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Project Title: Therapy Selection in RA: From Clinical Trials to Effectiveness in Practice

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Structured Abstract

Purpose: The overall goal of this educational initiative was to enable community-based practicing rheumatologists and other clinicians involved in the care of patients with rheumatoid arthritis (RA) to select appropriate treatments (mono- and combination therapies) based on critical appraisal and application of data on effectiveness of disease-modifying anti-rheumatic drugs (DMARDs) in real-life practice settings.

Scope: To address knowledge and clinical practice gaps in therapy selection for RA at the community level, UC San Diego, under the leadership of Arthur Kavanaugh, MD, in collaboration with Medscape Education Rheumatology, developed a blended-learning initiative using live and online educational interventions. A live workshop and three web-based initiatives were developed.

Methods: Instructional modules outlining the decision-making process for treatment selection in RA were developed including: a regional workshop, *Therapy Selection in Rheumatoid Arthritis: Practical Strategies to Achieve Therapeutic Goals*, held in San Diego; a Clinical Guide, *Delineating the Effectiveness of Mono- vs Combination Therapy in RA*; a Video Curbside Consult: *Practice Points from RA Registries and Pragmatic Trials*; and a Video Panel Discussion *Viewpoints of Practicing Rheumatologists and Case Discussions in RA*.

Results: A total of 11,145 learners, including 7,619 physicians, participated in this overall initiative. A Performance Linked Learning Report that was incorporated into the panel discussion demonstrated modest improvements for rheumatologists and statistically significant improvements for PCPs related to the treatment and monitoring of patients with RA. A review article was developed and has been tentatively accepted as a supplement in the *Journal of Clinical Rheumatology*.

Key Words: Rheumatoid arthritis

Purpose

The overall goal of this educational initiative was to enable community-based practicing rheumatologists and other clinicians involved in the care of patients with rheumatoid arthritis (RA) to select appropriate treatments (mono- and combination therapies) based on critical appraisal and application of data on effectiveness of disease-modifying anti-rheumatic drugs (DMARDs) in real-life practice settings. This program utilized carefully integrated educational interventions to maximize the transfer of clinical information into practical strategies for community practitioners. The insights gained through participation in the interventions will help build clinician confidence and competence and support use of the learnings in clinical practice, thereby contributing to improved management and outcomes of patients with rheumatoid arthritis.

Objectives: The aim of the educational initiative is to improve clinician knowledge and performance with the following aspects of clinical care for patients with RA:

- Synthesize and analyze factors for the benefits and risks of mono- versus combination DMARD therapy in the management of patients with RA
- Interpret recent evidence-based data from patient registries and pragmatic clinical trials in RA regarding mono- vs combination strategies to inform decision-making in practice
- Identify practical strategies for monitoring disease activity and for achieving target goals of therapy using available DMARDs in patients with RA

According to the American College of Rheumatology, the overall goal of therapy for patients with RA is to achieve low disease activity or remission and to prevent or control joint damage, prevent loss of function, and decrease pain.[Singh 2012] However, many patients with RA do not have the disease adequately controlled, and only a minority attain consistent remission.[Prince 2012] The Comparative Effectiveness Review of the Agency for Healthcare Research and Quality (AHRQ), *Drug Therapy for Rheumatoid Arthritis in Adults*, was designed to assist clinicians in making treatment decisions,[Donahue 2012] but data from an online survey of US-based rheumatologists reveal that:

- 45% of respondents had not read the report;
- 70% of participants were not familiar with the findings and recommendations of the report;
- Only 20% had used the reported data on therapies for adults with RA in their own clinical practices; and
- 27% identified the barrier that it is not clear how to translate comparative effectiveness reports into patient care in practice.

