Characteristics of Surgeons With High and Low Malpractice Claims Rates

T. ELAINE ADAMSON, MPH, San Francisco, California; DeWITT C. BALDWIN Jr, MD, Chicago, Illinois; T. JOSEPH SHEEHAN, PhD, Farmington, Connecticut; and ANDREW A. OPPENBERG, MPH, Los Angeles, California

We studied the relationship of malpractice claims and the personal, educational, and practice characteristics of a sample of surgeons (n = 427). The surgeons were members of a physician-owned malpractice trust and represented all those who had fewer than 0.13 malpractice claims per year and those with more than 0.54 claims per year. Data are reported separately for orthopedic surgeons (148), obstetrician-gynecologists (115), and a mixed group of other surgeons (164). The last group included otolaryngologists, neurosurgeons, and general, vascular, thoracic, and plastic surgeons. We studied the relationship between the number of malpractice claims (ranging from no history of claims to those terminated from the trust because of high rates of claims) and the surgeons' personal, educational, and practice characteristics. The major differences were between the surgeons who were terminated because of a high number of claims and those with few or no claims. Terminated surgeons were less likely to have completed a fellowship, belong to a clinical faculty, be members of professional societies, be graduates of an American or Canadian medical school, have specialty board certification, or be in a group practice. The data also suggest that orthopedists with high numbers of claims may be less likely to have a religious affiliation or to have a registered nurse working in their office practice. These findings suggest that surgeons with lower claim rates may be more likely to manifest exemplary modes of professional peer relationships and responsible clinical behavior.

(Adamson TE, Baldwin DC Jr, Sheehan TJ, Oppenberg AA: Characteristics of surgeons with high and low malpractice claims rates. West J Med 1997; 166:37–44)

Although malpractice claims ought to be directly based on negligent medical care, in fact, two thirds or more of claims are settled without payment to patients.¹ Instead, the physician-patient relationship is often implicated, with special concerns expressed over the quality of communications. With this in mind, additional areas of concern might include the personal, educational, and professional characteristics of physicians. Do these factors explain why suits occur? Over the past decade, many have studied this question.²-7

Definitions of malpractice claims vary. Some have compared physicians having no claims with those having any number of claims,² while others compared those having no or few claims with those having multiple highpaying claims.³ One study looked at physicians whose claims were resolved with payments to patients and, if not, whose negligence had been identified by peer review.⁴ Another study looked at physicians who had lost their malpractice insurance (presumably because of

excessive numbers of claims) and compared them with the United States population of physicians.⁵ Another investigator studied only physicians against whom claims had been filed,⁶ comparing claims settled with and without payment to patients. In another study, only physicians with fewer than five claims were included.⁷

Studies have focused on both medical and surgical specialists,^{3,5} with two also adding anesthesiologists.^{6,7} One study looked only at obstetrical care by family physicians and obstetricians,² and another studied two surgical groups plus anesthesiologists and radiologists.⁴ Two studies involved contacting patients who had sued to find out their reasons for doing so.^{7,8}

Although methods have varied, most studies to date have reached the same conclusion: physicians with high and low numbers of claims are more alike than different. Physicians who were suit-prone, however, included obstetrician-gynecologists and other surgical subspecialists, ^{2,3,5,6} plus those who see many patients. ^{3,6} In one study,

From the Department of Family and Community Medicine, University of California, San Francisco, School of Medicine (Ms Adamson); the Scholar-in-Residence Program, American Medical Association, Chicago, Ill (Dr Baldwin); the Department of Research in Health Education, University of Connecticut Health Center, Farmington (Dr Sheehan); and the Loss Prevention and Education Program, Cooperative of American Physicians, Inc/Mutual Protection Trust (CAP/MPT), Los Angeles, California (Mr Openhere).

This research was supported by a grant from the American Medical Association Education and Research Foundation and by the Loss Prevention Program at the Cooperative of American Physicians. Opinions expressed by the authors do not necessarily reflect the views of CAP/MPT or the American Medical Association.

Reprint requests to T. Elaine Adamson, MPH, Patient Opinion Studies, 806 Dolores St, San Francisco, CA 94110.

ABBREVIATIONS USED IN TEXT

AMA = American Medical Association DIT = Defining Issues Test

family physicians without board certification had lost their malpractice coverage,⁵ and in another study, surgeons with board certification reported more claims than those without such certification.⁶ In one study, only foreign medical graduates who were plastic surgeons had lost coverage.⁵ Not all studies measured the same variables, so the findings relating claims to physician characteristics may not be consistent.

