Fear Not: Utilizing Simulation for Medical Malpractice Education

Journal of Medical Education and Curricular Development
Volume 9: 1–7

DOI: 10.1177/23821205221096269

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ABSTRACT

INTRODUCTION: Medical malpractice payouts across specialties totaled over $4.03 billion USD in 2019. It is estimated that over 72% of Emergency Medicine (EM) physicians will be involved in a medical malpractice lawsuit by age 55. The majority of EM residencies do not include adequate education on medicolegal risk mitigation and litigation. The purpose of the study is implementation of an innovative interprofessional simulation to target this education gap.

METHODS: An anonymous pre- and post-survey was distributed to participating EM providers electronically. The surveys evaluated baseline medicolegal knowledge, self-rated deposition comfort and concern regarding malpractice litigation. The simulation event involved an interactive lecture on basic tenets of medical malpractice and state legal statutes from medicolegal experts. Resident physician volunteers acted as defendant physicians during simulated depositions using a redacted, closed malpractice case.

RESULTS: Eighty EM providers attended the event over two days. All attendees completed the pre-survey (80/80), and 66.3% (53/80) completed the post-survey. The majority incorrectly answered 4 of 5 medicolegal questions. The mean comfort level regarding being deposed is 1.53 ± 0.94 on a 1-5 Likert scale (extremely uncomfortable to extremely comfortable); the mean level of concern/fear of malpractice litigation is 3.38 ± 0.95 on a 1-5 Likert scale (not at all to extremely concerned). There was a statistically significant increase in deposition comfort level post-event (1.83, $P < .01$).

CONCLUSION: The majority of EM physicians are inexperienced and concerned regarding litigation. After participating in an educational event and observing a simulated deposition, physicians reported an increased comfort level regarding being deposed in the future.

KEYWORDS: medical simulation, graduate medical education, malpractice, legal simulation

RECEIVED: July 1, 2021. **ACCEPTED:** April 5, 2021

TYPE: Original Research

FUNDING: KH reports this work was partially supported by a career development grant by the National Foundation of Emergency Medicine. All other authors report no external funding source for this study.

DECLARATION OF CONFLICTING INTERESTS: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Introduction

It is estimated that over 72% of emergency medicine (EM) physicians will be involved in a medical malpractice lawsuit by age 55.[1] Emergency physicians (EP) remain in the top ten medical specialties involved in medical malpractice litigation.[2] The medical liability system represents a large financial burden to those involved; medical malpractice payouts across all specialties increased in 2019, totaling over $4.03 billion USD.[3] In addition to the financial implications, medical malpractice litigation imposes a significant time burden for physicians. The litigation process lasts one to two years for 40% of physicians; more than a quarter report a litigation process duration of at least three to five years.[2] Because medical malpractice lawsuits add a significant monetary, psychosocial, and time burden on physicians, it is understandable that fear of litigation affects the day-to-day practice of providing healthcare to patients.[4,5]

The threat of medical malpractice litigation is a source of stress and fear for many EM physicians and one of the major culprits identified in EP burnout.[4–6] This fear is not without basis, as 76% of EPs surveyed report one medical malpractice lawsuit during their career.[2] Medical litigation includes monetary consequences, possible malpractice insurance premium increase, time-consuming trial preparation, and possible repercussions from state medical licensing boards. As previously reported, the majority of EM physicians surveyed spent over 31 hours on defense preparation and meetings in a medical malpractice litigation.[2]

Although <1% of all claims reported to the National Practitioner Data Bank (NPDB) involved resident physicians as defendants between 1991-2003, this is likely an underestimate of resident physicians' involvement as defendants.[7] The NPDB requires only claims resulting in payments to be reported to the data bank.[7] There is no specific requirement set forth by the Accreditation Council for Graduate Medical Education (ACGME) for residency programs to provide education regarding medicolegal liability education to trainees,

although professionalism is defined as a core competency in residency education.[8] It is highly likely that resident physicians will have some degree of involvement in one or more medical malpractice lawsuits during their career, whether during residency, as an attending physician, or both.

