Update of Strategies to Translate Evidence from Cochrane Musculoskeletal Group Systematic Reviews for Use by Various Audiences

Tamara Rader, Jordi Pardo Pardo, Dawn Stacey, Elizabeth Ghogomu, Lara J. Maxwell, Vivian A. Welch, Jasvinder A. Singh, Rachelle Buchbinder, France Légaré, Nancy Santesso, Karine Toupin April, Annette M. O'Connor, George A. Wells, Tania M. Winzenberg, Renea Johnston, Peter Tugwell, and the Cochrane Musculoskeletal Group Editors

ABSTRACT. For rheumatology research to have a real influence on health and well-being, evidence must be tailored to inform the decisions of various audiences. The Cochrane Musculoskeletal Group (CMSG), one of 53 groups of the not-for-profit international Cochrane Collaboration, prepares, maintains, and disseminates systematic reviews of treatments for musculoskeletal diseases. While systematic reviews provided by the CMSG fill a major gap in meeting the need for high-quality evidence syntheses, our work does not end at the completion of a review. The term "knowledge translation" (KT) refers to the activities involved in bringing research evidence to various audiences in a useful form so it can be used to support decision making and improve practices. Systematic reviews give careful consideration to research methods and analysis. Because the review is often long and detailed, the clinically relevant results may not be apparent or in the optimal form for use by patients and their healthcare practitioners. This paper describes 10 formats, many of them new, for ways that evidence from Cochrane Reviews can be translated with the intention of meeting the needs of various audiences, including patients and their families, practitioners, policy makers, the press, and members of the public (the "5 Ps"). Current and future knowledge tools include summary of findings tables, patient decision aids, plain language summaries, press releases, clinical scenarios in general medical journals, frequently asked questions (Cochrane Clinical Answers), podcasts, Twitter messages, Journal Club materials, and the use of storytelling and narratives to support continuing medical education. Future plans are outlined to explore ways of improving the influence and usefulness of systematic reviews by providing results in formats suitable to our varied audiences. (First Release Dec 1 2013; J Rheumatol 2014;41:206–15; doi:10.3899/jrheum.121307)

Key Indexing Terms:
ARTHRITIS EVIDENCE-BASED MEDICINE DIFFUSION OF INNOVATION
DECISION MAKING REVIEW LITERATURE AS TOPIC IMPLEMENTATION

From the Cochrane Musculoskeletal Group (CMSG), Institute of Population Health, University of Ottawa, Ottawa, Ontario, Canada.

The CMSG is supported through a grant from the Canadian Institutes of Health Research.

T. Rader, MLIS, Knowledge Translation Specialist, CMSG, University of Ottawa; J. Pardo Pardo, BA, Research Coordinator, Centre for Global Health, University of Ottawa; D. Stacey, PhD, Associate Professor, University Research Chair in Knowledge Translation to Patients, Faculty of Health Sciences, School of Nursing, University of Ottawa, Scientist, Ottawa Hospital Research Institute; E. Ghogomu, MD, MSc, Assistant Managing Editor; L.J. Maxwell, MSc, Managing Editor, CMSG, University of Ottawa; V.A. Welch, PhD, Bruyere Research Institute, and Institute of Population Health, University of Ottawa; J.A. Singh, MBBS, MPH, staff physician, Birmingham VA Medical Center, and Associate Professor, University of Alabama, Birmingham, Alabama, USA; R. Buchbinder, MBBS (Hons), MSc, PhD, FRACP, Director, Monash Department of Clinical Epidemiology, Cabrini Hospital, and Professor, Department of Epidemiology and Preventive Medicine, School of Public Health and Preventive Medicine, Monash University, Melbourne, Victoria, and Joint Coordinating Editor, CMSG, Australia; F. Légaré, MD, PhD, CCFP, FCFP, Canada Research Chair in Implementation of Shared Decision Making in Primary Care, Full professor, Department of Family Medicine and Emergency Medicine, Université Laval, Quebec City, Quebec, Canada; N. Santesso, RD, MLIS, Research Coordinator, Department of Clinical Epidemiology and Biostatistics, McMaster University, Hamilton, Ontario, Canada; K. Toupin April, PhD, Associate Scientist, Children's Hospital of Eastern Ontario Research Institute, Ottawa, Ontario, Canada; A.M. O'Connor, RN, PhD, Emeritus Professor, Faculty of Health Sciences, University of Ottawa; G.A. Wells, PhD, Professor of Epidemiology and Community Medicine, University of Ottawa; T.M. Winzenberg, MBBS, PhD, FRACGP, MMedSc(ClinEpi), Senior Research Fellow-General Practice at Menzies Research Institute Tasmania, University of Tasmania, Hobart, Tasmania, Australia; R. Johnston, PhD, Managing Editor, CMSG Department of Clinical Epidemiology, Cabrini Hospital, and Department of Epidemiology and Preventive Medicine, School of Public Health and Preventive Medicine, Monash University; P. Tugwell, MD, MSc, FRCPC, FCAHS, Canada Research Chair, Professor of Medicine, and Epidemiology and Community Medicine, Faculty of Medicine, Principal Scientist, Institute of Population Health, University of Ottawa, and Department of Medicine, Ottawa Hospital, Senior Scientist, Ottawa Hospital Research Institute, Ottawa, Ontario, Canada.

Address correspondence to Ms. T. Rader, 1 Stewart St., Ottawa, Ontario K1N 6N5, Canada. E-mail: trader@uottawa.ca

Accepted for publication September 18, 2013.

Personal non-commercial use only. The Journal of Rheumatology Copyright © 2014. All rights reserved.

