# Stanford SKOLAR, M.D.: A Model for Learner-Initiated, Learner-Manipulated, In-Context Continuing Medical Education

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## INTRODUCTION

It is well documented that practicing physicians have serious unmet information needs[1]. The SKOLAR system, which grew out of the Stanford Health Information Network for Education (SHINE) system[2], was built to address these real information needs. SKOLAR allows users to search multiple resources simultaneously with a single, integrated search. These resources include textbooks, drug databases, full-text journals, evidence-based medicine, guidelines and patient information. In contrast to traditional CME methods, which frequently have had relatively little success in meeting physicians' long-term educational needs[3], SKOLAR provides a prototype for a new type of CME, based on self-initiated learning in the context of real patient-related queries. As part of a pilot project with the American Medical Association (AMA), physicians can earn Category 1 CME credit for legitimate learning conducted in SKOLAR around these real patient-related questions.

## METHODS

We have implemented the first phase of a learner-initiated, learner-managed, in-context CME system. Step 1: Physicians identify an information need based on a question arising from a real patient encounter. Step 2: Physicians search and review multiple SKOLAR knowledge sources until they are satisfied that they have learned. Step 3: Physicians initiate a Request for CME and are asked to respond to a series of questions about what they learned and its application to their practice. Step 4: Physicians review their personal SKOLAR search histories to identify those documents most relevant to their learning on this topic. Step 5: Physicians estimate the amount of time they spent learning in the system. Step 6: The request is assigned a tracking number and forwarded to a physician auditor for review.

## RESULTS

During the period October 1, 2000 to July 9, 2001, SKOLAR received CME requests from 30 separate individuals, who collectively submitted 71 CME applications. The average CME credit requested per application was 29 ± 20 minutes. Of the applications audited, 81% of the overall minutes requested were approved. On 69/71 applications, the applicant indicated that they found the answer to their clinical question in SKOLAR. On 63/71 applications, the applicant indicated that they would apply what they learned in SKOLAR to a clinical decision.

## DISCUSSION

In this pilot study we have implemented a system for CME in which physicians earn Category 1 credit for legitimate learning around real patient-related information needs. The need to bring CME programs into the normal flow of patient care has been underscored by several years of literature describing the inefficacy of traditional CME models, and particularly, of didactic CME sessions[3]. We believe that through adoption of this new model of CME, physician learning will be more effective, physicians will have increased incentives to use evidence-based information in patient care, and ultimately, the quality of care provided will improve.

## REFERENCES

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