

Clinical Science

Closed claim review from a single carrier in New York: the real costs of malpractice in surgery and factors that determine outcomes

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Abstract

INTRODUCTION: We postulated that a closed claim review of surgical cases would identify not only the quality of care elements but also factors that will predict successful legal outcomes.

METHODS: One hundred eighty-seven closed surgical cases from a single carrier, which insured physicians practicing in 4 university hospitals in New York State, were reviewed, cataloged, and analyzed.

RESULTS: Most suits occurred during midcareer and routine operations. Seventy-three percent of cases were won. The average payment and expenses per case were \$220,846 ± \$38,984 and \$40,175 ± \$4,204, respectively. Poor communication was identified in 24% of cases and was a predictor of a negative outcome (41% lost, $P < .05$), as was inadequate attending supervision (46% lost, $P < .05$). Expert reviews incriminated or exculpated physician defendants in 85 cases, which affected the outcome and cost. The quality of the physician defendant as a witness also affected the outcome.

CONCLUSIONS: Most surgical malpractice claims are won. Although supervision, communication, and aggressive risk management are important, the use of quality experts and establishing credibility of the physician defendant are critical for successful legal outcome.

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In the United States, hospitals require their staff physicians to obtain professional liability insurance.¹ In certain venues, physicians in high-risk specialties consider the commencement of malpractice litigation against them as an adjunct to their practices. As a general proposition, this professional liability litigation is a “cost of doing business.”

In New York State, malpractice claims are a substantial part of medical costs. Of the 11,478 claims paid nationally in 2007, New York State ranked first with 1,528, California second with 924, and Alaska last with 9.² Of the \$3,710,443,358 paid out in claims nationally in the same year, New York also ranked first with total payments of \$674,683,750, whereas it ranked sixth in the average claim payout (\$441,547).

Although malpractice premiums are an expense of practicing medicine, little data are currently available to subscribing physicians regarding what factors determine the outcomes of litigation. Many closed claim reviews use the cases as a reflection of the quality of care, but whether this

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is true is debatable.^{1,3} Medical malpractice allegations are typically based on poor or unexpected outcomes, and although quality of care issues are sometimes present, extraneous factors such as sympathy, behavior, and hindsight bias⁴ contribute as well. Interestingly, Brook et al⁵ identified a paradox in which the improvement of medical care is actually accompanied by an increase in medical malpractice claims. New therapies have the potential for producing iatrogenic disease and higher expectations, and he noted that the likelihood of being sued more than once is related to chance just as much as if it were due to being a poor physician.

To date, few publications have offered physicians a picture into their risk of being sued and the nature of the suits or have identified what criteria exist to predict a successful or unsuccessful outcome. In the hope of identifying elements that bear on professional liability claims, this study was commissioned to gather information from closed medical malpractice claims files of a single carrier, the Academic Health Professionals Insurance Association (AHPIA).

AHPIA was formed in 1990 as a reciprocal insurance company (subscriber owned) for physicians practicing at the 4 university hospitals in the State University of New York (SUNY) Medical School System. The hospitals included those for SUNY Buffalo, SUNY Upstate (Syracuse), SUNY Stony Brook, and SUNY Downstate (Brooklyn). These tertiary care hospitals are located in 4 different counties in New York State. AHPIA was organized as a reciprocal, a form of carrier that is sometimes called an insurance exchange and is owned by its insureds. All reciprocals are governed by an advisory committee, which in AHPIA's case is called a Board of Governors (Board). The Board, which consists exclusively of subscribers, is selected at annual meetings by other subscribers. AHPIA's mission has been to provide coverage for physicians in teaching hospitals and is unique in that most of the physicians are medical school faculty members who engage in clinical practice. The staff at AHPIA has been stable for the last 18 years, and the records of each case have been consistently managed by a small group of claims managers.

We postulated that a review of the closed claims in surgery would yield information regarding the demographics of surgeons sued, the nature of the suits, and what criteria led to successful or unsuccessful outcomes. We also used the claims financial data to compare academic physicians with published benchmarks. Finally, we postulated that the review of the cases would yield data that would be useful in analyzing physician behavior.

