Increased use of core outcome sets would aid sharing of data and the incorporation of high-quality systematic reviews in guidelines.

The Problem

The variability of use and reporting of outcome measures in clinical trials of effectiveness leads to challenges in comparison between studies and impacts their ability to be incorporated in systematic reviews, meta-analyses, and consequently; guidelines. Organisations such as NICE and Cochrane stipulate in their methods that outcomes should be stated a priori in systematic review protocols.[1,2]

Initiatives including COMET (Core Outcome Measures in Effectiveness Trials) and OMERACT (Outcome Measures in Rheumatology) were formed to develop standardised core outcome sets to use in clinical trials and systematic reviews. In 1993 a core set of clinical and quality of life measures for use in trials of effectiveness for rheumatoid arthritis were published, following work by the American College of Rheumatology and OMERACT (Box 1).[3] These have received further validation by OMERACT.[4]

The benefits of these core sets is clear in terms of consistency and comparability, but their uptake is variable and systematic reviews often deviate from this core set.

This work explores the choice of outcomes in recent rheumatoid arthritis international guidelines and Cochrane reviews; and their consistency with the OMERACT core outcome set for rheumatoid arthritis.

ACR/OMERACT core outcome set	Box 1
Tender joint count	
Swollen joint count	
Patient's assessment of pain	
Patient's global assessment of disease activity	
Physician's global assessment of disease activity	
Patient's assessment of physical function	
Acute-phase reactant value	
[Imaging]	[Only in trials of DMARDs >1 year duration]

Methods

A convenience sample of 3 international guidelines and recent Cochrane reviews for the management of rheumatoid arthritis were included. Intervention reviews from each were assessed. Symptom specific reviews (for example, the management of fatigue) were not included, because by nature their protocols are required to differ from the core set.

The following information was extracted by screening the guidelines, protocols, and contacting the authors:

- Review topic.
- Core set outcomes included in the review protocol.
- Core outcome set omitted from the review protocol.
- Additional outcomes included.

Outcome analysis

	Review	No. of outcomes from core set in protocol (%)	No. of additional outcomes in protocol	DAS28 or ACR50 included?
Cochrane reviews	Down titration of TNF blocking agents	3 (43)	11	Y
	Exercise therapy	3 (43)	8	Y
	Certolizumab pegol (DMARD)	3 (38)	5	Y
	Celecoxib	2 (29)	8	Y*
	Methotrexate monotherapy & combination therapy	4 (50)	15	Y
EULAR	Biological DMARDS	3 (38)	3	Y
	Conventional and targeted synthetic DMARDS	8 (100)	0	Y
NICE	Analgesics	3 (43)	6	Y
	Steroids	3 (43)	9	Y
	Treat to target strategies	3 (43)	6	Y
	DMARDs	4 (50)	7	Y
Average / %		4 (47%)	7	100%

*ACR20/30 included.

References of included reviews and guidelines available in QR code..

One guideline and 3 Cochrane reviews were excluded due to insufficient detail to identify the pre-specified outcomes. Subsequently 6 reviews from 2 international guidelines and 7 Cochrane reviews were included.

Discussion

The reason the core set outcomes have not been used in their entirety is unclear from reading of the guidelines or reviews alone. However, it is to note that all of the reviews assessed included either the DAS28 or ACR50 (one included ACR20/30) in their intended list of outcomes. Composite measures of disease activity such as these incorporate all of the individual elements of the core outcome set, rather than measuring each individually. It could be considered that these capture everything the core set intended, however an alternative view is that this does not enable researchers to determine whether improvements have occurred in some domains and not others, and vice versa.

Further research to explore rationales for choice of outcomes and the optimal number of outcomes for decision making could have an impact on both guideline development and updates of the core outcome set, ultimately improving prioritisation of outcomes for decision making.

Analysis indicated that, on average, reviews included less than 50% of the outcomes from the core set in their protocols. Only one of the systematic reviews specified the full core set, with no additions to the outcome list.

On average, we found 5 additional outcomes in each review protocol. These included; stiffness, fatigue and adverse events as well as composite measures of disease activity. Fatigue was recommended at OMERACT 8 as an additional outcome that should be added to the core set.[5] These additional outcomes routinely being included in guideline and systematic review protocols are an indication of outcomes to consider when the set is updated. Adverse events have also been considered within the additional outcomes, and are required for Cochrane reviews, however the core set intends to focus on effectiveness rather than safety, which likely explains this discrepancy.

References

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5. Kirwan et.al. 2007. Patient perspective: fatigue as a recommended patient centered outcome measure in rheumatoid arthritis. Journal of Rheumatology. 34; 5. 1174-1177.

Download the references of the reviews and guidelines used for this study

Differing use of core outcome sets in clinical guidelines for rheumatoid arthritis

Serena Carville[1], Glen Hazlewood[2], Lara Maxwell[3,4], Jordi Pardo Pardo[3,4], Peter Tugwell[4,5].

1 National Guideline Centre, Royal College of Physicians, London, UK; 2 Department of Medicine, Cumming School of Medicine, University of Calgary, Calgary, Canada; 3 Cochrane Musculoskeletal Group, University of Ottawa, Ottawa, Canada; 4 Centre for Global Health, University of Ottawa, Ottawa, Canada; 5 Cochrane MOSS Network

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