs are referring to CPGs, and following the advice provided. Although surveys of doctor attitudes toward CPGs have been conducted overseas, (Larisch, Oertel *et al.* 2009; Quiros, Lin *et al.* 2007; Wolfe, Sharp *et al.* 2004) few comparable studies have been performed in Australia, and none, as far as we are aware, have studied attitudes toward specific CPGs. In the present study we examined GP attitudes to and use of CPGs in general, and to a specific CPG for OA – The Royal Australian College of General Practitioners Guideline for the non-surgical management of hip and knee osteoarthritis (RACGP OA Guideline).

Methods

Recruitment

A survey was conducted of all GPs who had previously consented to participate in the CTA study. (Hunt, Ramanathan *et al.* 2012) These GPs had been initially identified by randomly selected patients participating in the CTA study who had been asked to name their treating GP for at least one of 22 selected conditions during 2009 – 2010. The subset of GPs who treated CTA patients for OA (n = 228) was the target population.

Survey instrument

The questionnaire was in three parts, with the second section focusing solely on CPGs (see Appendix 1). This section was largely based on a consolidation of two survey instruments used in a study that examined general attitudes to CPGs and opinions about guideline characteristics amongst a cohort of rheumatologists. (Higashi, Nakayama *et al.* 2010) Additional questions were added that explored guideline format, and attitudes and experience with OA CPGs, in particular,

the Royal Australian College of General Practitioners Guideline for the non-surgical management of hip and knee OA (RACGP OA Guideline). (RACGP Osteoarthritis Working Group 2009) Participants were given options to respond to yes/no questions, 5-point Likert scales and 4-5 line open-ended text. The revised survey was piloted with two experienced GPs and two independent university researchers. Their feedback was incorporated into the final version of the survey which was then mailed to GPs in December 2012 with \$150 paid as an incentive for completion. Reminder letters were sent with a set deadline of 31 January 2013 for completion.

Analysis

Given that there are approximately 29,000 GPs in Australia, the response of 79 completed questionnaires provides, at worst, $\pm 11\%$ accuracy for any dichotomous questionnaire item with 95% confidence.

Descriptive data have been presented as counts and percentages for categorical data. All statistical analyses were undertaken using the Statistical Package for Social Scientists, version 21 (SPSS, Chicago, IL). Simple thematic analysis was undertaken to investigate the open-ended responses to the questionnaire.

Ethics approval

Ethics approval was obtained from the Human Research Ethics Committee of the University of South Australia.

Results

Respondent characteristics

The response rate to our survey was 35% (79/228) which was similar to other GP surveys. (Templeton, Deehan *et al.* 1997) Respondents were marginally older than the Australian GP population, whilst the gender composition was identical. Respondents and non-respondents were broadly similar in gender and years of experience (see Table 1).

Table 1. Respondents – age, gender and years since gaining initial medical qualification

	Respondents (n = 79)	Non-respondents (n = 149)	Australian GP population ^A
Male GPs, %	58	55	58
Age group, %		^B	
<35	1		6
35 - 44	18		21
45 - 54	32		33
55 - 64	29		28
65 - 74	16		10
74+	4		2
Total	100		100
Years since gaining initial medical qualification, %			^B
< 15	11	14	

15 – 30	48	47	
30 +	41	39	
Total	100	100	

^A The Department of Health 'GP workforce statistics - 1984/85 to 2013/14. Available at <http://www.health.gov.au/internet/main/publishing.nsf/Content/General+Practice+Statistics-1> [Verified 26 February 2015]

^B Not available

General attitudes toward clinical practice guidelines

Thirteen items in the survey probed GP attitudes in general to CPGs, and the percentage agreeing with these attitudes is shown in Table 2.