The nature of the relationship between physicians and patients has been studied with regard to malpractice claims. One investigator found that physicians with lower claims experience spend more time talking to patients.3 In a study of perinatal injury, women who sued mentioned factors such as the physician not listening or talking openly with them as reasons for suing, in addition to monetary factors.8 This research was extended to interviewing obstetrical patients who had not filed malpractice claims.9 It was found that patients of obstetricians with high claim rates but with little or no indemnity payments were the most dissatisfied when compared with women seeing obstetricians with none, little, or high numbers of claims that were settled with high indemnity payments. Likewise, in another study, it was found that a group of patients seeing physicians with high claims rates were dissatisfied with explanations from and rapport with their physician.10

We studied the malpractice claims experience of 427 surgeons. This group included 148 orthopedic surgeons, 115 obstetrician-gynecologists, and a mixed group of 164 other surgeons. Surgeons were selected for study because of their relatively high malpractice claims rates. The same group included physicians with a full range of claims experience, from those who had never been sued, to those who were terminated because of a high number of claims. A separate sample of orthopedists was added because they have not been included in previous research as a group and they have an especially high rate of claims, although usually with only low to moderate payment to patients.

The objective of this study, then, was to explore further the relationship between personal, educational, and practice characteristics of three different groups of surgeons (independent variables) and their malpractice claims experience (dependent variable).

Methods

Physician Selection

The physicians were all members of the Cooperative of American Physicians, a California-based, physicianowned, interindemnity liability-protection trust that agreed to participate in the study. The objective was to include the maximum number of members who could meet the criteria for the study. Besides being surgeons,

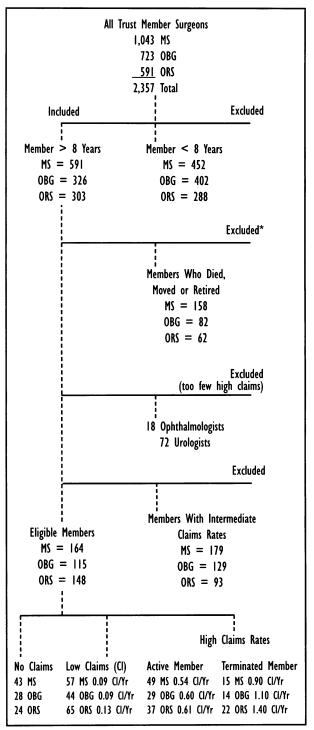


Figure 1.—The diagram shows the sample selection process. *Remains on membership list because of open claims. MS = mixed surgeons, OBG = obstetrician-gynecologists, ORS = orthopedic surgeons

they needed to have been members long enough to show a possible risk for having had a claim. There also had to be an adequate number from their subspecialty with both high and low claims experience to justify analysis. Figure 1 outlines the method of selection for the study sample. When the study began in 1986, the trust had 2,357 surgeons who were current or former members. In an effort to equalize the claims experience, the sample included surgeons who had been members for eight to ten years, having been original members of the trust when it was founded in 1976. Those who joined after 1978 (n = 1,142) were excluded from the study because of insufficient claims experience. Also excluded were members in good standing who were deceased, retired, or who had moved (n = 302) and certain groups of surgical specialists with uniformly low numbers of claims.

To counterbalance the surgeons with few or no claims, a group of 51 former members (still in active practice) who had been terminated from the trust because of their high number of claims was included even though we could not contact them to obtain personal data. There were enough orthopedists (148) and obstetrician-gynecologists (115) to form separate groups. A third group comprised 50 general surgeons, 39 otolaryngologists, 29 vascular surgeons, 16 each of neurosurgical and cardiothoracic surgeons, and 14 plastic surgeons (n = 164), so constituted because no individual specialty had enough members with an adequate range of claims experience to merit separate consideration.

The trust provided the demographic information needed to select those eligible for the study, including specialty, age, and number of claims since membership in the trust. Malpractice claims are defined as cases that had been in litigation in which a lawsuit was filed by the patient-plaintiff and a disposition made to close the case. Most of these were settled before trial. The rest were settled by arbitration or by trial. The claims rate was expressed as the number of suits divided by the number of years of membership in the trust. To highlight possible differences, physicians with intermediate rates of claims were excluded, leaving high-claim, and low- or no-claim groups. Physicians with few or no claims were selected to match those with high claims (>0.5 claims per year) by specialty and by length of time as members of the trust. The final sample consisted of 427 surgeons.