The majority of emergency medicine residencies do not include adequate education on medicolegal events, including risk and claims management, depositions, and trial.[8,9] When surveyed, over 80% of EM programs report less than 4 hours of annual education on medical malpractice and risk management topics.[9] Malpractice education is a critical aspect of residency curriculum to increase understanding of medical malpractice liability and litigation, reduce anxiety by improving comprehension of lawsuits, and ultimately increase patient safety through discussion of common pitfalls.[10] Previous studies assessed the medical record during deposition, focused feedback during trial testimony, or expert performance in deposition.[11–13] However, there were several limitations with these studies including small sample sizes, limited learner participation, difficulty in reproduction, lack of debriefing, and no assessment of medicolegal knowledge. The proposed study identifies and addresses gaps in basic medicolegal knowledge, clearly identifies specific learning objectives for medicolegal curriculum, utilizes well-described debriefing techniques to ensure all present are actively engaged in the simulation, includes a large group of interprofessional participants, and is reproducible as compared to previously published studies. The authors identified this as an area of need for improved education.

We sought to design and implement an innovative interprofessional simulation event that targets medical malpractice processes and deposition. The goal was to identify medicolegal knowledge deficits and increase self-rated feelings of deposition preparedness for the interprofessional audience.

Methods

The development of the simulation curriculum involved collaboration between medical education and legal education faculty; a faculty member from the Emergency Medicine (EM) department with simulation expertise and a faculty member from the institution's College of Law with expertise in trial advocacy initially developed specific learning objectives for the simulation event. A closed case was redacted for privacy and utilized as the medical record with supporting documents to achieve realism for the simulation. The chosen case included elements of clinical uncertainty to allow the defendant and plaintiff to make realistic arguments. A redacted and revised version of the plaintiff's complaint and defendant's answer, as well as redacted transcripts of the defendant physician and plaintiff's expert witness depositions were made available to the participating parties for review several weeks in advance. An original factual summary was created to set the stage for the simulation.

The institution's Risk Management and Claims personnel also participated in simulation scenario refinement and case materials. They also collaborated with the primary EM faculty member to create a short lecture that reviewed basic medicolegal knowledge and state-specific standards. The pre and post survey questions were developed by the primary EM faculty member with expertise in medical simulation. The medicolegal knowledge question topics were agreed upon by consensus of a group of four practicing malpractice attorneys, and multiple question iterations were reviewed and modified by malpractice attorneys for clarity and accuracy. Resident physician volunteers were recruited to participate as simulated defendant physicians.

The simulation event occurred in an academic institution in the United States. Participation in the event was voluntary and it occurred during regularly scheduled didactic time for EM resident physicians of three programs. Invitation to the event occurred via email to the academic institution's EM faculty, advanced practice providers (APP), and resident physicians. One week prior to the interprofessional event, an anonymous survey was distributed to participants via institutional listserv email as an anonymous link (Supplement 1). The survey was designed and distributed using Qualtrics software and queried demographic, prior experience, medicolegal knowledge questions, self-rated deposition comfort, and fear of malpractice litigation.

During the simulation event, a panel of licensed practicing malpractice attorneys, institutional Risk Management and Claims personnel, and experts in EM expert witness work lectured collaboratively on basic tenets of medical malpractice and state legal statutes. The event was held twice to accommodate the multiple EM residency programs during their regularly scheduled didactic times. The initial event was five hours in length inclusive of breaks, as shown below (Figure 1). The second event was three hours in length due to expert witness unavailability; the video recordings of the expert witness lecture and deposition from the prior day were made available for asynchronous learning. Thus, the curricular content between the two events remained the same, differing only in delivery mechanism (live vs. asynchronous) for a small portion.

The simulated plaintiff's expert witness was a practicing EP who founded a medical expert firm. The simulated defendant physician, expert witness, and participating attorneys reviewed the case several weeks prior to the simulation event and resident volunteers underwent deposition preparation with the attorneys. During the deposition, the rapid cycle deliberate practice (RCDP) educational method was used to allow deliberate practice of answering deposition questions with brief directed feedback within the simulation scenario from experts, then restarting the simulation, giving learners multiple chances to continue the "right" way.[14,15] RCDP was chosen for this simulation because it combines two effective learning strategies- repetitive practice for the learner and directed feedback (micro-debriefing).