Table 2. Percentage of GPs agreeing with the following attitudes toward CPGs

Attitude	N	%	95% CI (%)
Guidelines support decision making in practice	74	94	86 - 97
Guidelines support medical education	73	92	84 - 96
Experts should know the guideline content	70	91	82 - 96
Guidelines should be promoted in various clinical areas	64	83	73 - 90
Guidelines facilitate sharing information with patients	55	71	61 - 80
Guidelines should be available to the general public	49	63	52 - 73
Justification should be documented when not following recommendations	40	52	41 - 63
Guidelines aim for cost containment	37	47	37 - 58
Guidelines oversimplify clinical medicine	30	39	29 - 50
Guideline adherence is an important indicator of quality	30	39	29 - 50
Guidelines are quickly and easily available/found at the point of care	26	33	24 - 44
Guidelines increase the risk of malpractice liability	21	27	18 - 38
Guidelines restrict GP autonomy	11	14	8 - 23

The major themes to the open-ended question concerning general attitudes towards CPGs and some examples of typical responses are presented in Table 3.

Table 3. GP attitudes to clinical practice guidelines: themes and verbatim examples

Theme	Verbatim examples
CPGs don't fully allow for individual circumstances	"Very helpful at times for unusual situations, (but) not much need for common problems"
	"Application of guidelines, whilst ignoring an individual

	circumstance, can be bad medical practice”
	“Whilst they are important, general practice is not black and white when it comes to decision making; guidelines generally are rigid and don't allow for compounding issues”
	“They are very useful in many circumstances but cannot apply to every situation all the time. I guess that they help define what is basic acceptable practice”
	“I did not think that anyone would be stupid enough to measure the quality of medicine by blindly following guidelines with no clinical allowance for individual differences in patient population, however, I was wrong”
	“Need to be used as intended - as a "guide". Patients often fit into "grey" areas, not black and white. Need to use clinical judgement as well”
CPGs and general practice	“The problem with guidelines in general practice is that one GP could never know all the guidelines as the field is too vast. They are more manageable in specialties and sub-specialties”
	“Keeping up to date with new guidelines is challenging in general practice. Guidelines from so many various sources confuse”
	“In general practice, I have too much paperwork anyway and so little time to regularly check on guideline changes in paper form”
	“There are so many guidelines in general practice, it is hard to keep up”
Importance of accessibility, format and currency	“It is problematic accessing them and even knowing that they exist at all”
	“Should easily be available at the point of care”
	“Keeping up to date with new guidelines is challenging”
	“Never use them, as I wouldn't know how or where to find them”
	“I think they are a good idea in theory, but not always easy to find when needed”
	“I would like to see various guidelines incorporated in computer software. This would save time during consultation”

GP attitudes toward CPGs were generally positive with the most important functions being to support decision-making and medical education. Several GPs expressed the view that CPGs are useful when advising patients reluctant to pursue a line of treatment. Few considered that CPGs restricted clinical autonomy with GPs frequently expressing the opinion that guidelines are just that – guides for best practice rather than definitive patient management instructions.

Many GPs considered the practice of medicine to be as much an art as a science, with individual circumstances central to clinical decision making. One GP paraphrased the proverb that

guidelines “*are there for the obedience of fools and the guidance of wise men*”. In keeping with these views, many respondents were ambivalent towards the statement that adherence to CPGs is in-and-of itself an important indicator of quality.

A common criticism of the application of CPGs in general practice was that one GP could never know all the guidelines as the field is too vast. None of the respondents strongly agreed that guidelines were quickly and easily accessible at their workplace, and this concern was also expressed in the open-ended responses

Opinions regarding important characteristics of clinical practice guidelines

Nearly all GPs considered that clearly stating the reason for recommendations in the CPG was important (99%; 95% CI 93% - 100%), and it was considered important that the CPGs had been developed by credible organisations (97%; 95% CI 91% - 99%).

Most respondents considered that any conflict of interest of persons involved in CPG development should be disclosed (91%; 95% CI 82% - 96%), and discussion regarding the validity of evidence for recommendations was seen as important by the majority of GPs (87%; 95% CI 78% - 93%). Just over three-quarters of respondents (77%; 95% CI 66% - 85%) considered that each guideline recommendation should have a uniform format.