Within each of the three specialty groupings, four categories were defined:

- Those with no claims,
- Those with low claim rates (≤0.13 mean claims per year),
- Those with high rates who were active members (between 0.54 and 0.61 mean claims per year), and
- Those who had been terminated from the trust because of their high claims experience yet remained in active practice (0.90 to 1.4 mean claims per year).

Using these criteria, orthopedists and obstetriciangynecologists with low numbers of or no claims made up about 62% of the sample. Within the mixed surgical group, these percentages varied; 82% of the otolaryngologists had no or low claim rates, compared with neurosurgeons (25%) and cardiothoracic surgeons (19%).

There were a total of 1,108 closed suits among the

study participants. A quarter to a third of them were settled with payment to patients, this percentage being similar to that reported in the literature.1 The severity of the case load was measured by the proportion of claims made due to the death of the patient. The rates were low for plastic surgeons (10%), otolaryngologists (10.3%), and orthopedists (5%). The death rate increased for the high-risk specialties: neurosurgery (18%), vascular surgery and obstetrics-gynecology (both 19%), general surgery (25%), and cardiovascular surgery (38%). Surgeons with higher claims rates were more likely (35% to 42%) to have had payments made to patients than were surgeons with fewer claims (15%). The mean indemnity across all claim levels averaged \$66,753 per paid claim for orthopedists and exceeded \$100,000 for obstetriciansgynecologists and mixed surgeons, suggesting that orthopedic claims, although numerous, are often less costly.

Physician Characteristics

Data on the personal, educational, and practice characteristics of all 427 surgeons in the sample were obtained from standard references and other external sources. Biographical profiles from the American Medical Association (AMA) Physician Masterfile provided data concerning birthplace, medical school attended, and board certification status. Additional data on surgeons were obtained from the American Board of Medical Specialties and the trust's own records.

Because most surgeons belonged to several professional societies, each surgeon's affiliations were identified; four societies were used for orthopedists and five for obstetrician-gynecologists. Across all the specialties in the mixed surgical group, membership in the American College of Surgeons was mentioned. Thus, the proportion of membership in this group was used. We identified academic clinical faculty appointments by searching lists from the six California medical schools.

All surgeons except those who had been terminated were sent a questionnaire. The trust did not permit any contact with the latter group. The form solicited information about marital status, church affiliation, undergraduate major, number of surgical procedures or deliveries performed each week, and type of personnel (clinical, clerical, or both) that assisted them in caring for patients in their offices. Questionnaires were returned by 293 surgeons (78%) of those asked to complete the form. Nonrespondents had more claims, were more likely to be international medical graduates and to have completed fewer fellowships, were less likely to be board certified, belonged to fewer specialty societies, were in solo practice, and did not have clinical faculty appointments.

In addition to examining the association among the described variables, we asked a subsample of all surgeons to complete Rest's Defining Issues Test (DIT) to assess the possible relationship between malpractice claims and levels of moral reasoning.¹¹ A positive relationship between clinical performance and moral reasoning has been demonstrated previously by one of us (T.J.S.)¹²; results of this study have been reported elsewhere.¹³

Factors A	All Claims Groups	No Claims	Low Claims	Multiclaims, >0.4/yr	
				Active	Terminated
Personal					
Age, mean years*					
All surgeons (427)	53	53	52	53	52
Orthopedists (148)	52	56	51	51	49†
Ob-Gyn (115)	52	51	53	53	52
Mixed surgeons (164)	53	53	53	53	55
Born in United States, %‡					
All surgeons (427)	77	74	85	70	73
Orthopedists (148)	87	92	97	78	68§
Ob-Gyn (115)	63	57	71	59	52
Mixed surgeons (164)	77	74	83	69	93
Reports a religious affiliation, %					
All surgeons (293)	82	82	83	79	NAII
Orthopedists (105)	77	82	83	63	NA
Ob-Gyn (75)	85	83	91	79	NA
Mixed surgeons (113)	83	82	78	91	NA
Educational		0-			
International medical graduate, %	17	20	10	20	28†
All surgeons (427)	8	4	0	11	328
Orthopedists (148)		39	25	28	43
Ob-Gyn (115)	15	16	9	22	7
Mixed surgeons (164)	13	10		22	Market and
Completed a fellowship, %	20	24	22	20	1211
All surgeons (427)		24	22	28	12
Orthopedists (148)		25	26	16 7	14
Ob-Gyn (115)		11	9		
Mixed surgeons (164)	27	33	26	27	20
Has specialty boards, %					
All surgeons (427)		90	94	89	75†
Orthopedists (148)		88	92	87	86
Ob-Gyn (115)		89	93	90	649
Mixed surgeons (164)	90	91	97	90	67†
NA = not available, Ob-Gyn = obstetricians-gynecologists					