Downloaded on April 24, 2024 from www.jrheum.org

The Cochrane Musculoskeletal Group (CMSG) plans, conducts, maintains, and disseminates high-quality systematic reviews of treatments for musculoskeletal diseases. Of the 53 currently registered review groups that make up the Cochrane Collaboration, we are one of the largest review groups, with over 700 active practitioners, researchers, and consumer representatives from 26 countries. Established in 1993, the group maintains 160 published systematic reviews across many areas of musculoskeletal conditions including osteoarthritis (OA), rheumatoid arthritis, osteoporosis, gout, juvenile arthritis, regional conditions such as rotator cuff disease and tennis elbow, spondyloarthritis, psoriatic arthritis, systemic sclerosis, and systemic lupus erythematosus. The CMSG is a leader in using innovative methods such as network metaanalysis of indirect comparisons, a statistical method that provides comparative effectiveness information across several options even when direct head-to-head studies are not available. This allows us to present the much-needed comparisons of alternative treatments to the different audiences using the formats described in this article[1,2]. We were the first research group to create a suite of patient decision aids based on Cochrane evidence. We were leaders in involving patients and welcoming their input into the priority-setting and production of reviews. Our work with patients to develop these "friendly front ends" is often quoted by Sir Iain Chalmers, the founder of the Cochrane Collaboration[3].

High-quality systematic reviews are conducted to ensure up-to-date sources of synthesized evidence on healthcare options; however, this evidence is rarely translated for optimal use by everyone. These people include patients and their families, practitioners, policy makers, the press, and members of the public (the "5 Ps"). The availability of timely, useful evidence from the health and healthcare literature in a useful format is an essential part of clinical practice[4,5]. A challenge for practitioners is keeping up with research findings to ensure that treatment and diagnostic choices are sound, and their practice is effective[6,7]. This can be difficult because of multiple factors including time constraints in trying to find information and lack of ability to judge its suitability for a particular clinical situation[8,9]. Pre-appraised, systematic synthesis of evidence (such as systematic reviews) can help practitioners stay up to date by summarizing large bodies of evidence[10]. Systematic reviews provide the best available information about healthcare interventions by summarizing the available evidence on benefits and harms and appropriateness of treatments (e.g., including complementary medicine, education, medications, occupational and physical therapy, surgery, and rehabilitation).

However, these reviews have to follow a prescribed detailed format that was never designed for and is often inappropriate for communicating the results to clinicians, patients, or policy makers. Although the reviews are methodologically rigorous, users of the Cochrane Library requested that the reviews be translated into formats that could be more easily understood. This paper describes the options for this "knowledge translation" (KT) of systematic reviews for the different audiences.

KT is defined as a dynamic and iterative process that includes synthesis, dissemination, exchange, and ethically sound application of knowledge to improve the health of Canadians, provide more effective health services and products, and strengthen the healthcare system[11]. There are a number of models aimed at putting evidence into practice; many of them are based on planned-action theories and frameworks[12]. Graham, *et al* identified over 60 such theories or frameworks[13]. Equally important is the processing of knowledge in preparation for implementation in practice[14]. At the center of the Knowledge-to-Action cycle is the process through which knowledge is refined, distilled, and tailored to the needs of knowledge users such as practitioners and policy makers[13]. This "knowledge funnel" includes 3 separate levels: knowledge inquiry, knowledge synthesis, knowledge tools/products. In the Knowledge-to-Action framework, systematic reviews are part of the knowledge synthesis level. Systematic reviews inform knowledge tools such as guidelines for clinical practice and decision aids for patients[15].

The CMSG has made it a priority to make the results of these detailed technical systematic reviews more relevant and accessible by developing KT tools. Knowledge tools according to the Knowledge-to-Action framework refer to synopses that present knowledge in a clear, concise, and user-friendly format. They provide explicit recommendations not only to meet informational needs, but also to facilitate the uptake and application of knowledge. These synopses may take the form of practice guidelines, decision aids and tools, and care pathways[13]. The CMSG has dedicated extensive time and resources to develop and evaluate user-friendly summaries of its systematic reviews to make research findings more accessible to patients, policy makers, and practitioners such as rheumatologists, orthopedic surgeons, rehabilitation specialists, physical therapists, and others. Based on the key clinimetrics of face validity, different options for readability are proposed for the various tools. Although the statistical psychometric evidence base for each format is in different stages of evolution that may take decades to formally evaluate, the intent is to make sure that these KT tools and products are readable, understandable, and usable, and address the concerns of our audiences. Next steps include testing these formats for both psychometric properties and on the actual effect on desired outcomes such as knowledge, usefulness and usability, and patient satisfaction with decision making.

Personal non-commercial use only. The Journal of Rheumatology Copyright © 2014. All rights reserved.

Downloaded on April 24, 2024 from www.jrheum.org

FOUNDATION OF KT AT CMSG

In our previous CMSG KT article[16], we showed how the results from the metaanalysis forest plots (often called blobbograms) in Cochrane systematic reviews can be transformed into KT tools called "friendly front ends" that practitioners and patients can understand. Since then, further research has shown that carefully chosen formats can enhance the application of evidence-based practices during the patient encounter. Research has identified the need to investigate ways to improve the integration of research-based information within electronic resources used by practitioners[17,18,19]. We now describe 7 additional friendly front-end options (Table 1) to add to the 3 format options described in the previous article for providing the evidence from systematic reviews to aid KT and exchange between the practitioner and patient. We have retained the "1-, 5-, 15-, and 45-min" categorization from the last paper for these 10 option formats (Table 1) because we find this provides a useful way to tailor the length of the material to the needs and wishes of the user[20].

The CMSG continues to develop and tailor KT tools for our target audiences. We target the patients and their families, practitioners, policy makers, the press, and members of the public[21]. The content must provide clear, relevant, and consistent presentation of the evidence in the Cochrane review regardless of the audience. Depending on the audience, the format and time needed to understand the evidence should be flexible. Even within each constituency, individuals have different preferences for words, graphs, tables, pictures, podcasts, or videos, and researchers have begun to recognize this variation in preferences, including the advantages and disadvantages for various formats. Some KT tools may go beyond presenting information and evidence: they may propose ways to make decisions or to go through the decision-making process, and can be adapted as versions for patients and practitioners. Therefore, we have drawn on and/or developed a variety of KT tools to communicate evidence from CMSG systematic reviews. Emerging empirical evidence is identified, including areas requiring further research, where the best judgment of the developers of the material was used. Table 1 shows the KT tools and products, the suggested audiences, and time scales of the formats. We then describe these KT tools such as decision aids, journal clubs, summary of findings tables, plain language summaries, podcasts, and others in greater detail.

