

Teaching Risk Management: Addressing ACGME Core Competencies

KIKI NISSEN, MD, FACP
 STEVEN V. ANGUS, MD, FACP
 WENDY MILLER, MD
 ADAM R. SILVERMAN, MD, FACP

Abstract

Background Risk management is an important aspect of education for all residents. Unfortunately, few curricula currently exist to fulfill this educational need.

Objective We developed a curriculum that teaches residents basic principles of risk management with the goals of (1) educating residents about the medical-legal environment in which they operate, (2) helping residents identify common malpractice exposures, and (3) teaching practical risk management/patient safety interventions that can be implemented in their practice that could reduce malpractice exposure and improve patient safety.

Methods The curriculum was developed by Medical Risk Management, LLC, a Connecticut-based risk management firm, in conjunction with academic leadership at the University of Connecticut. The program uses 3 learning modalities: live lectures, web-based video modules, and e-mailed learning publications. Gains in resident knowledge through participation in the

curriculum were measured using pretests and posttests. Learner satisfaction with the curriculum was measured through web-based surveys.

Results We found a significant improvement in knowledge in residents who took the pretest and posttest ($P < .001$). Of the survey respondents, 97% said the content was relevant to their specialty practice and 95% responded that these sessions should be held annually. Most respondents indicated they would change their practice as a result of what they learned from the live lectures.

Conclusion This risk management curriculum has been successful in providing our residents with learning activities in risk management, improving their knowledge of risk management principles, and changing their attitudes and behaviors. These improvements may lead to fewer malpractice claims against them and the hospitals they train in.

Background and Objectives

The goal of residency programs are to teach the skills, attitudes, and behaviors necessary for residents to provide

All authors are at University of Connecticut School of Medicine. **Kiki Nissen, MD, FACP**, is Associate Dean for Graduate Medical Education, Designated Institution Official, Vice Chair of Education Department of Medicine, and Associate Professor of Medicine; **Steven V. Angus, MD, FACP**, is Program Director Internal Medicine Residency and Associate Professor of Medicine; **Wendy Miller, MD**, is Associate Program Director Internal Medicine Residency and Associate Professor of Medicine; and **Adam R. Silverman, MD, FACP**, is Chief Division of General Internal Medicine and Associate Professor of Medicine.

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Corresponding author: Kiki Nissen, MD, FACP, 263 Farmington Ave, MC: 1921, Farmington, CT 06030-1921, jnissen@uchc.edu

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patient-centered care and to guarantee that graduates practice competently and without direct supervision.¹ The Institute of Medicine emphasizes that programs “improve conditions for safety while maintaining the necessary educational experience to ensure long-term patient safety after trainees are on their own.”² To these ends, programs are defining learning activities that help residents develop a strong foundation in patient safety principles before going into practice.

The current medical education paradigm incompletely prepares residents for the environment that they will encounter if faced with an allegation of negligence or a legal action. Residents and fellows are first-line providers on busy hospital clinical services that serve a high-risk patient population. Residents make chart entries and order tests that become critical evidence in medical liability cases. They routinely make clinical decisions that expose attending physicians and hospitals to liability. Residents need to understand the medical-legal events that may be set into motion as a result of their decisions and actions. It is essential that risk management learning activities are developed by graduate medical education programs as they provide a crucial bridge between educational and practical domains.

A review of the medical literature demonstrates there is a paucity of curricula that address risk management in graduate medical education programs. Lefevre et al³ examined the extent to which educational programs target areas of risk management and physician-patient communication skills in medical schools and in residency and fellowship programs in the United States, and their findings suggest that approximately 75% of residency and fellowship programs required some education in risk management and 43% required some education in physician-patient communication skills. The median total hours devoted to these topics was 9 and 12 hours, respectively. The most popular methods of providing formal education in risk management and physician-patient communication skills included scheduled teaching conferences and lectures. Interestingly, contact with lawyers or other legal professionals was an infrequent method used to teach trainees about risk management. Despite the lack of dedicated time to this topic, both medical schools and graduate medical education programs considered training in risk management and physician-patient communication skills to be of at least moderate importance relative to all elements in their curricula.³

At the University of Connecticut, an educational risk management curriculum was instituted in 8 core residency programs during the 2008–2009 academic year. This curriculum, which has been implemented and studied in private practice physician groups, was adapted specifically for resident education. The primary objective of the risk management curriculum is to teach resident physicians the fundamental principles of risk management thereby providing them with a foundation of knowledge on which to build throughout their careers.