Increasing evidence suggests that using a treat-to-target strategy can achieve remission or low disease activity in RA.[Cardiel 2013; Ruderman 2012; Vermeer 2011] To successfully treat to target, rheumatologists need reliable measures of disease activity and the knowledge and competence to switch and/or escalate therapy to achieve and maintain therapeutic targets.[Gilek-Seibert 2013]

The available guidelines provide broad recommendations and clinical trials offer supportive data, but rheumatology healthcare professionals have difficulty selecting from treatment choices for RA in the real world practice setting. Differences in study design, dosing regimens, and data from defined and specific patient populations pose challenges to clinicians who treat patients with diverse characteristics and needs. Because clinical trial results are not easily translated into real-life clinical practice (due to strict inclusion and exclusion criteria), there is a need to synthesize evidence from all sources, including meta-analyses of clinical trial data, data from patient registries in RA (eg, CORRONA, CATCH, ARTIS), and results of pragmatic trial designs (eg, TICORA, BeST, SWEFOT, TEAR). This synthesis would enable rheumatology healthcare professionals to more easily compare the effectiveness and safety of RA treatment strategies as experienced in real-life practice settings. Analysis of data from several patient registries and pragmatic clinical trials can provide direction for treatment selection at point of

care using mono- and combination DMARD therapies, monitoring and assessment, considerations of potential toxicities, impact on adherence, patient preferences, and optimization of outcomes for patients at various stages of RA. Community rheumatologists and other clinicians may benefit from education and expert guidance to appropriately evaluate and apply these data for the improved care of their patients with RA.