Forty-five-min KT formats. The 45-min patient decision aid version (Figure 1) extends the patient summaries to ask the patient about their values — the importance to them of the different benefits and harms — and to help them and their practitioner jointly decide whether to start or change their treatment[22]. This evidence-based tool prepares patients to participate in decision making by (1) making the decision explicit; (2) providing evidence-based information about a treatment option including benefits, harms, probabilities, and scientific uncertainties; (3) helping people clarify the value they place on the benefits, harms, and scientific uncertainties by describing the options and asking people which benefits and harms matter most to them; and (4) providing structured guidance in the steps of decision making and communication of their informed values with others involved (e.g., practitioner, family). There is evidence from controlled trials that patient decision aids increase

Table 1. CMSG knowledge translation (KT) tools: audience and timeframe.

Audience	45 min	15 min	5 min	1 min
Patients – to inform personal decisions	Detailed Decision Aids (1)	Structured Plain Language Summaries (5)	Podcasts (6)	Key points of the Plain Language Summaries (5) Cochrane Tweets (7)
Practitioners	Journal Club (2) Dr. Cochrane (10)	Decision Aid Summary (1a) Clinical scenarios in general health journals (3)	Podcasts (6) Summary of Findings Tables (4) Structured Plain Language Summaries (5)	Cochrane Tweets (7)
Policy makers – to inform policy development			Podcasts (6) Summary of Findings Table (4) Structured Plain Language Summaries (5)	
Public/press			Podcasts (6) Press releases Structured Plain Language Summaries (5)	Cochrane Tweets (7)
Coming soon: Practitioners and patients		Cochrane Clinical Answers (8)	Narratives as a KT tool (9)	

Numbers in parentheses refer to the order in which those items are discussed in this paper. CMSG: Cochrane Musculoskeletal Group.

Personal non-commercial use only. The Journal of Rheumatology Copyright © 2014. All rights reserved.

Downloaded on April 24, 2024 from www.jrheum.org

Summary of completed stepped decision aid for osteoarthritis

Patient's Self Reported Outcomes during the week of _____

Average Pain Severity

Joint pain during activities

Functional Difficulty due to joint pain

Patient's Perceptions of Current Plan

Level 0	☐ I have not tried anything yet	☐ Chondroitin	☐ TENS	☐ Capsaicin
Level 1	☐ Exercise program	☐ Maintain healthy weigh	☐ Glucosamine	☐ Insoles
	☐ Acetaminophen	☐ Acupuncture		
Level 2	☐ Topical NSAIDs	☐ Joint injection: Corticosteroid	☐ Joint injection: Viscosupplementation	
Level 3	☐ NSAID pills	☐ Opioid painkillers		
Level 4	☐ See a surgeon about joint replacement			

Other things tried:

Adherence to daily regime (#days/week)	0	1-2	3-4	5-6	7	No plan
Exercise						
Control weight						
Take daily medicines						

Patient's Preference & Decisional Needs

Certainty	Prefers to: **Change management plan: NSAIDS**		
	✖ **Does not feel:** sure about best choice		
Knowledge	**75%** correct answers	✓ **Knows:** Joint injection more effective than: chondroitin, acetaminophen	
		✓ **Knows:** NSAIDs has highest chance: bleeding ulcer, heart attack	
	✓ **Does feel:** knows enough	✓ **Knows:** Opioids have highest chance: withdrawal symptoms	
		✖ **Does not know**: osteo pain gets worse over time	
Values	✓ **Does feel:** clear re values		

Reasons to choose each option	Not Important 1	2	3	4	Very Important 5
Get better pain relief					
Avoid prescription pills					
Avoid needles					
Avoid serious harms such as bleeding ulcers and heart attack					
Avoid withdrawal symptoms					
Other:					

Support	✖ **Does not feel**: has enough support/advice				
Barriers to change	Not 1	2	3	4	Very 5
Motivated to do this					
Confident that can do this					
Barriers to doing this	***None***				
Facilitators to doing this	***Very organized taking pills***				
Questions	***What do you think about NSAIDs.?***				

Figure 1. Decision Aid Summary — briefly summarizes the key information for practitioners to use in consultation with patients. NSAID: nonsteroidal antiinflammatory drugs; TENS: transcutaneous electrical nerve stimulation.

Personal non-commercial use only. The Journal of Rheumatology Copyright © 2014. All rights reserved.

Downloaded on April 24, 2024 from www.jrheum.org

knowledge and more realistic expectations, enhance patient involvement in decision making, improve values-choice agreement, and reduce decisional conflict[22]. Decision aids appear to improve patient-practitioner communication, and they have a variable effect on length of consultation[22]. Exposure to decision aids compared to usual care demonstrates reduced choice of major elective invasive surgery in favor of conservative options (RR 0.80; 95% CI 0.64–1.00; n = 11)[22]. CMSG decision aids are based on the Ottawa Decision Support Framework and were created to meet the International Patient Decision Aid Standards (http://ipdas.ohri.ca/)[23].

Decision aids increase knowledge and reduce decisional conflict about treatment. The decision aid, "Should I take abatacept for rheumatoid arthritis?" is available from: http://musculoskeletal.cochrane.org/sites/musculoskeletal.cochrane.org/files/uploads/Should%20I%20take%20abatacept-21%20March%202011.pdf

A recent innovation in CMSG patient decision aids is to move from a single option of a treatment compared to placebo to comparing multiple options against each other (i.e., to make comparative effectiveness decisions). The CMSG led the development of a stepped decision aid for OA. A team of experts in rheumatology, clinical epidemiology, decision aid development, KT, and graphic design, guided by the Ottawa Decision Support Framework, created a tool to assist patients in discussing 13 possible treatment options with their practitioner[24,25].