Our goal was to establish a risk management curriculum for our residents and fellows to expand their knowledge of the subject, improve patient safety and outcomes, and ultimately better prepare our trainees for careers in medicine. This report explains our premise, the steps we took to implement the pilot program, and the early responses of our trainees to the curricula and their ability to demonstrate comprehension of the subject.

Methods

The Curriculum

At the University of Connecticut, we developed a comprehensive risk management curriculum that is in the best interest of the residents, the attending physicians with whom they work, the patients they treat, the hospitals where they train, and the captive insurance organizations that insure individuals and hospitals in our system. Our risk management curriculum was developed collaboratively with Medical Risk Management (MRM), LLC, a for-profit corporation, and our graduate medical education leaders to meet the needs of our programs and was instituted in July 2008.

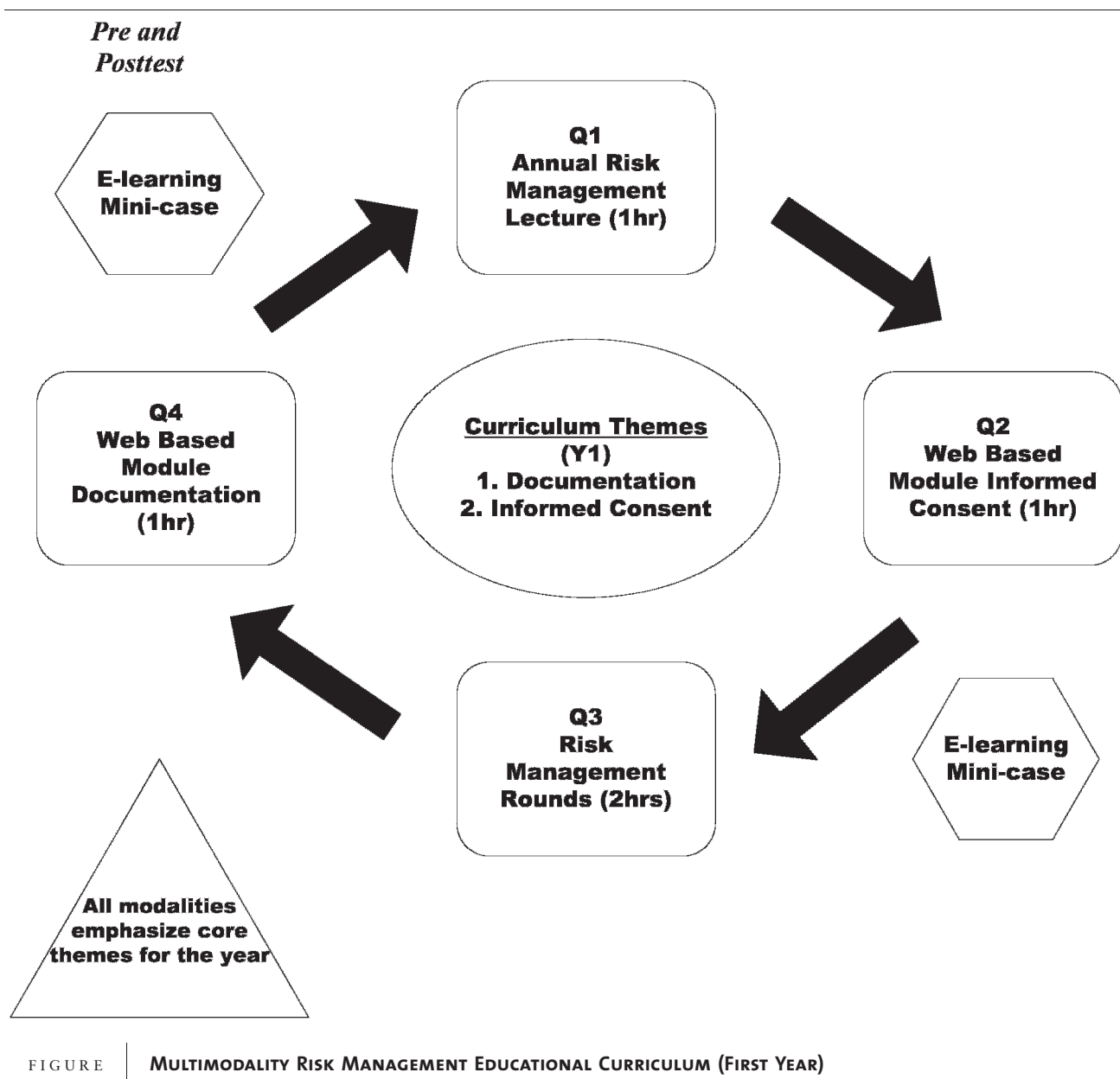
The University of Connecticut represents approximately 600 residents and fellows in 48 specialty and subspecialty programs. Eight core programs volunteered to participate in the risk management curriculum. MRM, LLC, worked with our Office of Graduate Medical Education and the 8 program directors to determine how the curriculum would be integrated into their training programs. The **FIGURE** provides a timeline of how the curriculum was delivered over the course of the first year.