Materials and methods

Closed claim files for surgical cases were reviewed at the office of AHPIA. Each file contained facts of the case from hospital and physician charts created by claims managers

along with their notes from interviews with defendant physicians and conversations with expert reviewers. Documentation of the claims manager's interaction with defense and plaintiff counsel and experts as well as court papers were also included.

A data-intake form was created to input general demographic data about the surgeon and plaintiff; nature of the injury; complexity of the operation; comorbidities; overall outcome; severity of injury; timing of the injury (ie, preoperative, intraoperative, and postoperative); and narratives regarding concerning communication, resident involvement, and supervision.

Cases were classified by AHPIA staff as "closed no payment" for those cases that were closed administratively for inactivity, "settled" for those settled out of court, "settled at trial" for those settled during trial, "won by motion" for those dismissed from court by pretrial motions, and "won at trial." To simplify the subsequent analysis, any case that was settled was considered "lost." Any case that was closed without payment, including won by motion, was considered "won."

All theories of injury were presented in connection with a claim and characterized. For example, a single case may involve an allegation of failure to diagnose, failure to operate, and development of complications. The information was then formatted to allow an overview of issues and to identify trends.

All data were reviewed and entered by the lead author (JCZ) and a 20% sample verified as accurate by a physician (MEZ). Legal issues were reviewed by the attorney (MAH). File summaries were created without identifiers. These data were entered into an Excel file (Microsoft, Redmond, WA), and statistical analysis was performed using Statistica (StatSoft, Tulsa, OK). All data are expressed as mean \pm standard error of the mean. The Student *t* test was used to compare means, analysis of variance was used for multiple means, and the chi-square or Fisher exact test was used for frequency analysis. Statistical significance was defined as $P < .05$.

Results

Demographics

From 1991 to 2008, there were 1,202 closed AHPIA claims from all departments within the 4 institutions where the AHPIA-insured physicians practice. There were 225 general surgical claim files that were closed, of which 187 were available for review. Table 1 shows the demographics of the malpractice cases against AHPIA insureds by surgical specialty. Most were general surgical cases with a few trauma and critical care lawsuits. The first and last time of loss (when the alleged injury occurred) were 1991 and 2005, respectively (Fig. 1A), and the last closed claim file reviewed was closed in 2008 (Fig. 1B). The average time

Table 1 Distribution of claims among surgical services

	n	Percent
General	92	49.2
Cardiothoracic	43	23.0
Vascular	17	9.1
Plastics	11	5.9
Pediatric	5	2.7
Surgical oncology/breast	7	3.7
Colorectal	3	1.6
Ear, nose, and throat	3	1.6
Surgical intensive care/trauma	3	1.6
Urology	2	1.0
Transplant	1	0.5
Total	187	100.0

from the loss to the closing of the claim was $4.51 \pm .17$ years (Table 2). For each month, the average number of suits commenced against AHPIA’s insureds was 15.75 (range 8–27), with the highest number of incidents that led to claims occurring in July and the lowest in September (Fig. 1C). Although there was no statistically significant difference of July from all the other months as a group ($P =$ nonsignificant by analysis of variance), the number in July was significantly higher than September and February ($P < .05$, Student t test). Interestingly, this is different from the recently described seasonal variation in outcomes identified by the National Surgical Quality Improvement Project (NSQIP).⁶

The average payment to plaintiffs and costs to AHPIA are depicted in Table 2. Most cases (42%) were closed without payment, and for those settled, there was no statistical difference between financial payouts in or out of the courtroom ($P =$ nonsignificant). Using settlements as a surrogate marker of losing a lawsuit, the overall number of cases “won” was 73% versus 27% “lost.” There were no cases lost at trial.

Case reviews

The case files provide a unique picture into the types of cases that led to litigation, physician demographics, and the behavior patterns that were involved in each suit. Table 3 shows the demographics of the physicians sued. By far, most defendants were domestically trained, in the middle of their careers, and below the age of 50. Table 4 reviews the allegations, which included operative trauma, error in diagnosis, and failure to recognize complications.