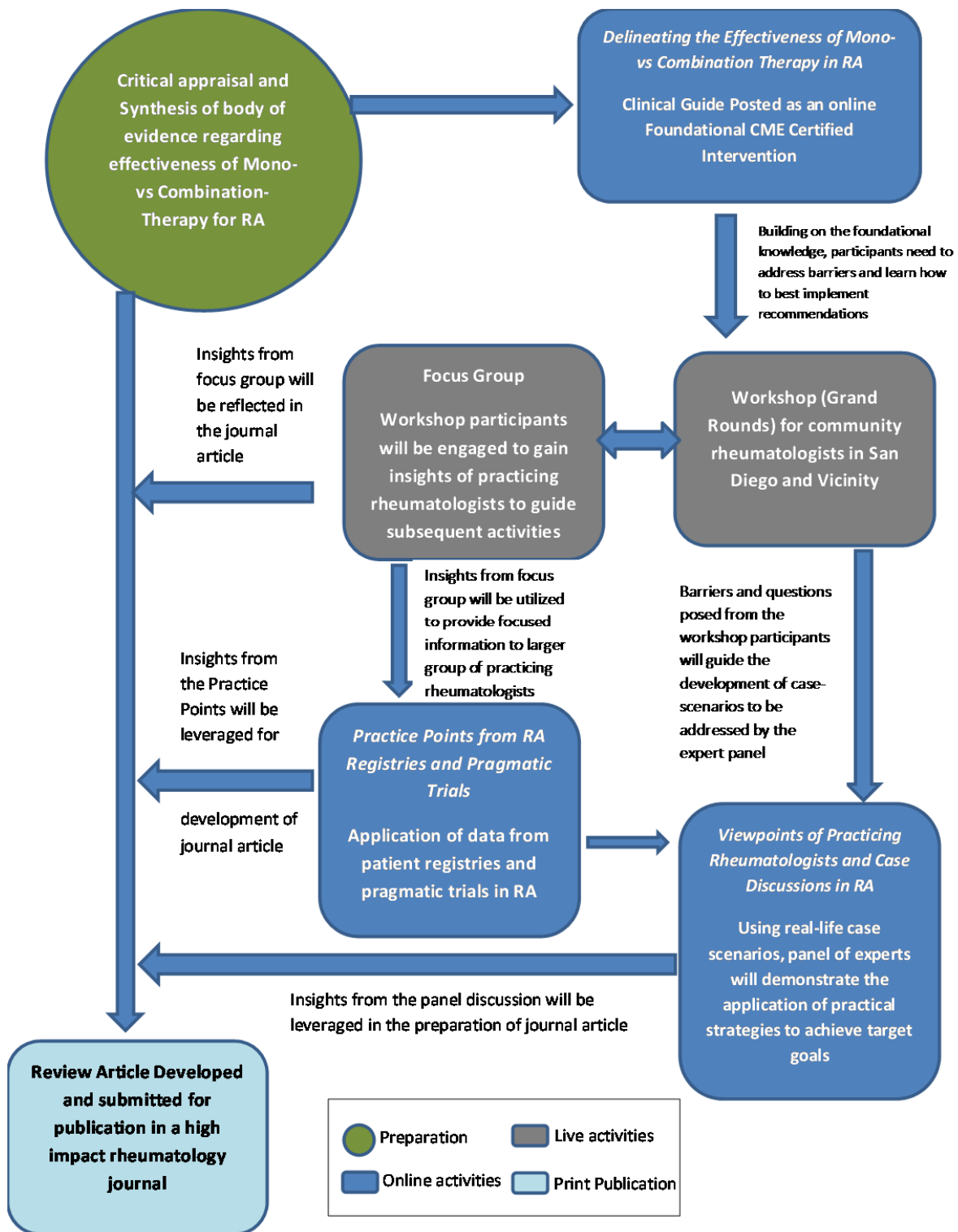
Scope

To address knowledge and clinical practice gaps in therapy selection for RA at the community level, UC San Diego, in collaboration with Medscape Education Rheumatology, under the leadership of Arthur Kavanaugh, MD, Professor of Clinical Medicine in the Division of Rheumatology, Allergy, and Immunology and the Director for the Center for Innovative Therapy at the UC San Diego School of Medicine, developed a blended-learning initiative using live and online educational interventions. Leveraging the wealth of experience and novel educational techniques and approaches developed by the faculty at UC San Diego, in conjunction with instructional design experts at Medscape, the education partners created instructional modules outlining the decision-making process for treatment selection in RA. Common themes were integrated within each activity as the content focus progressed from foundational knowledge to clinical application, with material and results from each activity informing the content of subsequent activities.

The overall initiative provided rheumatologists the opportunity to learn from experts in the field of RA, with the aim of improving knowledge, competence and performance in determining when mono- or combination therapy is appropriate. The education built upon and added to the well-respected and long-standing RA educational curriculum offered by the UC San Diego Division of Rheumatology, Allergy and Immunology, which has reached an engaged population of rheumatology specialists practicing within the UC San Diego region.

To ensure that the education reached the largest group of practicing rheumatologists, UC San Diego, through the partnership with Medscape, developed a live workshop and three web-based initiatives. This distribution method was able to simultaneously target a focused, regional audience to the San Diego area as well as a national audience by leveraging the Medscape web platform to host education developed within this initiative.

Below is a schematic that was developed to outline the scope of the overall initiative and how each activity was designed to build upon other elements identified or shared within the program.



Methods

The educational interventions within this initiative were implemented in the following sequence, to allow progression of education from foundational knowledge through practical strategies for optimal selection of therapy for patients with RA.

1. Clinical Guide: *Delineating the Effectiveness of Mono- vs Combination Therapy in RA*; 1.0 AMA PRA Category 1 Credit™

Teaching aim: Improve foundational knowledge and acquire skills to synthesize data from multiple sources

The Clinical Guide was designed as a comprehensive review of research findings and therapeutic advances, with the aim of synthesizing diverse data (from patient registries, clinical trials, and pragmatic trials) into material that clarify and guide treatment of RA. The text was organized to distill detailed information into easily digestible segments and designed to provide point-of-care context and perspective. This format is effective for establishing a foundation for subsequent practice-related education; aggregating and synthesizing a large body of evidence; analyzing how recent research has influenced the standard of care; and clarifying complex therapeutic issues.

This activity was authored by Dr. Arthur Kavanaugh, a well-respected local and nationally recognized leader in the field of rheumatology. The content focuses on the current evidence base on the effectiveness of mono- and combination treatment strategies for patients at various stages of RA. It also evaluates the relevance and impact of comparative effectiveness data on clinical practice for patients with RA and appraise and analyze factors for the benefits and risks of mono- versus combination DMARD therapy. The content of the Clinical Guide served as a basis for subsequent educational activities in the curriculum.

2. Live Workshop: *Therapy Selection in Rheumatoid Arthritis: Practical Strategies to Achieve Therapeutic Goals*; 2.5 AMA PRA Category 1 Credits™

Teaching aim: Improve foundational knowledge and develop ability to apply knowledge

The live workshop provided community-based practitioners with the unique opportunity of networking and learning from experts in the field of RA. The intended learner audience for the live workshop included practicing rheumatologists in the San Diego local and regional community.