Our risk management curriculum is built on 4 pillars of risk management: informed consent, documentation, patient relations, and standard of care. The curriculum is designed to run over 2 years. In year 1, the learning activities focus on informed consent and documentation. In year 2, the learning activities focus on patient relations and standard of care. Three complimentary learning modalities are used: live lectures, web-based video modules, and e-mailed case-based modules (e-cases). The live lectures consist of an orientation session and risk management grand rounds. The risk management grand rounds are the highlight of the educational program, combining methods used in the conventional peer review process with traditional grand rounds. The risk management grand rounds focus on select office- and hospital-based cases highlighting crucial aspects of medical liability and patient safety, with discussion of cases specific to the given residency. Through active case discussions, residents are provided with behavioral strategies that can be implemented in their practice immediately to mitigate medical-legal risk and improve patient safety. The web-based modules are designed to reinforce the 4 pillars of risk management. In addition to the live lectures and web-based modules, e-cases are distributed twice yearly. These e-cases reinforce the practical risk management interventions that residents have learned throughout the year by presenting patient scenarios coupled with questions addressing behavioral strategies that they have learned.

Evaluation

We used several performance metrics to assess the effectiveness of the risk management curriculum. Short-term metrics included improvement in basic knowledge of risk management principles, change in residents' attitudes toward risk management, and behavior modifications residents were able to identify and implement in their own practice, as well as linking the curriculum to several Accreditation Council for Graduate Medical Education (ACGME) core competencies and developing learning activities directed at them. Long-term performance metrics include a reduction of claims and economic savings for our affiliated hospitals.

The short-term metrics are evaluated throughout each year of the curriculum. At the start of the year, participants take a pretest assessing their knowledge in the 4 pillars of risk management, which is repeated at the end of the year as a posttest. Live sessions and web-based modules are followed by online evaluations that survey residents'



perceptions of the curriculum's relevance to their practice, the ability of the learning activity to help residents identify behavioral changes they can implement to improve patient safety and mitigate risk, the overall quality of the instruction, and the learner's overall satisfaction with the curriculum. Program directors from the 8 programs involved in the curriculum also were asked to report on whether they felt the curriculum addressed the ACGME core competencies.

Results

During the academic year 2008–2009, 329 residents in 8 core programs enrolled in the first year of the risk management curriculum, and 150 of these residents took

the pretest and posttest. A paired *t* test was used to determine if there was a statistically significant improvement in pretest and posttest scores (TABLE 1). There was a statistically significant improvement in risk management knowledge in posttest scores, not only for the portions of the test covering the 2 pillars that were emphasized in the first year of the curriculum, informed consent and documentation, but also for the pillars of patient relations and standard of care ($P < .001$, TABLE 1).