A 1-page summary of the completed decision aid can be produced for practitioners to help them to quickly verify the accuracy of the patients' knowledge and expectations of the benefits and harms of options as well as understand patient preferences and values[27]. This allows the practitioner to be sensitive to areas of concern for the patient. The practitioner is able to provide care that is tailored to the patient's information needs and values as expressed in the decision aid (Figure 1).

The CMSG decision aids are based on a format tested in a randomized controlled trial[28]. Preliminary results of an evaluation of the multioption decision aid show that about half of patient and practitioner experts rated it as at least somewhat helpful as a communication tool for discussing options. Most (92%) showed improved knowledge of the treatment options[25]. Feedback provided by participants will help to improve future iterations of the presentation and the clarity of the information presented on treatment options. Evaluating the decision aids with both audiences is important to assess their usefulness as communication tools and to support shared decision making of the patient-practitioner dyad[29]. Plans are under way to further evaluate the decision aids for their usability (e.g., format and presentation style) and usefulness (do they help the decision?) with both patients and practitioners[27,30,31]. The decision aids can be downloaded from musculoskeletal.cochrane.org/decision-aids. For a list of decision aids in other conditions, see http://decisionaid.ohri.ca/AZlist.html.

The Cochrane Journal Club presents a recent Cochrane review of special interest, such as a review that will change practice or one that uses a new statistical method. It consists of a link to the full review, podcasts by the authors explaining the key points, and downloadable slides and discussion questions to help disseminate the review methods and conclusions in detail. The CMSG developed the first 2 Journal Clubs based on the review "Biologics for rheumatoid arthritis: an overview of Cochrane reviews"[32] (a clinical version and a methodological version). The review can be found at cochranejournalclub.com/biologics-for-rheumatoid-arthritis-clinical/

For the clinical version of "Biologics for rheumatoid arthritis: an overview of Cochrane reviews", there have been 7015 visitors and 15,148 page views[33].

Fifteen-min KT format. CMSG editors based in Australia have produced a well-received series in general medical journals such as *Australian Family Physician*[34] and *Journal of Family Practice*[35,36]. The articles aim to put the findings of Cochrane musculoskeletal reviews in a context relevant to general practitioners. Each article presents the results of CMSG reviews using common general practice scenarios or case studies to demonstrate how the results can be applied in practice. These are aimed at nonspecialists who take care of people with musculoskeletal conditions[26]. Similarly, the Linking Evidence and Practice (LEAP) series in Physical Therapy highlights the findings and application of Cochrane reviews and other evidence pertinent to the practice of physical therapy[37,38]. The goal of LEAP is to provide clinicians with best available evidence for various conditions in a format that is designed to streamline the application of evidence to practice[39]. An example of a clinical scenario written in a general medicine journal can be found at www.racgp.org.au/afp/200706/200706winzenberg.pdf. An editorial describing the LEAP series is available from http://ptjournal.apta.org/content/90/1/6.full

Five-min KT format. Summary of findings tables (previously called clinical relevance tables) provide the key pieces of information from a systematic review (Table 2). They present the benefits and harms of a review in a transparent and simple tabular format. In particular, they provide key information concerning the quality of evidence, the magnitude of effect of the interventions examined in both relative and absolute terms, and the sum of available data on the main outcomes[40]. The GRADE (Grading of Recommendations Assessment, Development and Evaluation)[41] process is used to describe the quality of the evidence and ensure transparency. Because many reviews include large numbers of comparisons and outcomes, it can be difficult to easily interpret and find this information in clinical practice. Summary of findings tables address these challenges by presenting what practitioners and patients want to know

Personal non-commercial use only. The Journal of Rheumatology Copyright © 2014. All rights reserved.

Downloaded on April 24, 2024 from www.jrheum.org

Table 2. Summary of findings table. Cochrane Database Syst Rev 2009(4): CD007277; with permission.

Abatacept (2 and 10 mg/kg) + DMARD/biologic vs placebo + DMARD/biologic for rheumatoid arthritis (RA)
Patient or population: patients with RA
Settings: International; clinic/hospital
Intervention: Abatacept (2 and 10 mg/kg) + DMARD/biologic
Comparison: Placebo + DMARD/biologic

Outcomes	Placebo + DMARD/ biologic	Abatacept (2 and 10 mg/kg) + DMARD/ biologic	Relative Effect (95% CI)	No. Participants (Studies)	Quality of Evidence (GRADE)	Comments (95% CI)
ACR 50% improvement. Followup: 12 mos	168 per 1000	371 per 1000 (291–474)	RR 2.21 (1.73–2.82)	993 (3 studies)	Moderate[1,2,3]	Absolute difference = 21% (16%–27%) NNT = 5 (4–7)[4] Relative percent change = 121% (73%–182%)
Pain measured at end of study on a 100 mm visual analog scale. Scale from 0 (better) to 100 (worse) Followup: 12 mos	Mean pain in the control group: 49.24 mm	Mean pain in the intervention group was 10.71 lower (12.97 to 8.45)		1425 (1 study[5])	Moderate[2]	Absolute difference = –11% (–13% to –8.5%). NNT = 5 (4–6)[4] Relative percent change = –18% (–22% to – 14%).
Improvement in physical function (HAQ: > 0.3 increase from baseline, 0–3 scale). Followup: 12 mos	393 per 1000	637 per 1000 (531–766)	RR 1.62 (1.35–1.95)	638 (1 study[6])	Moderate[1]	Absolute difference = 24% (16%–32%). NNT = 5 (4 to 7)[4] Relative percent change: 62% (35%–195%).