Table 5 stratifies patient injury, and Table 6 characterizes surgery by type. Surgical issues involving technique and decision making had a greater impact on liability than overall patient-management issues. Claims of operative failure (failing to operate or performing the wrong operation) resulted in a higher percentage of losses (38%) than allegations involving management failure as defined as a failure to recognize complications or make the correct diagnosis (24%) ($P < .05$, Tables 4 and 5).

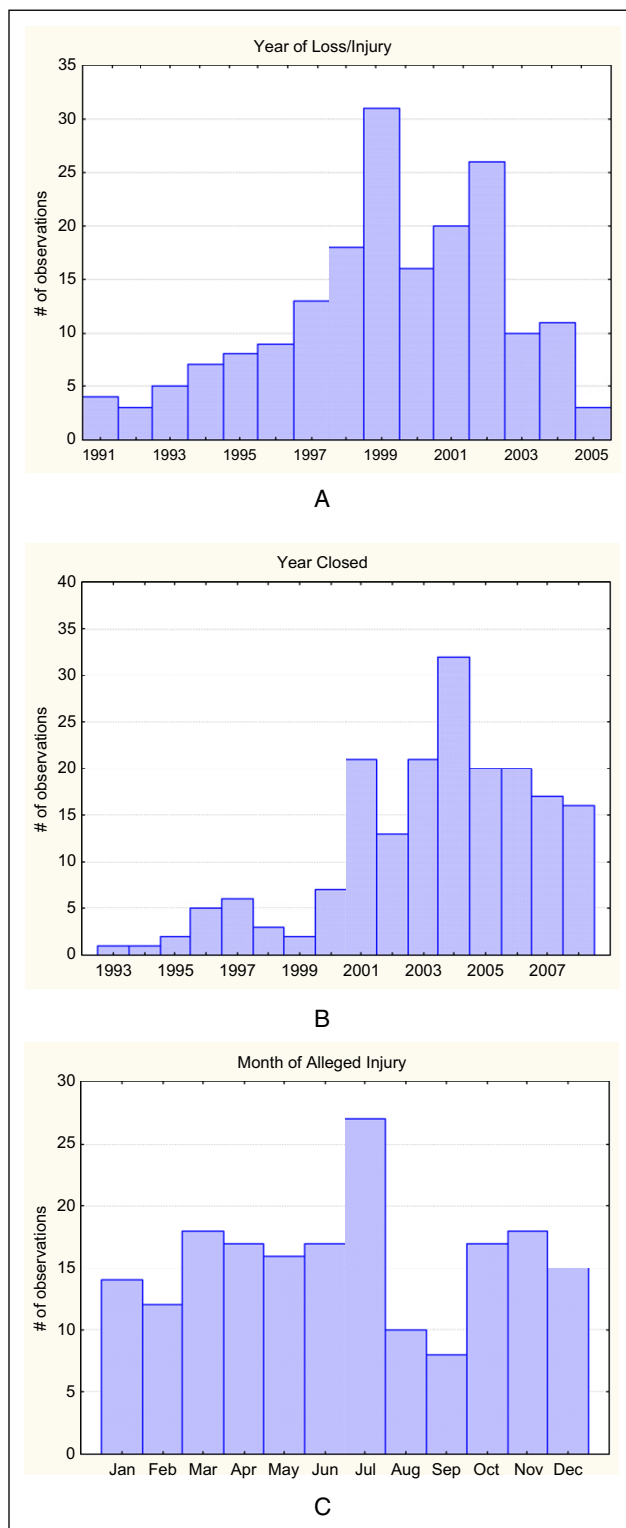


Figure 1 Demographics of malpractice suits against physician subscribers to AHPIA. (A) The year of loss or injury. (B) The year the lawsuit was closed. The average time from the loss to the closure of the claim was 4.51 years (Table 1). (C) A depiction of alleged injury by month of year. There seems to be an increase in July, but this is not statistically significant when compared with the whole group.