Statistical Analysis

To compare the four claims groups—no claims, one claim, high-claims active member, and high-claims terminated member—an analysis of variance was used with continuous variables, and χ^2 analysis was used for ordinal data. Similar analyses were performed for questionnaire data for all claims levels except the terminated group. The CRUNCH statistical package (CRUNCH Software Corporation, San Francicso, California) was used to analyze the data.

To assess the effect of interrelations among the variables, multiple regression analyses were done. Only orthopedists had a sufficient number of correlations between the claims variable and surgeon characteristics to be included in these analyses. Because these can only be done with complete data, two sets of analyses were done, the first for orthopedists who completed only the questionnaire, and the second for those who also completed the DIT.

Results

Physician Characteristics

Tables 1 and 2 list the findings for all surgeons together and for the three specialty groups separately at the four claims levels across a number of personal, educational, and practice variables.

Personal factors. The mean age for all surgeons was 53 years, and all of them were male. Age was similar for the three specialties, with one exception: orthopedic surgeons who had been terminated by the trust were significantly younger (49 years, P < .01) than those from the other groups. Further investigation found that they had all joined the trust directly after residency. Irrespective of the claims status, obstetrician-gynecologists were less likely to have been born in the United States than physicians from the other two study groups. Orthopedists who were born in the United States were significantly (P < .001) more likely to be in the no- and low-claims groups (92% and 97%) compared with those in the high claims

Factors A	All Claims Groups	No Claims	Low Claims	Multiclaims, >0.4/yr	
				Active	Terminated
Practice					
Solo practitioner, %					
All surgeons (427)	57	61	63	49	69*
Orthopedists (148)		30	49	35	40
Ob-Gyn (115)		82	71	59	93†
Mixed surgeons (164)		63	72	53	87†
Has RN working in office practice, %					
All surgeons (312)	32	28	37	28	NA
Orthopedists (110)	25	29	30	13†	NA
Ob-Gyn (82)	51	38	61	53	NA
Mixed surgeons (120)		21	28	28	NA
Membership					
Member of a clinical faculty, %					
All surgeons (427)	37	48	30	37	16‡
Orthopedists (148)		71	46	19	0±
Ob-Gyn (115)		25	23	28	31
Mixed surgeons (164)	46	51	40	53	27
Membership in professional societies					
Orthopedists and Ob-Gyn (263), mean	1.6	1.7	1.6	1.6	1.1*
Orthopedists (148), mean§		1.9	1.9	1.7	1.0‡
Ob-Gyn (115), meanll	1.4	1.6	1.3	1.4	1.3
Mixed surgeons (164), %¶	60	54	65	69	27*
NA = not available, Ob-Gyn = obstetricians-gynecologists, RN = registered					

groups (78% and 68%). Although not significant, there was a trend suggesting that orthopedists with no or low claim rates more often reported church membership than those with multiple claims. Marital status (not shown) bore no relationship to claims status.

Educational factors. More of the all-surgeon group (28%, P < .01) and the orthopedists (32%, P < .001) who had been terminated attended a medical school outside the United States or Canada than did those with no or fewer claims. There was a trend suggesting that terminated surgeons were less likely to have completed a fellowship (12%, P < .1) than those with fewer claims. All surgeons who had been terminated (P < .01), especially obstetrician-gynecologists (P < .05) and mixed surgeons (P < .01), were less likely to be board certified than their colleagues with fewer or no claims. No significant relationships were found for several other variables, including undergraduate college major, medical school prestige score, membership in the Alpha Omega Alpha society, or years of specialty training.

Professional practice factors. When compared with peers with fewer claims, all surgeons who had been terminated (69%, P < .05), especially obstetrician-gynecologists (93%, P < .1) and mixed surgeons (87%, P < .1), were more likely to be in solo practice. Of orthopedists with no or low claims rates, 30% had registered nurses, rather than nonprofessional personnel, working with them in their offices, whereas only 13% (P < .1) of orthopedists with more claims employed nurses.