DMARD: disease-modifying antirheumatic drug; GRADE: Grading of Recommendations Assessment, Development and Evaluation; ACR: American College of Rheumatology; NNT: number needed to treat; HAQ: Health Assessment Questionnaire.

about treatments: (1) what are the known benefits and harms (both relative effect and absolute effect)?; (2) what is still unknown about benefits and harms?; and (3) how certain are we of this information?

The CMSG supports and assists authors in constructing summary of findings tables in their reviews by providing clear guidelines for the presentation of results. In particular, the group has developed a default list of standard outcomes including adverse events that should be considered when preparing the review. This list of outcomes is anticipated to be appropriate to the condition and intervention being studied. A companion article will be published on CMSG methods that gives a detailed explanation of the summary of findings tables and the standard outcomes. These ensure that practitioners and policy makers have information about outcomes that are important to patients and important in decision making for musculoskeletal conditions. Because of their importance, they are placed on the first page in the Cochrane Library. A randomized controlled trial found that compared to reviews with no summary of findings, reviews that included a summary of findings were easier for readers to understand and easier for readers to find information in about the main outcomes of the review and the quality of evidence. Importantly, readers, primarily clinicians, found the tables helpful for making a decision[42].

CMSG structured plain language summaries. Each Cochrane Review produced by the CMSG currently includes a plain language summary. These summaries describe exactly the same information as in the summary of findings table and the abstract of the review, but they use language that can be understood easily by the public. The plain language summary is 1 page or shorter and gives the key messages from the review, some background information about the condition and the intervention, and details about the benefits and harms of the treatment (such as how many people improved or by how much). It also provides the number of side effects or harms and their severity (Table 3).

The format of the CMSG plain language summaries has been developed and evaluated over a number of years. Consumers found the summaries useful and well laid out[43]. More recently, the CMSG has been involved in 2 multicenter studies to further develop and evaluate this format[44,45].

The first study was a qualitative study in which 35 patients were interviewed about the content and format of 3 different plain language summary formats[44]. The results from this qualitative study were then used to develop a new format of the plain language summary, which was evaluated in a randomized controlled trial that showed that people preferred the format that quantified and identified risks, and

Personal non-commercial use only. The Journal of Rheumatology Copyright © 2014. All rights reserved.

Downloaded on April 24, 2024 from www.jrheum.org

Table 3. Plain language summary. From Maxwell LJ, Singh JA. Cochrane Database Syst Rev 2009(4): CD007277; with permission.

Abatacept (Orencia) for rheumatoid arthritis
This summary of a Cochrane review presents what we know from research about the effect of abatacept on rheumatoid arthritis.
The review shows that in people with rheumatoid arthritis:
- Abatacept probably reduces joint damage as seen on the X-ray.
- Abatacept probably improves pain, function and other symptoms of rheumatoid arthritis.
- Abatacept probably reduces disease activity.
We do not have precise information about side effects and complications. This is particularly true for rare but serious side effects. Side effects may include a serious infection or upper respiratory infection. Rare complications may include certain types of cancer.
What is rheumatoid arthritis and what is abatacept?
When you have rheumatoid arthritis, your immune system, which normally fights infection, attacks the lining of your joints. This makes your joints swollen, stiff and painful. The small joints of your hands and feet are usually affected first. There is no cure for rheumatoid arthritis at present, so the treatments aim to relieve pain and stiffness and improve your ability to move. Inflammation and joint damage is caused by over active t-cells in your body.
Abatacept is a stronger 'biologic' medicine which blocks the activity of the t-cells.
Best estimate of what happens to people with rheumatoid arthritis who take abatacept:
Pain (higher scores mean worse or more severe pain)
- People who took abatacept rated their pain to be 12 points lower on a scale of 0 to 100 after 12 months with abatacept.
(People who took abatacept rated their pain to be 37 on a scale of 0 to 100 compared to people who took a fake medication who rated their pain to be 49 on a scale of 0 to 100.)
ACR 50 (50% improvement in number of tender or swollen joints and other outcomes such as pain and disability)
- 20 more people out of 100 had an improvement of at least 50% in the symptoms of their rheumatoid arthritis after 12 months with abatacept (37 people out of 100 who took abatacept had a 50% improvement compared to 17 people out of 100 who took a fake medication).
Function
- 25 more people out of 100 had better physical function after 12 months with abatacept. (64 people out of 100 who took abatacept had better physical function compared to 39 people out of 100 who took a fake medication.)
Disease activity
- 32 more people out of 100 were considered to have low disease activity of their rheumatoid arthritis after 12 months with abatacept (42 people out of 100 who took abatacept were considered to have low disease activity compared to 10 people out of 100 who took a fake medication).

ACR: American College of Rheumatology.

conveyed the level of certainty of results[45]. The plain language summaries in CMSG reviews continue to use these features of the plain language summary.

Cochrane podcasts are < 5-min audio summaries of a systematic review and are available for selected reviews in The Cochrane Library. During the podcast, the author provides the key points of the review, the context of the review, and the interesting aspects of the findings. The CMSG has produced 8 podcasts including 8 translations into Dutch, German, and Italian.

This dissemination tool provides a friendly, short introduction to a review of interest. Reviews accompanied by podcasts are accessed more than reviews accompanied by a press release[46]. Cochrane podcasts can be accessed for free from the service Apple iTunes and from www.cochrane.org.

A podcast is a complementary KT tool that can be used in a wider range of settings than other KT tools and increases the likelihood of medical evidence uptake[47]. An example of a Cochrane podcast on abatacept is available from summaries.cochrane.org/sites/default/files/uploads/podcasts/mp3/issue4_2009_abatacept.mp3. The current list of available podcasts can be found at http://www.cochrane.org/podcasts.

One-minute KT format. Twitter is an online service allowing users to exchange "tweets": short text messages of 140 characters or less provided through an online service. Tweeting is a 1-min KT format that conveys a short message that can go beyond descriptive Cochrane titles to hint at the results, encouraging the audience to read the abstract, plain language summary, or the whole review. For example: "Muscle Relaxants and Neuromodulators for Managing Rheumatoid Arthritis Pain: Many Options, But No Clear Successes" (113 characters).