Immediately following the simulation event, an anonymous post-survey was distributed via QR code and email via the

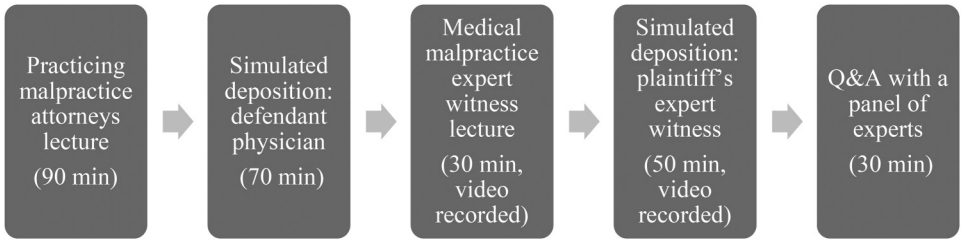

Figure 1. Event schedule.

institution listserv (Supplement 2). The post-survey consisted of the same medicolegal knowledge questions as were in the pre-survey, as well as self-rated concern regarding medical malpractice litigation and qualitative questions about the simulation event.

Pre- and post-survey data were analyzed using Excel and summary statistics were performed. Analysis of qualitative results utilized inductive reasoning and repeated comparisons to identify common themes by two coauthors. Discrepancy was resolved through discussion and a third reviewer, if needed. The academic institution's Institutional Review Board reviewed the study prior to initiation and it was deemed exempt.

Results

Eighty emergency medicine providers attended the educational event over two days. All attendees completed the pre-survey (80/80), and 66.3% (53/80) completed the post-survey. Demographic data and prior deposition experience are summarized in Table 1. Pre- and post-event comparison of mean comfort levels in deposition and fear of malpractice litigation are shown in Table 2. Medicolegal knowledge questions were displayed in the pre-survey (results in Table 3); however there was a question display technical failure in the post-survey, thus no data regarding medicolegal knowledge was able to be obtained in the post-survey.

Qualitative themes identified from post-survey comments are summarized in Table 4.

Discussion

This study highlights the inexperience of not only resident physicians but also practicing APPs and faculty physicians in being deposed. All survey respondents reported <5 previous depositions in any capacity. Most reported having no previous training on being deposed. This is similar to previous work that demonstrated limited education in training programs on medical malpractice and liability.[9] The mean comfort level being deposed was 1.55, with 1 being "extremely uncomfortable" and 2 being "somewhat uncomfortable" prior to the educational event. After the educational event and simulation, participants noted improved comfort being deposed, rating themselves as "neutral" or "somewhat uncomfortable". It is important to note that no participant self-rated as "extremely comfortable". It is likely that a single intervention is insufficient to prepare resident physicians for a deposition. Without dedicated curriculum addressing this deficit, it is unlikely that either comfort level or baseline knowledge of basic terms and litigation process will improve.

Baseline knowledge deficits identified on the pre-survey were significant; 4 of 5 questions were answered incorrectly by the majority of respondents. The only question that had a majority of correct responses was who should be notified if a Notice of Claims or Summons/Complaint is received. Many of the participating residents were previously educated regarding the role of the Risk Management department, and are aware they should be notified if the resident is a part of a concerning case, or if a Notice of Claims is received; this likely contributed to the correct responses to the pre-survey question. These knowledge assessment questions were reviewed by several licensed practicing malpractice attorneys and board-certified EM physicians and were agreed upon to be basic knowledge. Unfortunately, due to the technical issues with the post-survey, knowledge gain in learners was unable to be assessed after the simulation event.

The mean level of concern and/or fear surrounding medical malpractice litigation was between somewhat concerned and moderately concerned prior to the educational event. This aligns with previous work demonstrating moderate malpractice concern of resident physicians.[16] After the educational event and simulation, the level of concern/fear surrounding malpractice litigation trended down; however, participants still rated themselves as "somewhat concerned". Zero participants self-rated as "not at all concerned" regarding malpractice litigation when surveyed after the educational event. Because malpractice litigation represents an area of significant personal time, financial, and emotional burden to physicians, and it is infrequently discussed in an educational format, it will likely remain a source of anxiety and stress for EPs and may influence practice patterns.

Prior studies describe medical malpractice curricular efforts with differences from the proposed study. Notably, learning objectives are often varied, studies are limited by small numbers of participants, and lack reproducibility. Resident physicians participating in a layered simulation with a forced error and later single physician deposition has been described; it does not evaluate participants' medicolegal knowledge nor

Table 1. Demographic data and previous deposition experience.