All surgeons who had been terminated were significantly (P < .01) less likely to have a clinical faculty appointment (16%) than surgeons with fewer claims. For orthopedists, this relationship was linear: 71% of those without claims had clinical faculty appointments, whereas none of the terminated group had them.

Because orthopedists and obstetrician-gynecologists were usually members of several professional societies, the mean number of memberships for each specialty was calculated. Combined, their number of memberships was between 1.6 and 1.7, except for those who had been terminated, for whom membership was significantly lower (1.1, P < .05). Similarly terminated orthopedic surgeons belonged to a significantly lower number of professional societies (1.0, P < .01) than their peers. Also, the terminated mixed-group surgeons were less likely (27%) to be members of the American College of Surgeons than their peers with fewer claims (P < .01).

Defining Issues Test. Details of the relationship between levels of moral reasoning as measured by the DIT and malpractice claims rates are reported elsewhere.13 In brief, low-claims orthopedists had larger P scores (number of principled responses) than did orthopedists with higher claims per year. Specifically, orthopedists with P scores above 40 were significantly (P =.04) more likely to be in the low-claims groups.

Stepwise multiple regression analyses. First correlations were done to see which variables could be entered into the multiple regression model. Because the depen-

Step	R ²	Variable	β	F	Probability >
All orthopedists including those who completed the DIT (n = 56)					
1	13	Religion	-0.69	6.7	.01
2	16	DIT	-0.02	3.4	.07
3	24	Age	-0.03	4.7	.04
Addition of orthopedists completing questionnaire only (n = 115)					
1	11	Member clinical faculty	-0.58	13.3	.0004
2	13	Age	-0.02	3.4	.06
3	17	No. of orthopedic societies	0.17	4.8	.03

dent variable, the number of claims per year, did not follow a normal distribution, it was converted to log claims per year. Only the orthopedists had enough variables with correlations of greater than r=.15 between independent variables and claims per year to qualify for multiple regression analysis. Obstetrician-gynecologists and mixed surgical groups had few, if any, correlations that qualified, either because there was no intrinsic relationship between claims and physician characteristics or there was insufficient power to show it.

Two sets of multiple regressions were done: first, an analysis was done for the 56 orthopedists who completed both the questionnaire and the DIT. Then the analysis was repeated, adding those who completed only the questionnaire for a total of 115 orthopedists. The log of the claims rate was regressed on age, being born in the United States, religious affiliation, international medical school graduation, fellowship, board certification, subspecialty, professional society membership, and faculty appointment, as well as being in solo or group practice, having a registered nurse in office practice, and the score on the DIT (for the first analysis).

Table 3 shows the results of the two multiple regression analyses for those independent variables that showed promise after the initial analyses. For the smaller sample (n = 56), which includes those completing both the questionnaire and the DIT, having a religious affiliation is the single best predictor of having a low claims rate, explaining 13% of the variance (P < .01). Adding DIT scores brings the amount of variance explained to 16%. The variance further increases to 24% by adding age.

When orthopedists who completed the questionnaire but did not take the DIT are added to the sample, the regression model no longer includes religious affiliation. Clinical faculty membership now explains 11% of the variance and is significant (P < .001). The variance only increases to 17% with the addition of age and membership in professional societies.

Discussion

Many factors appear to discriminate between orthopedists with high and low malpractice claims experience. For obstetrician-gynecologists and mixed surgical specialists, however, only the terminated group or those with the highest rates of malpractice had less favorable data for the several variables common to the entire sample.

As part of an interindemnity trust, the members are selective in screening new applicants and accepted on average 60% of physicians who applied. This may actually bias the results toward more favorable behaviors than would be found in the general population of surgeons. There is a certain commonality among trust members. Most have urban or suburban practices, are either in solo or small group practices, and see patients with private insurance or Medicare. It is unfortunate that personal questionnaires could not be obtained from terminated surgeons and that, therefore, they had to be omitted from the multiple regression analysis. Our research is also limited in that only half of the orthopedic surgeons who were asked to complete the DIT were willing to do it or completed it accurately. In addition, the sample size of the mixed group of six surgical subspecialties was too small to make useful conclusions about the relationship between characteristics and claims for any one subspecialty group. Finally, although Tables 1 and 2 show that terminated orthopedists belonged to significantly fewer professional societies than peers with fewer claims (P < .01), the multiple regression analyses in Table 3, which excludes terminated surgeons (mean membership of 1.0 society), appears to suggest that orthopedists with more claims belong to more societies. This discrepancy may be due to the lack of spread in the mean number of memberships (1.7 to 1.9 societies) for the surgeons who were entered into the multivariate analysis.