Table 2 Cost of malpractice claims

	n	Mean	Median	Minimum	Maximum	Standard Deviation	Standard Error of the Mean
Time from loss to closed (y)							
Total	187	4.51	4.00	0.00	14.00	2.30	0.17
Closed no payment	78	3.95	4.00	0.00	10.00	2.22	0.25
Settled	42	5.00	5.00	0.00	14.00	2.25	0.35
Settled at trial*	9	5.89*	5.00	4.00	8.00	1.62	0.54
Won by motion	34	4.56	5.00	0.00	10.00	2.13	0.37
Won at trial	22	4.91	5.50	0.00	10.00	2.81	0.60
Total won	135	4.27	4.00	0.00	10.00	2.31	0.20
Total lost	52	5.13	5.00	0.00	14.00	2.15	0.30
Expenses (\$)							
Total	163	40,175	21,000	0	406,072	53,672	4,204
Closed no payment†	62	18,720†	13,675	0	105,000	19,587	2,488
Settled	40	49,541	30,390	2,702	406,072	66,411	10,501
Settled at trial*	9	92,143*	67,600	34,000	284,684	75,569	25,190
Won by motion	31	29,447	15,900	1,057	135,500	32,785	5,888
Won at trial*	19	85,513*	74,300	5,000	318,000	72,079	16,536
Total won	113	32,896	18,000	0	318,000	43,792	4,120
Payout (\$)							
Total	49	220,846	125,000	5,000	1,000,000	272,887	38,984
Settled	39	195,635	97,500	5,000	1,000,000	269,083	43,088
Settled at trial	8	370,313	300,000	72,500	900,000	289,224	102,256
Total lost	48	224,630	125,000	5,000	1,000,000	274,472	39,617

Of the 187 cases reviewed, 42% were closed without any payment, 22% were settled before trial, 5% settled at trial, 18% were won by pretrial motion, and 12% were won at trial (*P* = not significant, analysis of variance). The average payment to plaintiffs per case was \$220,846 ± \$38,984, and the average total AHPIA expenses per case were \$40,175 ± \$4,204. The maximum payment was \$1,000,000, which was the limit of the primary policy at the time of the suit.

**P* < .05, settled at trial was significantly longer than closed no payment (analysis of variance with Neuman-Keuls).

†*P* < .05 compared with settled at trial, won by motion, and won at trial (analysis of variance).

When multiple physicians were named in a suit, the outcome was more favorable. We believe this may be a proxy for the confusion of patient ownership. Specifically, more than 1 physician was named in 61 cases. Internal medicine physicians were included in 32 cases, emergency room physicians were named in 23, radiologists in 20, and anesthesiologists in only 13. Although 61 cases included more than 1 physician and 121 did not, more of the former were won (50/61, or 82%) compared with those that had a single defendant (81/121 or 67%) (*P* = .03).

Although informed consent was alleged as an issue in 39 of 176 patients (22%), ultimately, this had no effect on winning or losing the case (data not shown). Hospitals were named in 80 of the cases, and this variable did not affect the outcomes. Communication among caregivers was found to be an important determinant in litigation outcomes as was the attending supervision of residents (Table 7).

Our analysis found that expert reviewers helped incriminate or exculpate physician defendants in 85 cases. In 54 cases, the reviewer exculpated the physician (eg, standard of

Table 3 Defendant characteristics

	30–39	40–49	50–60	Over 60	Total
Age					
Total	67	68	40	13	188
Won (%)	50 (75)	49 (72)	29 (73)	8 (62)	136 (72)
Lost (%)	17 (25)	19 (28)	11 (27)	5 (38)	52 (28)
Years out of training					
Total	34	95	40	169	
Won (%)	25 (74)	59 (62)	26 (65)	110 (65)	
Lost (%)	9 (26)	36 (38)	14 (35)	59 (35)	
Medical school					
Total	Foreign	Domestic	Canada	Total	
Won (%)	24	141	7	172	
Lost (%)	20 (83)	99 (70)	6 (86)	125 (73)	
	4 (17)	42 (30)	1 (14)	47 (27)	

There were no statistically significant differences between the groups, but most defendant surgeons were in the middle of their careers, and the youngest physicians with the least training appeared to win more often.