Current Position	N = 80(%)	
Advanced Practice Provider	6 (7.5)	
1-5 years of practice	5	
6-10 years of practice	1	
Faculty Physician	13(16.2)	
1-5 years of practice	4	
6-10 years of practice	4	
11-15 years of practice	3	
>15 years of practice	2	
Resident Physician	58 (72.5)	
PGY1	21	
PGY2	13	
PGY3	19	
PGY4	4	
PGY5	1	
Medical Student	3 (3.8)	
Have you been involved in medical malpractice lawsuit in any capacity?	N = 80(%)	
Yes	9(11.1)	
APP	1	
Faculty	6	
Resident	2	
No	71(88.9)	
Have you ever been deposed in a medical malpractice lawsuit?	N = 80(%)	
	Yes	No
APP	1(16.7)	5(83.3)
Faculty	2(15.4)	11(84.6)
Resident	0(0)	58(100)
Medical Student	0(0)	3(100)
What was your role in the deposition?	N = 3(%)	
Fact Witness	2(66.7)	
Defendant	1(33.3)	
How many depositions have you done?	N = 3(%)	
1-5 depositions	3(100)	
Have you received any formal training on giving depositions?	N = 78(%)	
	Yes	No
APP	1(16.7)	5(83.3)
Faculty	5(38.4)	8(61.5)

(continued)

Table 1. Continued.

Current Position	N = 80(%)	
Resident	7(12.5)	49(87.5)
Medical Student	0(0)	3(100)

Advanced Practice Provider (APP), Post-Graduate Year (PGY).

Table 2. Deposition comfort and malpractice fear, pre-and post-event.

How comfortable are you giving a deposition? (*1-5 Likert, extremely uncomfortable to extremely comfortable*)	Pre-survey mean score (N = 78)	Post-survey mean score (N = 53)	Mean Difference (*P*)
APP	1.00	3.50	2.50 (*P* = .0001)
Resident	1.41	3.14	1.73 (*P* < .0001)
Faculty	2.31	3.50	1.19 (*P* = .0178)
How concerned or fearful are you of being sued for medical malpractice? (*1-5 Likert, not at all concerned to extremely concerned*)	Pre-survey mean score (N = 78)	Post-survey mean score (N = 53)	Mean Difference (*P*)
APP	3.83	2.50	−1.33 (*P* = .1073)
Resident	3.30	3.64	0.34 (*P* = .0992)
Faculty	3.62	3.57	−0.05 (*P* = .9111)

Advanced Practice Provider (APP).

Table 3. Pre-survey medicolegal knowledge question results.

Question	Respondents correctly answered, N = 78 (%)
What is the evidence standard for emergency medicine malpractice lawsuits in Arizona?	20 (25.6)
What does pure comparative negligence mean?	22 (28.2)
Who should you notify if you receive a Notice of Claims or are served with a Summons/Complaint?	50 (64.1)
What is the definition of "Standard of care" in tort law?	37 (47.4)
Who determines if the "standard of care" has been breached in medical negligence cases?	23 (29.9)

address potential deficits, and the single physician video recorded deposition was shown at didactic conference, thus limiting resident participation.[11] Another study utilized a mock trial competition at a law school and resident physicians as volunteer defendants with specific feedback provided by judges on trial testimony performance; large-scale reproducibility in a residency size such as this study institution is not feasible, and limiting feedback to trial testimony alone is less realistic, as deposition is a more frequently occurrance.[12] In our study, resident physicians directly participated in the role of defendant physician, versus an attending physician with malpractice experience as previously described.[13] Direct participation allows for an engaging and immersive simulation experience for the resident physicians. Finally, dedicated debriefing is known to be a critical aspect of learning in simulation.[17,18] Prior studies do not address objective-based simulation debriefing specifically for the learners.[11,13]

Development of the initial curriculum required substantial time input from a collaborative team of experts in medical simulation, graduate medical education, and medical malpractice litigation. However, after forging innovative multidisciplinary collaboration, initial case details and document development, and objective-driven structuring of the event, the authors feel this curriculum is sustainable and can successfully occur at least once during a resident's tenure. Implementing the curriculum simply required identifying available time in the didactic calendar and reserving a space for the event, as well as identifying resident physician volunteers. Further modifications as a result of participant feedback will assist in streamlining the event. In light of large group gathering restrictions during the COVID-19 pandemic, this curriculum is felt to be easily adapted to online learning. Utilizing a virtual platform allows for easier scheduling and increased access to experts, as well as breakout rooms to assist in individualized feedback and more intimate panelist discussions with learners.

Table 4. Qualitative remarks from post-survey.