The workshop included foundational material and case-based discussion between a practicing clinician expert and a community-based rheumatologist. Through the real-world case presentation, clinician participants will learned about practical strategies for treatment

selection and monitoring of disease activity. Upon registration and again with confirmation of attendance, participants were invited to share personal case studies to gain expert and peer consultation.

To prime the learner for the discussion to be presented within the live workshop, registrants were given the pre-activity assignment to view the online Clinical Guide activity (curriculum activity 1). At the conclusion of the workshop, clinicians were also made aware of the upcoming online activities to be developed within this initiative.

Focus Group: Workshop participants were invited to engage in a focus group held immediately following the live activity. The focus group was a moderated 45-minute session that probed for the community practitioner's perspective regarding barriers to optimal treatment of RA and effective modes of communication to best disseminate evidence-based data. This information further contributed to the refinement of content for the remaining online and print interventions that were developed within this curriculum.

3. Video Curbside Consult: *Practice Points from RA Registries and Pragmatic Trials*; 0.25 AMA PRA Category 1 Credit™

Teaching aim: Develop ability and competency to apply knowledge in practice

Emulating the style of the live workshop, the Curbside Consult presented a 15-minute case-based online video discussion between 2 experts in the clinical management of RA. As with the live workshop, 1 presenter provided the academic expert perspective and the other represented the community practitioner perspective. A transcript with embedded slides and a downloadable deck were made available for future reference and as supplemental learning tools.

Seminal teaching points from the live workshop and the focus group session informed the discussion between the 2 expert faculty about how appropriate examination of data from patient registries and pragmatic trial designs can impact treatment decisions in real-life practice.

4. Video Panel Discussion: *Viewpoints of Practicing Rheumatologists and Case Discussions in RA*; 0.5 AMA PRA Category 1 Credit™

Teaching aim: Reinforce foundational concepts and strategize approaches for clinical application

The online roundtable panel discussion featured a 30-minute video of a moderated dialogue. Topics discussed during the focus group and the workshop were deliberated by a panel of expert academic and community-based rheumatologists to highlight when mono- or

combination therapy is appropriate. Panelists discussed how application in practice of disease activity measures can help with frequent monitoring and assessment of RA patients to inform treatment decisions, and presented practical strategies to achieve target goals of therapy using available DMARDs in patients with RA.

Interactive, multiple-choice, intra-activity questions were included. A transcript with embedded slides and a downloadable deck were made available as supplemental learning tools.

5. Review Article: *Rheumatoid Arthritis: Selecting Monotherapy vs Combination Therapy*

The synthesis of established literature, content from the live workshop and learnings from the focus group and project outcomes were used to develop an article that was submitted for consideration of publication in RA-specific peer-reviewed journals. The content focus for this article is to serve as a practical guide that can easily be referenced by rheumatologists at point of care.

Results

A total of 11,145 learners participated in this overall initiative. This includes a total of 7,619 physicians. The target learner audience for the *Therapy Selection in RA: From Clinical Trials to Effectiveness in Practice* initiative was 3,000, and we far exceeded our goal.

1. Clinical Guide: *Delineating the Effectiveness of Mono- vs Combination Therapy in RA*

Total Learners:

Rheumatologists	379
PCPs	1,508
Other Physicians	806
<u>Other (NP, PA, RN etc.)</u>	<u>2,331</u>
	5,024

Total Physician Learners: 2,693

Total Physician Certificates: 1,213

Physician Responders:	Intent to modify treatment plan
	Rheumatologists: 43%
	Primary Care Physicians: 44.7%
	Orthopaedists/Surgeons: 30.2%
	Other Physicians: 42.9%

85% of participants noted that the content learned from this activity will impact their practice.
96% of participants agreed that this activity promotes improvement in healthcare.
91% of participants agreed that the activity supports the achievement of the learning objectives.

Live Workshop: *Therapy Selection in Rheumatoid Arthritis: Practical Strategies to Achieve Therapeutic Goals* (Workshop and Focus Group)

Total Attendees:

Physicians	17
<u>Other (NP, RA RN etc.)</u>	<u>14</u>
	31

92% of responding attendees noted confidence in making changes in practice as a result of participating in this activity.