Table 4 Allegations in malpractice claim

	n	Percent*	Percent Won
Operative trauma [†]	69	36.9	65
Failure to operate	20	10.7	75
Failure to recognize complication	45	24.1	71
Error in diagnosis	59	31.6	72
Failure to test	21	11.2	71
Failure to interpret test	25	13.4	52
Failure to follow through	51	27.3	82

Allegations inherent to surgical malpractice suits (ie, operative trauma, failure to operate, and failure to recognize complications) were common to this review of closed claims. However, there were a number of allegations of errors in diagnosis, testing, and follow through of tests and results in the perioperative periods. There were only a few cited equipment issues (n = 11), specified knowledge deficits by the physician (n = 13), and inexperience (n = 5, not shown).

*Total over 100% because of multiple allegations/case.

†Includes retained foreign object.

care clearly met, frivolous lawsuit, or alleged injury not related to surgical procedure but to other event pre- or postoperatively), and in 33 the physician was incriminated (eg, retained laparotomy pad, technical failure, or failure to follow up of tests pre- or postoperatively). In cases with an incriminating expert, only 3 of 33 were won, whereas if the expert exculpated the defendant, all were won. The mean ± standard error of the mean expenses in the former were \$60,022 ± \$15,207 and in the latter \$37,055 ± \$50,540 (P = .09).

Table 5 Patient characteristics

	n	Percent	Percent Won
Recovery time			
Under 7 days	27	25.7	70
1–4 weeks	31	29.5	65
Over a month	47	44.8	68
Total	105	100	
Timing of the error			
Preoperative	55	30.4	65
During	82	45.3	63
Postoperative	44	24.3	75
Total	181	100	
Reoperations			
0	103	55.1	77
1	54	28.9	64
2 or more	30	16.0	53*
Total	187	100	

Recovery time and timing of error in the perioperative period were not found to be statistically significant factors in ultimately winning or losing a case. However, cases in which patients required 1 or more reoperations were at higher risk for loss than those without any repeat surgery. Specifically, if no reoperations were needed, only 23% of the suits were lost, whereas if 1 reoperation was performed, 37% were lost, and if 2 or more were required on the patient, 47% were lost (*P = .04).

Table 6 Type of surgery

	n	Percent	Percent Won
Common	153	92.2	40
Rare	5	3.0	55
High risk	8	4.8	100
Total	166	100	
Emergency	41	25.0	73
Elective	123	75.0	67
Total	164	100	

Most of the closed claims involved common operations (153); only 13 were considered “complex” or “high risk.” Although the type of operation did not have an effect on whether the case was won or lost, it appears that if the operative procedure was an emergency, there was a better chance for a favorable litigation outcome. Although only 25% of the cases were emergencies, almost three quarters of them were won. Conversely, two thirds of the cases that were elective were won, which trended toward significance when compared with emergency cases (P = .08).

Finally, we found that in 75 cases, the defendant physician was determined to be a high-quality witness who presented well at deposition and interview, so it was believed that the defendant would be viewed favorably by a jury. In 12 cases, the defendant physician was not considered a good witness. More cases were ultimately won if the defendant was considered a high-quality witness versus a poor one (95% vs 72%, P = .03).

Conclusions

Medical liability insurance premiums are increasing, on average by 15% per year, and at higher rates in the surgical

Table 7 Other factors

	n	Percent	Percent Won
Communications issues			
Yes	39	23.9	59
No	124	76.1	75*
Total	163	100	
Attending supervision			
Adequate	123	90.4	73
Inadequate	13	9.6	46*
Total	136	100	

Communication and supervision were identified as risk in malpractice claims. Although of the 75% of cases in which communication was not an issue were won, only 59% of those in which it was identified as an issue were won (P = .04). This translated into an increased cost (mean ± standard error of the mean expenses were \$58,804 ± \$13,266 versus \$36,598 ± \$4,089 (P < .05), and payouts were \$34,4833 ± \$88,058 versus \$17,8632 ± \$42,300 (P = .06). Similarly, inadequate supervision was identified as an issue in 9.6% of cases. Only 6 of 13 of cases (46%) were won as opposed to 91 of 123 (73%, P = .05) in which the allegation of inadequate supervision was not made. Here too, when the allegation of inadequate supervision was made, there were increased claims costs (not shown).