Of the 329 residents enrolled in the risk management curriculum, 279 (85%) attended grand rounds and 212 completed the session evaluation. Of these 212 residents, 98% felt the live orientation session was worth their time and 94% felt it should be held annually. Also, 98% of the

All Core Programs (n = 150)	Mean Change	Paired t	Probability	95% CI
Entire test	8.97	10.17	< .001	7.23–10.72
Informed consent portion	10.38	7.53	< .001	7.65–13.10
Documentation portion	7.89	5.12	< .001	4.85–10.94

Abbreviation: CI, confidence interval.

residents who responded to the survey felt the session objectives were mostly or completely met and that the presentation was mostly or completely relevant to their practice, and 98% responded affirmatively that risk management interventions implemented in their practice could mitigate some of the exposures that had been outlined in the cases discussed in the session. The results are summarized in TABLE 2.

The live risk management grand rounds session was attended by 281 residents and 207 completed the session evaluation. TABLE 3 summarizes the results. Of the 207 residents, 84% indicated that risk management interventions could be implemented in their practice that would mitigate some of the exposures that had been outlined, 69% responded that they would mostly or completely change their practice as a result of what they had learned at the session, and 29% responded that they would somewhat change their practice.

We also were able to demonstrate that the learning activities developed as part of our risk management curriculum reinforce 4 of the ACGME core competencies, specifically practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice (TABLE 4). The curriculum addresses practice-based learning and improvement by allowing residents to analyze actual medical malpractice liability cases specific to their specialty to facilitate the recognition of practice vulnerabilities they will encounter on a daily basis. Residents are taught to examine potential

exposures to risk and to develop and implement best practices while performing their clinical duties. Interpersonal and communication skills are addressed in the curriculum via the program’s emphasis on documentation of interactions with patients, families, and other clinicians and also via the program’s emphasis on the risk that accompanies inadequate written and verbal communication. Professionalism is addressed by informing residents about the correlation between the quality of the physician-patient relationship and the likelihood of litigation following an adverse outcome. The value of fostering relationships with colleagues and others in the health care system is also highlighted. Lastly, in systems-based practice, residents are taught to identify vulnerabilities in the system that may lead to litigation and to understand how to avoid some of the main drivers of exposure in clinical practice.

We currently do not have data regarding our long-term performance metrics.

Discussion

The ACGME requires that programs integrate the 6 ACGME competencies (patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice) into the formal curriculum. The curriculum needs to be comprehensive and to provide a foundation in principles necessary for trainees to practice safely and without supervision.

Following completion of the first year of the risk management educational program, our initial results as measured by our performance metrics are quite positive. Specifically, we have shown a statistically significant improvement in basic knowledge of fundamental principles of risk management among the residents who have participated in the program. Interestingly, although only 2 of the 4 pillars of risk management were the focus of the curriculum in the first year, we saw gains in knowledge in all of the 4 pillars tested on the posttest. Likely this is the result of information pertaining to all 4 pillars being presented during the live orientation and grand rounds sessions as well as the overlap inherent in teaching these

	Not at All	Somewhat	Mostly	Completely
Were the objectives met?	0%	1.9%	35.5%	62.6%
Was the presentation relevant to your practice?	0%	2.4%	23.8%	73.8%
Were the audiovisuals/handouts appropriate?	0.5%	2.4%	30.4%	66.7%
Was there sufficient time for discussion and questions?	9.7%	19.3%	29.0%	42.0%
Will you change your practice as a result of what you learned at the session?	0%	13.9%	32.2%	53.8%

TABLE 3 GRAND ROUNDS RESPONSES

	Not at All	Somewhat	Mostly	Completely
Were the objectives met?	0%	3.4%	40.3%	56.3%
Was the presentation relevant to your practice?	0%	1.9%	27.1%	71%
Were the audiovisuals/handouts appropriate?	0.6%	3.4%	36.1%	60.0%
Was there sufficient time for discussion and questions?	0.5%	5.4%	32.8%	61.3%
Will you change your practice as a result of what you learned at the session?	2.5%	28.9%	41.6%	26.9%

topics. It will be interesting to see if residents retain their basic knowledge regarding the first 2 pillars once they have completed year 2 of the curriculum. This will be assessed using the same posttest they were given at the end of year 1.