100% of responding attendees noticed that the course had a positive impact on increasing confidence in treatment selection for patients with rheumatoid arthritis.

Focus Group: A total of seven physicians (2 academic, 5 community-based) and two pharmacists attended the post-workshop focus group. A discussion was held, focusing on the following topics:

- How does each person monitor disease activity in patients with RA
- What factors does each person consider when individualizing therapy decisions?
- Barriers in practice
- How each person uses information from registries and pragmatic trials in decision making, and how does that compare with prospective clinical trials?
- How much time is needed for each person to start using new information from landmark clinical trials and data from conferences into their own practice?

Limitations: UC San Diego has a long-standing rheumatology CME course held every year, which brings in 75-100 rheumatologists and rheumatology allied health practitioners annually. We did not see the same turn out for this workshop, and the timing of the course in mid-summer may have impacted this result. The course needed to be held at this time in order to create the data needed to inform the remainder of the activities in the curriculum so that all deliverables could be developed and released on time.

Video Curbside Consult: *Practice Points from RA Registries and Pragmatic Trials*

Total Learners:

Rheumatologists	690
PCPs	586
Other Physicians	595
<u>Other (NP, PA, RN etc.)</u>	<u>693</u>
	2,564

Total Physician Learners: 1,871

Total Physician Certificates: 746

Physician Responders: Intent to modify treatment plan
Rheumatologists: 31.3%
Primary Care Physicians: 42%
Orthopaedists/Surgeons: 44.8%
Other Physicians: 38.5%

88% of participants noted that the content learned from this activity will impact their practice.
97% of participants agreed that this activity promotes improvement in healthcare.
93% of participants agreed that the activity supports the achievement of the learning objectives.

Video Panel Discussion: *Viewpoints of Practicing Rheumatologists and Case Discussions in RA*

Total Learners:

Rheumatologists	921
PCPs	1,156
Other Physicians	961
<u>Other (NP, PA, RN etc.)</u>	<u>488</u>
	3,526

Total Physician Learners: 3,038

Total Physician Certificates: 860

Physician Responders: Intent to modify treatment plan
Rheumatologists: 38.1%
Primary Care Physicians: 44.6%
Orthopaedists/Surgeons: 34.5%
Other Physicians: 31.1%

82% of participants noted that the content learned from this activity will impact their practice.
97% of participants agreed that this activity promotes improvement in healthcare.
93% of participants agreed that the activity supports the achievement of the learning objectives.

Performance Linked Learning Report Executive Summary (Outcomes Report)

Rheumatologists:

The analysis demonstrates modest improvements for rheumatologists ($n = 34$; $P = .166$) related to the treatment and management of patients with RA.

- The effect of the education immediately after participation (pre-/post-assessment) was moderate ($V = 0.458$), indicating slightly improved evidence-based practice choices after participation in the educational activity.
- The distribution of pre- to post-exposure assessment scores indicates a strong baseline performance with a statistically significant improvement: 59% of rheumatologists answered all 3 pre-assessment questions correctly, improving to 71% answering all post-assessment questions correctly ($P = .046$).
- Rheumatologists did not answer any question incorrectly on pre- and post-assessment, and the percentage who answered only 1 question correctly declined from 6% to 3%, from pre- to post-assessment, respectively.
- A sample of rheumatologists' responses was analyzed from pre- to post- to follow-up assessment ($n = 5$; 14.7% of the full sample). Although fewer participants answered all 3 questions correctly in the follow-up assessment, the overwhelming majority answered 2 out of 3 performance-assessment questions correctly and none answered only 1 or 0 question correctly.
- On average, 84% of rheumatologists selected the best response for the performance assessment questions before the education, with correct response rates ranging from a low of 65% to a high of 97%, demonstrating a very strong baseline performance even before the activity.
- Following the education, a slight improvement was seen to an average of 89% answering each question correctly, and the majority of clinicians correctly answered all performance assessment questions.
- Of responding rheumatologists, 18% identified it as being easier to make patient management decisions associated with this key learning concept, and 65% put themselves at the top tier of ease on the sliding scale. On average, respondents reported a difficulty level of 1.647 on the pre-assessment and 1.441 on the post-assessment, for a total average shift of +4.1%.