*P < .05, chi square test.

specialties.⁷ Closed claim reviews of surgical cases are identifying quality of care and technical, behavioral, and systems issues, which, when addressed, will ultimately lead to safer surgery. Similar initiatives by the American Society of Anesthesia in the 1980s ultimately led to the use of pulse oximetry in all spinal and general anesthesia and mandated epinephrine for bradycardia and cardiac arrest,⁸ which led to decreased anesthesia-related deaths.

Although closed claim reviews will change surgery, the financial and emotional burden of an actual lawsuit on a surgeon is real. A recent survey from the American Medical Association showed that 60% of physicians over the age of 55 have been sued; general surgeons and obstetricians are sued most often.⁹ To date, few surgical publications have asked the following questions: (1) Who gets sued? (2) When in a surgeon's career will he/she get sued? and (3) What are the chances of winning a suit?

We report a closed claims review of a unique malpractice carrier in New York State, which insures faculty physicians practicing at academic health centers. We focused on a 15-year history of surgical claims and sought to identify what factors determined a successful outcome. We have shown that the claims cost for this population of surgeons is lower than both the New York State and national averages. The national average indemnity payments in 2007 averaged \$323,266²; AHPIA's payout was \$220,846 over the same time period, more than \$100,000 less. By contrast, the New York State average was \$441,547.²

For surgical claims, our reported average financial payout per case was higher than those reported by the University of Michigan, which reported an average settlement of \$125,708,¹⁰ which was a review of 308 closed surgical claims from 1 large academic surgical department based at a large teaching hospital. Conversely, our average payout was lower than those reported by Studdert et al (\$485,348),¹¹ a review of closed surgical claims from 5 carriers from 4 different regions of the United States, which included academic, nonacademic practices, and obstetrics. Also, our administrative expenses per case were lower than those reported by the latter group (\$40,175 vs \$52,521).

The overall rate of wins (as defined as cases closed without payment) was 73%. No cases were lost at trial, which may suggest a biased sample. We believe this represents good claims management, with effective use of expert witnesses, aggressive trial preparation, and active subscriber participation. In fact, of the 1,202 total closed claims at AHPIA, only 15 cases were lost in court, including some other surgical specialties such as orthopedics. These findings are in agreement with others who also noted that plaintiffs infrequently prevail at trial¹¹ and that most malpractice claims are defensible.¹²

Our study is now one of very few published surgical closed claim reviews,⁸⁻¹⁴ and only one other is from an academic surgical group.¹⁰ To date, all have reviewed similar numbers of claims (range 133-460 patient files). Ours is also a unique study because AHPIA is a single malpractice

carrier in a single state inclusive of only academic physicians at 4 separate state university hospitals. Our analysis is the first to pool academic centers, document lower risk and demonstrate the need to include quality experts and assess the physician himself/herself as a witness.

We found that the surgeons are sued in the middle of their career and injuries occur during common operations. Only 25% of the suits were in emergency operations, which agrees with other studies; Rogers et al¹³ noted 24%, Gawande et al¹⁴ noted 23%, and Griffen et al¹⁵ noted 25%. We found that there is a higher likelihood of winning such cases when compared with elective ones. This is contrary to the accepted wisdom that emergency cases are higher malpractice risks.¹⁶

The demographics of our patient population are similar to those observed by others. In general, the percentage of deaths in the closed claim reviews was 13% to 32%; the incidence of major disability was 10% to 59%; and the allegation of injury was 33% preoperatively, 33% intraoperatively, and 33% postoperatively. Importantly, elective, simple, and routine operations were much more common in the lawsuits than urgent, complex ones. However, when there was an allegation of operative failure (failure to operate or performance of the wrong operation), the case was more likely to be lost than if the allegation was made about failed overall patient management. Other investigators have noted that technical errors were typically made by surgeons operating in their own specialty, and experienced physicians doing routine procedures were at greater risk of losing litigation than inexperienced surgeons doing rare or emergency procedures.¹⁷ Their group and ours found that reoperations contributed significantly to the outcomes of the patients, and we found that reoperations were among the factors that were correlated with the loss of cases. Reoperations could be a marker for both operative complexity and technical failure.