However, Twitter also has the capacity to use the "pull" model of KT. The pull model concentrates on the audience's desire for more information, evidence, and skills to drive the transfer of knowledge. Twitter enables the CMSG to follow 65 Twitter accounts, representing a community of rheumatologists and patient associations to learn their interests, practical discussions, and concerns. Engaging in this community and responding to their interests can help define KT activities in the CMSG. This strategy may be expanded in the future. Currently the account has 195 followers.

PLANS FOR THE FUTURE

The area of KT is evolving. Several initiatives are currently under development and are described below.

Cochrane Clinical Answers. A Cochrane Clinical Answer is a 100–200 word summary of a Cochrane review, which focuses on the elements important to practitioners: the effect of interventions on key outcomes that matter to patients. Each clinical answer is interactive, mixes narrative and graphics, and is actionable. Because Cochrane reviews can include answers to several clinical questions, for example

Personal non-commercial use only. The Journal of Rheumatology Copyright © 2014. All rights reserved.

Downloaded on April 24, 2024 from www.jrheum.org

how to both prevent and treat a condition, summaries of those reviews may not be in a format useful to practitioners. However, a Cochrane Clinical Answer will parse the evidence and answer 1 clinical question at a time, which makes it easier for practitioners to implement the evidence and improve patient outcomes. Cochrane Clinical Answers have the potential to reach a practitioner audience by positioning the evidence in a clinical context. This is expected to be launched later this year with a number of the CMSG reviews in this first phase. More information about Cochrane Clinical Answers is available from http://cochraneclinicalanswers.com/

Narratives as a KT tool. Storytelling is a basic mode of human communication. From childhood, stories are a personal way to teach and provide information. Denning writes about the power of narratives to incite action among groups of people[48]. He maintains that researchers have to make a personal and emotional connection with the audience before introducing facts[48].

Many of the best communicators use stories from the perspective of the author. One important example is the award-winning Website healthtalkonline.org, from the DIPEx charity. It was founded by members of the Cochrane collaboration. Healthtalkonline is a database of the experiences of more than 2000 people of over 60 health-related conditions and illnesses. The audience can watch video or listen to audio clips of the interviews, read about people's experiences, and be directed to reliable information about specific conditions, treatment choices, and support. An example of the videos about living with rheumatoid arthritis is available from www.healthtalkonline.org/Bones_joints/Rheumatoid_Arthritis

Stories have also been used in decision aids and have the potential to add context and meaning to the decision aid[49]. However, there may be drawbacks; for example, the stories may not be sufficiently relevant to the patient's situation, or may exaggerate the evidence on both benefits and harms. In rheumatology, we have collaborated on the ANSWER tool: ANimated, Self-serve, WEb-based Research tool that combines stories with the best evidence on benefits and harms[50]. An introduction to this tool can be viewed at http://youtu.be/JzHKoqgg4Mo. Storytelling in the context of an evidence-based decision aid can help overcome limitations of stories on their own.

Dr Cochrane: using storytelling in continuing professional development. Dr Cochrane is a collection of online continuing professional education and development modules based on Cochrane Reviews related to musculoskeletal and gastrointestinal conditions. Supported by the CMSG and other Cochrane Review groups, Dr Cochrane embeds evidence from Cochrane Reviews into narrative vignettes, with accompanying questions and answers; these modules can be used for accreditation purposes.

The use of narratives to frame the modules makes them unique. Narratives and stories are emerging as a promising approach to motivate practitioners to use established bodies of quantitative knowledge in clinical practice and appear more persuasive and memorable than statistics for understanding the results and implications of research[51,52]. Dr Cochrane Example uses Cochrane evidence in continuing medical education, with a fictional physician character to solve clinical problems. More information is available from http://onlinelibrary.wiley.com/doi/10.1002/ebch.587/abstract

Future plans: KT for disadvantaged populations. The CMSG is committed to promoting health equity. We want to explore the development of KT tools specifically for disadvantaged populations, because they are groups who stand to benefit the most[53]. For example, plans are under way to develop decision aids and other patient tools for people with low literacy including immigrant and refugee communities, who may have different values and expectations about outcomes. Access and use of health evidence is critical in populations where resources are scarce.

Since 2006 our work in KT has continued to evolve in response to user feedback and formal evaluation. The user can choose the KT tool or product that best meets their information need in the appropriate setting and time frame. Patients can use the tools profiled here for making their own healthcare decisions; patients and their practitioners can use these tools together for shared decision making; review authors and producers of evidence-based information can use these knowledge translation tools as strategies to translate their results into useful, user-friendly formats. We are encouraged by more KT products from various organizations (especially practice guidelines that consider context in their recommendations) becoming available because our objective is to disseminate the review results widely. The user can choose the product that best meets their information need in the appropriate setting and time frame. The CMSG continues to explore ways of improving the effect and usability of systematic reviews by providing results in formats suitable to our varied audiences, and we welcome feedback from patients, practitioners, policy makers, the press, and members of the public. We anticipate future methodological research to improve the usefulness of systematic reviews and plan future updates of this report to support implementation of research evidence into clinical practice. Although other similar products are available, those described here are distinct because they are developed by content experts (CMSG authors and editors) in collaboration with format experts (such as researchers from the Ottawa Patient Decision Aid Group) with input from patients.

ACKNOWLEDGMENT

We thank the Editorial Board of the Cochrane Musculoskeletal Group and our dedicated group of patient volunteers for help in developing and testing these formats: Isabelle Boutron, Mary Bracheniac, Angela Busch, Ernest Choy, Robin Christensen, Delia Cooper, Rob de Bie, Christine Fyfe, Rhian

Personal non-commercial use only. The Journal of Rheumatology Copyright © 2014. All rights reserved.