Primary Care Physicians:

The analysis demonstrates statistically significant improvement for PCPs ($n = 118$; $P < .001$) related to the treatment and monitoring of patients with RA.

- The effect of the education immediately after participation (pre-/post-assessment) was robust ($V = 0.323$), indicating improved evidence-based practice choices after participation in the activity.
- The distribution of pre- to post-exposure assessment scores indicates a substantial improvement, and statistical significance with 29% of PCPs answering all 3 pre-assessment questions correctly, improving to nearly half (45%) of PCPs answering all post-assessment questions correctly ($P < .001$).
- Nearly one-third of participants answered only 1 question correctly before the activity; however, this improved to only 12% answering 1 question correctly on the post-assessment.
- A sample of PCPs' responses was analyzed from pre- to post- to follow-up assessment ($n = 5$; 4.2% of the full sample). A plurality of PCPs answered all questions correctly in the follow-up assessment 30 to 60 days following the activity, and the majority answered 2 out of 3 questions correctly, while none answered only 1 or 0 questions correctly.
- An average of 63% of PCPs selected the best response for the performance assessment questions before the education, with correct response rates ranging from a low of 55% to a high of 75%, and the majority selected the best response for all 3 performance-assessment questions.
- Following the education, an average of 75% answered each question correctly, with relative percentage increases seen as high as 48%.
- Of responding PCPs, 42% identified it as being easier to make patient assessment and management decisions associated with a key learning concept, and 9% put themselves at the top tier of ease on the sliding scale. On average, respondents reported a level of ease of 3.178 on the pre-assessment and 2.653 on the post-assessment, for a total average shift of +10.5%.

Limitations: On average, 84% of rheumatologists selected the best response for the performance assessment questions before the education, demonstrating solid baseline knowledge of the topic. Perhaps including more patient variables/comorbidity in the assessment questions would have made the answers more challenging.

The data from the longer term follow up survey showed a slight regression in rheumatologists' ability to use the most appropriate disease activity measurement tool, possibly suggesting a need for improvement in this area. However, it should be noted that the sample size was small (5), so drawing clear conclusions from such data is difficult.

Discrepancies were seen between rheumatologists' self-efficacy ratings, which indicated that they found it somewhat easy to make the patient management decisions, and the correct response rates.

Review Article: *Rheumatoid Arthritis: Selecting Monotherapy vs Combination Therapy*

This article will enable practicing rheumatologists and other clinicians involved in the care of patients with rheumatoid arthritis to select appropriate treatments (mono- and combination therapies) based on synthesis and analysis of evidence-based data on effectiveness of therapies in real-life practice settings. The synthesis of evidence is coupled with a series of live and enduring continuing medical education (CME) case-based activities developed through a partnership between the University of California, San Diego and Medscape LLC. As such, this article provides practical guidance using case-based application of evidence-base in rheumatoid arthritis.

This review article has been tentatively accepted as a supplement by the *Journal of Clinical Rheumatology*. Details on publication date are not yet known.

List of Publications and Products

Clinical Guide: *Delineating the Effectiveness of Mono- vs Combination Therapy in RA*

<http://www.medscape.org/viewarticle/825359>

Release May 30, 2014, Expiration May 30, 2015

Live Workshop: *Therapy Selection in Rheumatoid Arthritis: Practical Strategies to Achieve Therapeutic Goals* (Workshop and Focus Group)

<https://cme.ucsd.edu/ra/>

Held June 28, 2014

Video Curbside Consult: *Practice Points from RA Registries and Pragmatic Trials*

<http://www.medscape.org/viewarticle/831029>

Release September 25, 2014, Expiration September 25, 2015

Video Panel Discussion: *Viewpoints of Practicing Rheumatologists and Case Discussions in RA*

<http://www.medscape.org/viewarticle/831030>

Release September 26, 2014, Expiration September 26, 2015

Review Article: *Rheumatoid Arthritis: Selecting Monotherapy vs Combination Therapy* has been tentatively accepted as a supplement by the *Journal of Clinical Rheumatology*. Details on publication date are not yet known.