With respect to the presentation of the guidelines, shorter formats were preferred over longer and more comprehensive formats, with preferences being evenly divided amongst respondents for short, 2-3 page summaries (34%; 95% CI 25% - 45%), flowcharts or algorithms (33%; 95% CI 23% - 44%) and single page checklists (33%; 95% CI 23% - 44%). Only one respondent preferred a detailed text/manual format. Most GPs favoured a format that was succinct and simple to interpret during consultations, with many expressing the view that accessibility could be improved by integrating CPGs with clinical software applications.

Use of and opinions regarding the RACGP Guideline for the non-surgical management of hip and knee osteoarthritis

Most respondents were either not aware of the RACGP OA Guideline (30%; 95% CI 21% - 41%), had never used it (19%; 95% CI 12% - 29%) or used it rarely (34%; 95% CI 25% - 45%). Of the few GPs who did use the guideline, most referred to it on a monthly, but less than weekly basis (15%; 95% CI 9% - 25%). A typical comment was that “*I didn’t even know it existed. I managed to practice quite well so far in my state of ignorance*”. Another observed that because OA is a common, daily encountered problem, they didn’t feel the need to constantly refer to the guideline. “*Guideline overload*” was a commonly expressed theme.

Of the GPs who used the RACGP OA Guideline, 12 (32%) found it extremely or very helpful, 18 (49%) mildly helpful, and 7 (19%) unhelpful. One GP who had used the 66 page guideline described it as “*scarily long*”, whilst another was critical that the key recommendations were in the middle of the guideline rather than at the beginning. Approximately 83% (n=65) of GPs did not refer to any other OA CPG. Those who did refer to other CPGs made use of, for example, the NICE - Osteoarthritis Guideline (UK)(National Collaborating Centre for Chronic Conditions (UK) 2008) and Therapeutic Guidelines Rheumatology (Australia)(Rheumatology Expert Group 2010). Some respondents cited electronic decision support systems such as UpToDate and BMJ Best Practice.

Discussion

It has been frequently asserted that the principal benefit of CPGs is to improve the quality and consistency of care offered to patients by promoting scientifically validated interventions that potentially standardise the level of care received.(Carnett 1999; Woolf, Grol *et al.* 1999) The commonly expressed criticisms of CPGs, that they restrict clinical autonomy and are too rigid (Slomka, Hoffman-Hogg *et al.* 2000) were not identified as problems by most GPs in our survey. The need to accommodate individual patient circumstances and preferences, however, was frequently acknowledged.

The putative benefits ascribed to CPGs can only be achieved if they are implemented in a manner that encourages uptake by clinicians.(Grimshaw, Thomas *et al.* 2004; Shekelle, Woolf *et al.* 2012) The fact that so few GPs in our survey used, or were aware of, the RACGP OA Guideline supports a widely held view that CPG developers give insufficient consideration to the use of their products in the real world. (Grol and Buchan 2006; Wolfe, Sharp *et al.* 2004) (Gagliardi, Brouwers *et al.* 2011) GPs will continue to ignore CPGs unless they are useful, and so format and mode of access is clearly a critical factor. (Gagliardi, Brouwers *et al.* 2011)

Studies of OA CPGs have demonstrated considerable variability in format, ranging from concise algorithms or single page checklists to detailed and lengthy manuals such as the RACGP OA Guideline.(Misso, Pitt *et al.* 2008; Nelson, Allen *et al.* 2014) GPs in our survey clearly expressed a preference for a concise format, a finding consistent with other studies.(Gupta, Ward *et al.* 1997; Scott, Buckmaster *et al.* 2003) The mode of access is also critical, with GPs stressing a strong preference for electronic CPGs which can be accessed with minimal effort at the point of patient care. Ease of access was identified as a key CPG characteristic in a systematic review on factors influencing the success of CPG implementation.(Francke, Smit *et al.* 2008)

Over recent years, there has been considerable convergence of health information technologies (HIT) in general practice, involving administrative systems, electronic health records and computerised provider order entry systems.(Jamal, McKenzie *et al.* 2009) Decision support systems that provide evidence or consensus based guidance to the management of chronic health conditions such as OA are also widely used in general practice, and many GPs in our study extolled the advantages of these over paper-based CPGs citing accessibility, ease of use, clarity and currency. Studies have confirmed their role in improving patient care.(Addison, Whitcombe *et al.* 2013; Kawamoto, Houlihan *et al.* 2005) Increasingly they are being integrated with other HIT in general practice in Australia. With over 90% of Australian GPs now having computers in their consulting rooms,(McInnes, Saltman *et al.* 2006) the days of paper-based guidelines may be numbered.