What was the most beneficial aspect of this simulation training?	
Theme	Description
Participants found session to be highly educational	"This was fantastic!"
	"It was very educational!"
	"It was great!"
	"Excellent"
Session was very helpful to participants	"Very helpful session!"
	"Very good session. Somewhat anxiety-provoking though."
Session included relevant information and was well-structured	"I will always be uncomfortable if I have to give a deposition, but I found the conference to be very useful and enlightening"
	"This was an eye-opening experience"
	"Fantastic. Relevant information, bullet point style, targeted questions and answers."
	"Great discussion of the process and implications of a lawsuit. I gained much insight during this presentation!"
	"So painful, but necessary"
The panel of experts was well-received	"Q and A with real experts was the best part."
	"There was an excellent, diverse panel of experts to hear from"
What could be improved?	
Theme	Description
Shorten the deposition simulation portion of the event	"The depositions were a little long and could have been shorter"
	"The deposition examples were great but likely could have been a little shorter"
	"Perhaps a shorter introduction, and more examples"
	"A little long. ADD."
Provide more examples of closed cases/ circumstances of litigation	"I would prefer more varied circumstances [over the thorough defense/plaintiff deposition for one case]"
	"More breakdown of what 'traps' the plaintiff lawyer may set during deposition, and how to avoid them"
Additional debriefing on mock deposition performance	"More feedback on the mock deposition on what was done well and what could be improved"
	"I think a little more time should've been given to debriefing after the mock simulation"
Allow more time for discussion with panel experts	"Would have liked more time for discussion."

The authors note several lessons learned during the development of this innovative curriculum and subsequent implementation. Early involvement of a hospital's Risk Management and Claims department is essential for success, and often leads to connections with licensed practicing attorneys with medical malpractice expertise. Clearly outlined learning objectives for the simulation event is paramount as there is a daunting amount of information that could be included; learning objectives may be developed from a needs assessment of the target audience to better tailor the experience. Utilizing a closed claim ensures scenario realism and simplification of the case document development; the authors recommend additional redacting of the claim for privacy protection. Finally, testing electronic survey performance would be beneficial in preemptively identifying technical issues prior to data collection.

This study is not without limitations. It is a single center study, which may limit its generalizability. Responses were collected voluntarily which limits participation and may introduce selection bias, and there were participants lost to follow-up in the post-survey. Data is self-reported on the survey, therefore limiting ability to corroborate responses regarding previous deposition or lawsuit experience. The post-survey did not display knowledge assessment questions due to technical

issues, which limits objective curriculum evaluation and knowledge gain.

This innovative curriculum can be reproduced at other institutions. Any residency program can collaborate with a nearby law school or their hospital Risk Management/Claims department to access licensed practicing malpractice attorneys, or their malpractice insurance provider to access closed claims for case documents and details. In future iterations of this simulation, the authors recommend knowledge assessment from the didactic portion through evaluation of post-event knowledge at specific intervals after the simulation event to assess knowledge gain immediately, as well as establish timeline for repetition based on subsequent knowledge loss. Another possible application includes designing the simulation to allow multiple residents to rotate through the "hot seat" of a defendant physician during the deposition (either by having law students act as attorneys or increasing the number of participating licensed attorneys).

A modified version of this simulation curriculum, based on qualitative feedback from the pilot sessions, is planned to occur at least once during a resident's tenure. In the future, there will be increased time allotted for audience questions of a panel of medicolegal experts, a condensed simulated deposition, and likely use of asynchronous learning modules prior to the event to limit lecture time. The knowledge of malpractice process and standards gained through participation will encourage resident physicians to actively partake in their own defense should they ever be involved in a medical malpractice lawsuit.

Conclusion

The majority of EPs (residents and faculty) are inexperienced with depositions and litigation procedure and are concerned they may be sued. A knowledge deficit exists of medical malpractice process and standards. After participating in an educational event and observing a simulated deposition, physicians reported an increased comfort level in giving future depositions.

Author Contributions

All authors provided substantial contributions to conception and design, acquisition of data, analysis and interpretation of data. Dr K Hughes agrees to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Ethical Approval

Not applicable, because this article does not contain any studies with human or animal subjects.

Informed Consent

Not applicable, because this article does not contain any studies with human or animal subjects.

Trial Registration

Not applicable, because this article does not contain any clinical trials.

Supplemental material

Supplemental material for this article is available online.

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