Educational Intervention Case Study

> **Improving Clinical Decisions** in RA Management Using **Online Medical Simulations**

CASE STUDY HIGHLIGHTS

- Online, simulation-based education was shown to improve evidencebased clinical decisions by rheumatologists.
- Decisions improved in selecting appropriate treatment for first-line biologic and switching to secondline biologic agents.
- Online, simulation-based continuing education leads to improvement in physician performance and ultimately better patient outcomes.



MEDSIMS BY MEDSCAPE

MedSims patient simulations present patient-care encounters in an immersive instructional environment. Each patient case challenges learners to recognize



and diagnose a disease, establish and tailor an individual treatment management plan, and determine ongoing disease management. Similar to a physician's early years of education, MedSims cases resemble the "rounds" approach, wherein learners gain point-of-care information about the status of patients, make decisions, and receive expert guidance on their choices.

66 The goal of using a simulation for teaching and assessment is to promote patient safety, protect patients from harm, and provide healthcare learners with the best possible safe learning environment. 🤊 🕽

Cleland, J.A., Abe, K., & Rethans, J. (2009). The use of simulated patients in medical education: AMEE Guide No. 42 Medical Teacher, 31, 477-486

CHALLENGE

In many patients with rheumatoid arthritis (RA), the disease is not adequately controlled, and only a minority group of patients attain the goal of consistent remission or low disease activity¹.

¹Prince FH, Bykerk VP, Shadick NA, et al. Sustained rheumatoid arthritis remission is uncommon in clinical practice. Arthritis Res Ther. 2012;14:R68

INTERVENTION

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Underlying clinical practice gaps and educational needs were assessed and a sixmonth research study was designed to include:

- **Two MedSims cases** that replicate a real-life scenario and allow learners to make decisions in regard to lab tests, assessments, diagnoses, treatments and procedures.
- A sophisticated feedback engine that dynamically analyzes more than 1.2 billion possible diagnostic and treatment decision combinations
- An **assessment** comparing the participants' baseline information with their decisions made after clinical quidance.
- A sample of 282 rheumatologists who made decisions within the simulation and concluded to the debrief section during the study.

IMPACT

After completion of the six month study, data was collected to compare decisionmaking before and after the educational intervention, and resulted in the following findings:

- **119%** relative improvement in the identification of RA flare in a patient who stopped MTX due to intolerance (P < .0001).
- **254%** relative increase in selection of non-TNF biologic agent upon inadequate response to traditional DMARDs (P <.0001).
- 17% relative increase in correctly deciding to discontinue adalimumab (P < .02).
- **120%** relative improvement in the decision to prescribe non-TNF biologic in an adalimumab non-responder (P < .0001).

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To view the complete data surrounding this case study, which was presented as a scientific poster at the 2015 American College of Rheumatology Annual Meeting, please visit: http://www.medscape.org/vision/publications