The favorable responses of the residents regarding their attitudes toward the curriculum and the potential for them to modify their behavior based on what they have learned are also encouraging. The curriculum has the ability to influence attitudes and behaviors in a positive way regarding risk management and patient safety.

Program directors reported that the risk management curriculum provides learning activities linked to the ACGME competencies of practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice. And the curriculum provides the opportunity for residents to participate in learning activities for each of these competencies. Residency programs that are involved in the curriculum and that were reviewed by the ACGME Residency Review Committee during the last academic year were able to cite the curriculum as a learning activity for the 4 competencies on their Program Information Forms, which will allow these programs to document achievement in milestones of each of the competencies.

There have been several challenges identified in the last 2 years developing and instituting this curriculum. The main

challenge has been compliance. For this curriculum to be successful and to have the largest impact, it needs a high level of participation by program directors and residents. We have not reached 100% compliance with attendance at live sessions, participation in online session evaluations, pretest and posttest completion, or web-based module completion. The MRM leadership will be meeting with the program directors and other leaders in our graduate medical education office to implement strategies to ensure improved compliance in subsequent years.

This curriculum is the first major undertaking of the graduate medical education office to implement a program that has the potential to mitigate institutional risk and to positively impact patient safety in the hospitals where we train residents and fellows. It is too early to acquire data regarding our long-term performance metrics, reduction of claims, and economic savings for our hospitals. A large primary care physician group in Connecticut implemented MRM's risk management curriculum in 2003 and has seen a reduction in the total number of malpractice claims brought against the group, and a large multispecialty surgery group implemented the program in 2006 and also saw a reduction in malpractice claims.⁴ We plan to study malpractice claims brought against physicians and hospitals that are part of the University of Connecticut integrated residency programs and will specifically look at whether the behavior of

TABLE 4 ACCREDITATION COUNCIL FOR GRADUATE MEDICAL EDUCATION COMPETENCY REINFORCEMENT THROUGH RISK MANAGEMENT CURRICULUM

ACGME Competency	How Does the Risk Management Training Program Address This Competency?
1. Practice-based learning and improvement	<ul style="list-style-type: none"> ■ Case-based learning challenges the residents to identify practice vulnerabilities encountered on a daily basis. Residents are challenged to examine these exposures and develop and implement best practices as they perform daily clinical activities.
2. Interpersonal and communication skills	<ul style="list-style-type: none"> ■ Program stresses documentation of interactions with physicians, other clinicians, patients, and families. ■ Emphasizes exposure that develops when written and verbal communications are inadequate.
3. Professionalism	<ul style="list-style-type: none"> ■ Enlightens residents as to the correlation between the quality of the patient-physician relationship and the likelihood of litigation following adverse outcomes. ■ Highlights the value of fostering relationships with colleagues and others in the health care system.
4. Systems-based practice	<ul style="list-style-type: none"> ■ Identifies systems vulnerabilities that often lead to lawsuits. ■ Assists residents in understanding the drivers of exposure and how to avoid in clinical practice.

residents involved in such claims could have been modified by this curriculum. By providing residents with the knowledge and tools necessary to change their behavior regarding risk management in the daily care of patients, we hope to mirror the success of the private physician groups who have incorporated MRM's risk management program into their practice environments regarding claims reduction and economic savings.

We will strive to increase participation by all of our graduate medical education programs in subsequent years to capture all of the approximately 600 residents and fellows that we train. This program will undergo quality surveillance, and we will analyze data annually to determine whether the performance metrics we are measuring are being met. Curricula that span multiple specialties allow our training programs to share crucial resources and to simplify

implementation of targeted educational offerings to our residents and fellows. Our ultimate aim is to assist our programs in graduating residents and fellows who are competent physicians ready for independent practice.

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