The sample of board-certified orthopedists in this study was similar to those in an AMA study. We found that the percentage of orthopedists who were international medical graduates in our study was 8% compared with 31% and 15% for the other two specialty groups. This closely resembled data from the AMA study that reported that fewer orthopedists were international medical graduates (11%) than other surgeons (26%).

Although some of the findings of this study suggest that less educational accomplishment may be a factor in a susceptibility to malpractice claims, they also appear to demonstrate more social and professional isolation among surgeons with higher claims rates, as manifested by a greater number of solo practitioners, membership in fewer professional organizations, fewer teaching appointments, and less likely hiring of a registered nurse in the office. Because the physicians in the terminated group were all still in active practice, the results are not explained by their limiting or leaving practice. Our data suggest that lower rates of malpractice may be associated with greater collegial interaction, such as an increased opportunity for formal and informal consultations in group practices and the awareness of new therapeutic advances through membership in professional societies, clinical faculty teaching, and for orthopedists, higher levels of moral reasoning.

Orthopedists with fewer or no claims were more likely to have been born in the United States, had higher DIT scores,13 and more had religious affiliations than those with higher claims experience. Could these represent social, moral or ethical, linguistic, or communication factors that help them perform in a more professional manner or relate better to patients? In a study on patient satisfaction, it was found that orthopedic surgeons and anesthesiologists ranked lower than general surgeons and obstetrician-gynecologists on a broad scale of communication behaviors.10

It has been suggested that the increasing need for technical skill during orthopedic residency training is being accomplished at the expense of treating the "whole person,"15 and Kettelkamp, in his inaugural address as President of the American Orthopedic Association, alluded to the poor interpersonal skills, unethical behavior, and lack of humanism among some orthopedic surgeons. 16

That a physician's personal and professional characteristics may play an important role in instigating malpractice claims has long been speculated. Behaviors such as scheduling enough time with patients, answering patients' telephone calls directly, acknowledging greater emotional distress, and feeling more satisfied with practice arrangements were reported to be associated with lower numbers of medical malpractice claims.3 Other investigators have shown that patient dissatisfaction with physician communication skills can be objectively related to high levels of malpractice claims, especially those resulting in little or no indemnity payments to patients.9,10

Risk-management programs to avoid malpractice address the role of the relationship between physicians and patients as a trigger for instigating a malpractice claim when a poor outcome is perceived by the patient.1 It has been recommended that a deliberative model of communication be adopted in which the physician acts as teacher and friend and understands the patient's values and expectations.17 This process of informed consent takes time to listen to a patient's expectations for an operation and to make sure that the risks and complications of the procedure are understood. Although much of this instruction may be forgotten over time, 18 comprehension at the time of the surgical procedure can serve a therapeutic purpose in decreasing anxiety, the use of pain medications, and the length of stay.¹⁹ Physicians must understand how their own background, training,

and practice style might influence their behavior. For example, surgeons in solo practice should be encouraged to collaborate more with their peers.

The specialties of pediatrics and internal medicine now mandate the teaching of communication skills and increased emphasis on sensitivity to emotions and life experience factors in their residency accreditation and certification standards.20 Kettelkamp suggests that similar programs be used in teaching orthopedic residents and, by implication, all physicians in training, especially surgeons.16

The trust's risk-management program requires that all new members attend a three-hour loss prevention seminar, for which they receive continuing education credit.21 It includes techniques to improve communications with patients, such as active listening. When a suit is filed against a member, a remediation program is tailored to the person's needs. It may include a medical records audit, attending a clinical course, sending satisfaction surveys to patients, the use of an arbitration form, or attending a litigation support group.²²

The findings reported in this study generally support the view that personal, educational, and professional characteristics of physicians themselves (in this case surgeons) may contribute substantially to the incidence and outcome of malpractice claims. Such claims represent a staggering financial burden that adversely affects the health care system, both directly in the form of litigation and settlement costs and indirectly in the form of the costs of unnecessary defensive medicine. At a more personal level, physicians pay a price financially in high malpractice insurance premiums and emotionally in terms of selfdoubt, damaged self-esteem, and diminished satisfaction as a result of being sued.23 Better understanding of the characteristics and behaviors that cause malpractice or elicit malpractice claims would represent an important base on which to build sound educational programs of prevention and risk management. Such programs should begin in medical school and residency and include a major emphasis on the development of effective communication and patient management skills. These should be reemphasized throughout professional life by continuing medical education programs for risk management. Both the profession and the insurance industry share an important responsibility for this.