Downloaded on April 24, 2024 from www.jrheum.org

Goodfellow, Janet Gunderson, Tracey Howe, Anne Lyddiatt, Mário Lenza, Philippe Ravaud, Raphaèle Seror, Beverley Shea, Maria Suarez-Almazor, Karine Toupin-April, and Marilyn Walsh.

REFERENCES

1. Singh JA, Christensen R, Wells GA, Suarez-Almazor ME, Buchbinder R, Lopez-Olivo MA, et al. Biologics for rheumatoid arthritis: an overview of Cochrane reviews. Sao Paulo Med J 2010;128:309-10.
2. Singh JA, Wells GA, Christensen R, Ghogomu ET, Maxwell L, MacDonald JK, et al. Adverse effects of biologics: a network meta-analysis and Cochrane overview. Cochrane Database Syst Rev 2011;(2)CD008794.
3. Chalmers I. What do I want from health research and researchers when I am a patient? BMJ 1995;310:1315-8.
4. Sackett DL, Straus SE, Richardson WS, Rosenberg W, Haynes RB. Evidence-based medicine: how to practice and teach EBM. London: Churchill Livingstone; 2007.
5. Labrecque M, Lafortune V, Lajeunesse J, Lambert-Perrault AM, Manrique H, Blais J, et al. Do continuing medical education articles foster shared decision making? J Contin Educ Health Prof 2010;30:44-50.
6. Laine C, Weinberg DS. How can physicians keep up to date? Annu Rev Med 1999;50:99-110.
7. Guyatt GH, Rennie D, Meade MO, Cook DJ. Users' guides to the medical literature: a manual for evidence-based clinical practice. Chicago: AMA Press; 2008.
8. Haynes B, Haines A. Barriers and bridges to evidence based clinical practice. BMJ 1998;317:273-6.
9. Zipkin DA, Greenblatt L, Kushinka JT. Evidence-based medicine and primary care: keeping up is hard to do. Mt Sinai J Med 2012;79:545-54.
10. Alper BS, White DS, Ge B. Physicians answer more clinical questions and change clinical decisions more often with synthesized evidence: a randomized trial in primary care. Ann Fam Med 2005;3:507-13.
11. CIHR. Knowledge Translation - Definition. Ottawa: Canadian Institutes of Health Research; 2012 (updated 2012-10-23). [Internet. Accessed Sept 27, 2013.] Available from: www.cihr-irsc.gc.ca/e/39033.html
12. Godin G, Belanger-Gravel A, Eccles M, Grimshaw J. Healthcare professionals' intentions and behaviours: a systematic review of studies based on social cognitive theories. Implement Sci 2008;3:36.
13. Graham ID, Logan J, Harrison MB, Straus SE, Tetroe J, Caswell W, et al. Lost in knowledge translation: time for a map? J Contin Educ Health Prof 2006;26:13-24.
14. Baker R, Camosso-Stefinovic J, Gillies C, Shaw EJ, Cheater F, Flottorp S, et al. Tailored interventions to overcome identified barriers to change: effects on professional practice and health care outcomes. Cochrane Database Syst Rev 2010;(3):CD005470.
15. Brouwers M, Stacey D, O'Connor A. Knowledge creation: synthesis, tools and products. CMAJ 2010;182:E68-72.
16. Santesso N, Maxwell L, Tugwell PS, Wells GA, O'Connor AM, Judd M, et al. Knowledge transfer to clinicians and consumers by the Cochrane Musculoskeletal Group. J Rheumatol 2006;33:2312-8.
17. Grad R, Pluye P, Johnson-Lafleur J, Granikov V, Shulha M, Bartlett G, et al. Do family physicians retrieve synopses of clinical research previously read as email alerts? J Med Internet Res 2011;13:e101.
18. Pluye P, Grad R, Granikov V, Theriault G, Fremont P, Burnand B, et al. Feasibility of a knowledge translation CME program: Courriels Cochrane. J Contin Educ Health 2012;32:134-41.
19. Giguere A, Legare F, Grad R, Pluye P, Rousseau F, Haynes RB, et al. Developing and user-testing Decision boxes to facilitate shared decision making in primary care—a study protocol. BMC Med Inform Decis Mak 2011;11:17.
20. Davies P. The State of evidence-based policy evaluation and its role in policy formation. Natl Inst Econ Rev 2012;219:R41-52.
21. Tugwell P, Robinson V, Grimshaw J, Santesso N. Systematic reviews and knowledge translation. Bull World Health Organ 2006;84:643-51.
22. Stacey D, Bennett CL, Barry MJ, Col NF, Eden KB, Holmes-Rovner M, et al. Decision aids for people facing health treatment or screening decisions. Cochrane Database Syst Rev 2011(10):CD001431.
23. O'Connor AM, Tugwell P, Wells GA, Elmslie T, Jolly E, Hollingworth G, et al. A decision aid for women considering hormone therapy after menopause: decision support framework and evaluation. Patient Educ Couns 1998;33:267-79.
24. Patient decision aids: development methods. Ottawa: Ottawa Health Research Institute; 2009. [Internet. Accessed Sept 27, 2013.] Available from: http://decisionaid.ohri.ca/methods.html/
25. Toupin-April K, Hawker G, Rader T, Stacey D, McGowan J, Welch V, et al. A decision-making needs assessment and evaluation of a stepped decision aid for patients considering osteoarthritis management options. Canadian Rheumatology Association; Ottawa, Canada, 2013.
26. Tugwell P, Singh JA, Wells GA. Biologicals for rheumatoid arthritis. BMJ 2011;343:d4027.
27. Holmes-Rovner M. International Patient Decision Aid Standards (IPDAS): beyond decision aids to usual design of patient education materials. Health Expect 2007;10:103-7.
28. Vandemheen KL, O'Connor A, Bell SC, Freitag A, Bye P, Jeanneret A, et al. Randomized trial of a decision aid for patients with cystic fibrosis considering lung transplantation. Am J Respir Crit Care Med 2009;180:761-8.
29. Légaré F, Leblanc A, Robitaille H, Turcotte S. The decisional conflict scale: moving from the individual to the dyad level. Z Evid Fortbild Qual Gesundhwes 2012;106:247-52.
30. Elwyn G, O'Connor AM, Bennett C, Newcombe RG, Politi M, Durand MA, et al. Assessing the quality of decision support technologies using the International Patient Decision Aid Standards instrument (IPDASi). PLoS One 2009;4:e4705.
31. O'Connor AM, Bennett C, Stacey D, Barry MJ, Col NF, Eden KB, et al. Do patient decision aids meet effectiveness criteria of the international patient decision aid standards collaboration? A systematic review and meta-analysis. Med Decis Making 2007;27:554-74.
32. Singh JA, Christensen R, Wells GA, Suarez-Almazor ME, Buchbinder R, Lopez-Olivo MA, et al. Biologics for rheumatoid arthritis: an overview of Cochrane reviews. Cochrane Database Syst Rev 2009(4):CD007848.
33. Urquhart B. RE: Journal Club - any feedback on popularity/user or reviewer satisfaction? [e-mail communication, Jan 31, 2013].
34. Winzenberg T, Buchbinder R, Shaw K, Jones G. Musculoskeletal conditions – what's new from Cochrane and how might this affect your practice? Aust Fam Physician 2007;36:433-4.
35. Winzenberg T, Buchbinder R. Cochrane Musculoskeletal Group review: acute gout. Steroids or NSAIDs? Let this overview from the Cochrane Group help you decide what's best for your patient. J Fam Pract 2009;58:E1-4.
36. Howes F, Buchbinder R, Winzenberg TB. Opioids for osteoarthritis? Weighing benefits and risks: a Cochrane Musculoskeletal Group review. J Fam Pract 2011;60:206-12.
37. Lin CW, Taylor D, Bierma-Zeinstra SM, Maher CG. Exercise for osteoarthritis of the knee. Phys Ther 2010;90:839-42.
38. Lette DU, Bourgeois MC, Buchbinder R. Pulmonary rehabilitation following acute exacerbation of chronic obstructive pulmonary disease. Phys Ther 2010;90:9-12.