Regenbogen et al¹⁷ and Gawande et al¹⁴ found that of all errors, two thirds were technical in nature, which is higher than our rate of 37%. The difference may be because our review focused on all claims, whereas theirs focused on cases chosen because an error occurred. Specifically, the former¹⁷ focused on a percentage of claims that had technical problems, and the latter¹⁴ was based on the identification of errors by retrospective reporting by the surgeons.

Although we and others^{10,13} found that physicians from other specialties are included in the lawsuits in 23% to 65%^{10,13,18} of cases, we discovered that this circumstance correlated with a favorable legal outcome. The likelihood of losing a malpractice case is lower when more than 1 physician is involved. One can interpret this as either meaning that ambiguity or confusion is beneficial or that the liberal use of consultants is protective.

Communication has been identified consistently as an important issue in many of the malpractice closed claim reviews.^{13,14,19} In fact, Morris et al¹⁹ found that it occurs in 87% of cases, and Griffen et al²⁰ identified communication as a

behavioral issue that can be modified. Our analysis confirms that a surgeon is more likely to lose litigation when the suit included a claim that there was a communications error, and in such circumstances, the cost of settlement is higher.

Finally, our database is of academic surgeons, so residents in training were involved in the care of most of the patients. However, actual supervision of residents was identified as an issue only 10% of the time. Compared with 21% to 47% documented by others,^{14,17,19} this indicates that most lawsuits focus on attending physicians who are ultimately responsible for the care of their patients. Whether failure to escalate perioperative events to an attending leads to increased malpractice claims is unknown. Ultimately, better communication, teambuilding, handoff processes,²¹ and simulations are factors that can correct this problem.^{22–24} Of note, a recent study showed that standardization of processes in the operating room by using a checklist might reduce malpractice risk.^{25,26}

The shortcomings of this study are that hospital charts were not reviewed, we relied on the distillation of the data by nonphysician claims managers. Although portions of the chart such as operative notes were available, other undocumented causes of poor outcomes such as resident communication and hospital-based systems (such as failure to rescue²⁷) were not available. Because AHPIA's members-insureds have academic responsibilities (ie, teaching, research, and administrative), their practice of medicine might be characterized as part-time. As a consequence, data concerning the frequency of claims may not be an accurate marker for making comparisons with full-time community surgeons not affiliated with teaching hospitals.

Our findings regarding communication bring up questions that future closed claim reviews can address. Because malpractice suits appear to occur in midcareer, does that imply younger surgeons and end-of-career surgeons take more time with the patients to develop personal relationships as compared to those in the middle of their careers? Furthermore, because malpractice suits appear to occur during common procedures, do we communicate more effectively with patients and families before embarking on an above average or a difficult procedure?

Being named in a malpractice suit is an anticipated event in the course of a surgeon's career. High quality of care ultimately may not prevent such suits, but specific patterns of behavior may be predictive of litigation outcomes for academic surgeons. Complications leading to repeat surgeries lead to increased risk, and failure to bring in other physicians in as consultants may contribute as well. Finally, the observation that the defendant physician as a witness affects outcomes suggests that preparation through simulation would be appropriate. Based on our findings, AHPIA has discussed implementing in such a program.

Claims reviews can lead to interventions to safer patient care, the prevention of malpractice claims, and the surgeon's expectations should he/she be named in one. Seminars in communication, teambuilding, simulations, and

standard checklists for even routine procedures should decrease the loss in these cases.^{28–30} Our findings suggest that simulations for depositions before trial and preparation for the witness stand might be beneficial for those of us whose care of our patients leads us to the legal world.

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