REFERENCES

- 1. Bartlett EE: What's up, Doc?—The patient and the malpractice suit. Risk Management 1987; 150:356-360
- 2. Baldwin LM, Larson EH, Hart LG, Greer T, Lloyd M, Rosenblatt RA: Characteristics of physicians with obstetric malpractice claims experience. Obstet Gynecol 1991; 78:1050-1054
- 3. Charles SC, Gibbons RD, Frisch PR, Pyskoty CE, Hedeker D, Singha NK: Predicting risk for medical malpractice claims using quality-of-care characteristics. West J Med 1992; 157:433-439
- 4. Kravitz RL, Rolph JE, McGuigan KM: Malpractice claims data as a quality improvement tool-1. Epidemiology of error in four specialties. JAMA 1991;
- 5. Schwartz WB, Mendelson DN: Physicians who have lost their malpractice insurance—Their demographic characteristics and the surplus-lines companies that insure them. JAMA 1989; 262:1335-1341
- 6. Sloan FA, Mergenhagen PM, Burfield WB, Bovbjerg RR, Hassan M: Medical malpractice experience of physicians-Predictable or haphazard? JAMA

1989; 262:3291-3297

- 7. Shapiro RS, Simpson DE, Lawrence SL, Talsky AM, Sobocinski KA, Schiedermayer DL: A survey of sued and nonsued physicians and suing patients. Arch Intern Med 1989; 149:2190–2196
- 8. Hickson GB, Clayton EW, Githens PB, Sloan FA: Factors that prompted families to file medical malpractice claims following perinatal injuries. JAMA 1992; 267:1359–1363
- 9. Hickson GB, Clayton EW, Entman SS, et al: Obstetricians' prior malpractice experience and patients' satisfaction with care. JAMA 1994; 272:1583–1587
- 10. Adamson TE, Tschann JM, Gullion DS, Oppenberg AA: Physician communication skills and medical malpractice claims—A complex relationship. West J Med 1989; 150:356–360
- 11. Rest JR: Development in Judging Moral Issues. Minneapolis, Minn, University of Minnesota Press, 1979
- 12. Sheehan TJ, Husted SD, Candee D, Cook CD, Bargen M: Moral judgement as a predictor of clinical performance. Evaluat Health Profess 1989; 3:393–404
- 13. Baldwin DC Jr, Adamson TE, Self DJ, Sheehan JT, Oppenberg AA: Moral reasoning and malpractice—A pilot study of orthopedic surgeons. Am J Orthop 1996; 25:481-484

- 14. Kletke PR, Thran SL, Marder WD: Practice Patterns of Orthopedic Surgeons. Chicago, Ill, AMA Center for Health Policy Research, 1989
 - 15. Stanton RP: Making a complete orthopod (Letter). JAMA 1990; 264:2742
 - 16. Kettelkamp DB: Achilles' heel. J Bone Joint Surg [Am] 1989; 71:959-964
- 17. Emanuel EJ, Emanuel LL: Four models of the physician-patient relationship. JAMA 1992; 267:2221-2226
- 18. Hutson MM, Blaha JD: Patient's recall of preoperative instruction for informed consent for an operation. J Bone Joint Surg [Am] 1991; 73:160-162
- 19. Rockwell DA, Pepitone-Rockwell F: The emotional impact of surgery and the value of informed consent. Med Clin North Am 1979; 63:1341-1351
- 20. American Medical Association: Essentials and Information Items, 1993-1994. Chicago, Ill, Accreditation Council for Graduate Medical Education, 1993
- 21. Oppenberg AA: A mandatory physician loss prevention seminar. J Healthcare Risk Management 1993; 13:7–14
- 22. Charles SC, Pyskoty CE, Nelson A: Physicians on trial—Self-reported reactions to malpractice trials. West J Med 1988; 148:358-360
- 23. Charles SC, Wilbert JR, Kennedy BC: Physicians' self-report of reactions to malpractice litigation. Am J Psychiatry 1984; 141:563–565