Personal non-commercial use only. The Journal of Rheumatology Copyright © 2014. All rights reserved.

Downloaded on April 24, 2024 from www.jrheum.org

39. Jette DU, Buchbinder R. PTJ helps clinicians link evidence to patient care. Phys Ther 2010;90:6-7.
40. Schünemann HJ, Oxman AD, Higgins JPT, Vist GE, Glasziou P, Guyatt GH. Presenting results and 'Summary of findings' tables. In: Cochrane handbook of systematic reviews of interventions. Oxford: Cochrane Collaboration; 2011. [Internet. Accessed Sept 27, 2013.] Available from: http://www.cochrane-handbook.org/.
41. Guyatt GH, Oxman AD, Vist GE, Kunz R, Falck-Ytter Y, Alonso-Coello P, et al. GRADE: an emerging consensus on rating quality of evidence and strength of recommendations. BMJ 2008;336:924-6.
42. Rosenbaum SE, Glenton C, Oxman AD. Summary-of-findings tables in Cochrane reviews improved understanding and rapid retrieval of key information. J Clin Epidemiol 2010;63:620-6.
43. Brehaut JC, Santesso N, O'Connor AM, Lott A, Lindgaard G, Syrowatka A, et al. Presenting evidence to patients online: what do Web users think of consumer summaries of Cochrane Musculoskeletal Reviews? J Med Internet Res 2011;13:227-41.
44. Glenton C, Santesso N, Rosenbaum S, Nilsen ES, Rader T, Ciapponi A, et al. Presenting the results of Cochrane Systematic Reviews to a consumer audience: a qualitative study. Med Decis Making 2010;30:566-77.
45. Santesso N, Glenton C, Ciapponi A, Nilsen E, Pardo JP, Rader T. A new format for Plain Language Summaries: does it improve understanding, and is it useful and preferable. 17th Cochrane Colloquium; 11-14 October 2009; Singapore. http://abstracts.cochrane.org/node/2477
46. Simmonds L, Clarke M, Mavergames C, ed. Are you listening? Podcasts from The Cochrane Library; a review. 18th Cochrane Colloquium; 2010; Keystone, Colorado, USA. http://abstracts.cochrane.org/node/2765
47. Wilson P, Petticrew M, Booth A. After the gold rush? A systematic and critical review of general medical podcasts. J R Soc Med 2009;102:69-74.
48. Denning S. The secret language of leadership: how leaders inspire action through narrative. San Francisco: John Wiley & Sons; 2007.
49. Khangura S, Bennett C, Stacey D, O'Connor AM. Personal stories in publicly available patient decision aids. Patient Educ Couns 2008;73:456-64.
50. Li LC, Adam P, Townsend AF, Stacey D, Lacaille D, Cox S, et al. Improving healthcare consumer effectiveness: an Animated, Self-serve, Web-based Research Tool (ANSWER) for people with early rheumatoid arthritis. BMC Med Inform Decis Mak 2009;9:40.
51. Moja L, Moschetti I, Cinquini M, Sala V, Compagnoni A, Duca P, et al. Clinical evidence continuous medical education: a randomised educational trial of an open access e-learning program for transferring evidence-based information - ICEKUBE (Italian Clinical Evidence Knowledge Utilization Behaviour Evaluation) — study protocol. Implement Sci 2008;3:37.
52. Hinyard LJ, Kreuter MW. Using narrative communication as a tool for health behavior change: a conceptual, theoretical, and empirical overview. Health Educ Behav 2007;34:777-92.
53. DeWalt DA, Berkman ND, Sheridan S, Lohr KN, Pignone MP. Literacy and health outcomes - a systematic review of the literature. J Gen Intern Med 2004;19:1228-39.

Personal non-commercial use only. The Journal of Rheumatology Copyright © 2014. All rights reserved.

Downloaded on April 24, 2024 from www.jrheum.org