Whilst CPGs and online information sources are important tools in promoting the uptake of evidence and consensus based OA care in general practice, their use will be influenced by GP and patient attitudes and beliefs, as well as system and organisational factors.(Grol and Grimshaw 2003)

The poor awareness and use of the RACGP OA Guideline in our study strongly suggests a passive distribution process, as has occurred with many other CPGs(Armstrong, Waters *et al.* 2007; Sheldon, Cullum *et al.* 2004) and a serendipitous uptake by GPs.(Scott, Buckmaster *et al.* 2003) In their summary of systematic reviews, Wensing and colleagues concluded that active educational interventions can be effective in translating clinical knowledge to action.(Wensing, Bosch *et al.* 2010) Their finding was consistent with a Canadian study of guideline intervention strategies that found educational workshops for GPs and other healthcare providers were successful in raising awareness of arthritis CPGs and improving the delivery of arthritis care.(Lineker, Bell *et al.* 2009)

A systematic review by Francke and colleagues found that patient characteristics can influence the implementation of CPGs.(Francke, Smit *et al.* 2008) In particular, their research indicated that co-morbidity reduced the doctor adherence to CPGs. It is plausible that GPs in our study were reluctant to use the RACGP OA Guideline because OA is commonly associated with comorbidities. Boyd and colleagues suggested that applying CPG recommendations to patients with multiple health conditions can have undesirable effects.(Boyd, Darer *et al.* 2005) They noted, for example, that recommending medications for one condition could exacerbate symptoms or interact with medications for other conditions (e.g., non-steroidal anti-inflammatory drugs for OA could potentially raise blood pressure in hypertensive patients). CPGs do not adequately deal with comorbidities,(Shekelle, Woolf *et al.* 2012) and it has been proposed that CPGs should include sections that address the impact on multiple comorbidities on management recommendations.(Fabbri, Boyd *et al.* 2012)

Addressing the system and organisational factors that influence the translation of evidence into clinical practice often require innovative redesign strategies supported by continuous quality improvement principles.(Brand 2007) The New South Wales Agency for Clinical Innovation, for example, has recently developed a chronic disease model of OA management with a key objective of improving the coordination of patient care.(ACI Musculoskeletal Network 2012)The program seeks to facilitate best practice by applying a multidisciplinary approach to OA management involving GPs, rheumatologists, physiotherapists and other appropriate healthcare providers.

Enhancements to information systems have also been proposed, including the capacity to monitor a range of OA specific outcomes. The next challenge is to more fully integrate these data monitoring systems with decision support technologies that incorporate the latest available evidence for best clinical practice.

Limitations

There were several limitations to our study. Firstly, the comparatively small sample size should be noted, and because of this, the generalizability of results should be treated with caution. Respondents were, however, broadly similar in terms of gender and age profile to the overall Australian GP population.

Secondly, the response rate in the present study was low, with 35% of GPs in the target population responding to the survey. Although low response rates have been observed in many GP studies, (Cook, Dickinson *et al.* 2009) there is clearly a potential for selection bias. The only data that were available to compare respondents and non-respondents were gender and the number of years since gaining initial medical qualifications. There was a slightly higher percentage of male respondents than non-respondents, however, the time period since qualifying was similar for both groups.

Finally, the survey instrument, although piloted with a small number of GPs and university researchers, was not extensively tested before implementation.

Conclusion

GPs generally have a positive attitude towards CPGs, however, to remain relevant they must be easily accessible and in a format that encourages use.

Conflicts of interest

The authors declare that they have no competing interests.

Authors' contributions

MB conceived and performed the study, designed the questionnaire, analysed and interpreted the data and drafted the manuscript. WBR, WL and AE analysed and interpreted the data, and critically reviewed the manuscript. All authors read and approved the final manuscript.

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