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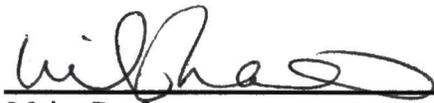
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PREDICTING RISK FOR DISCIPLINARY ACTION BY THE TEXAS STATE

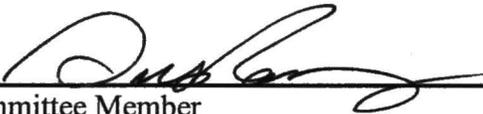
BOARD OF MEDICAL EXAMINERS, 1989-1998

Roberto Cardarelli, B.S.

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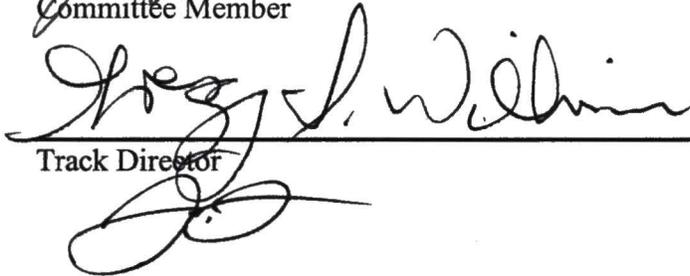
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Predicting risk for disciplinary action by the Texas State Board of Medical Examiners, 1989-1998.

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ABSTRACT

Context

The rate of physician disciplinary action in the United States has been increasing over the last decade. While studies have analyzed various facets of malpractice and types of physician offenses, few have attempted to investigate factors that may place physicians at risk for disciplinary action.

Objective

To determine predictors for physician disciplinary action.

Design

Case-control study using publicly available data matching 174 disciplined physicians with non-disciplined physicians on age and years in practice.

Subjects

Disciplined physicians reported by the Texas State Board of Medical Examiners from January 1989 to December 1998.

Main Outcome Measures

Characteristics of disciplined physicians and multivariate predictors of disciplinary action.

Results

Of the 1382 physicians disciplined during the study period, 174 cases were eligible for inclusion. Sixty six percent of the study population was 40 years or less of age, while 69.5% were men. Whites composed 65.4% of the study population and internal medicine was the predominate specialty. In the multivariate analysis female physicians were less likely to receive disciplinary action (odds ratio [OR] = 0.27, 95% confidence interval [CI]

= 0.17-0.44. Additionally, internists (OR = 0.35, 95% CI = 0.22-0.56), surgeons (OR = 0.30, 95% CI = 0.17-0.54), and pediatricians (OR = 0.28, 95% CI = 0.13-0.61) were less likely to be disciplined compared to family medicine physicians, while general practitioners (OR = 2.48, 95% CI = 1.24-4.95) were more likely to be disciplined.

Conclusions

Although only a small fraction of practicing physicians is disciplined each year, an economic and public health issue persists. This study identified several predictors for disciplinary action, however, further studies are needed to better understand those at risk so effective interventions can be developed.

INTRODUCTION

From 1991 to 1999 in the United States, the Federation State Medical Boards (FSMB) reported an average of 3488 prejudicial state board actions per year against physicians.¹ More importantly, prejudicial actions have increased about 4.3% per year in the past decade.¹ The most common reasons for prejudicial actions were prescribing violations, substance abuse, and unprofessional conduct. Disciplinary actions included licensure revocations, probations, suspensions, and consent orders, among others.

The FSMB operates the Board Action Data Bank, a recognized system for collecting, recording, and distributing to state medical boards and other appropriate agencies data on disciplinary actions taken against licensees by the boards and other governmental agencies. However, each state medical board has the primary responsibility and obligation to protect consumers of health care through proper licensing and regulation of physicians. State medical boards act on this responsibility by upholding the medical practice act in their jurisdiction. This includes having the power to investigate, hold hearings, and impose some form of discipline when necessary. Nevertheless, the method of public disclosure of disciplined physicians varies by state. In Texas, for example, semi-annual newsletters are published with the physician's name, medical license number, city and state of practice, the violation committed, and the disciplinary action taken.

Several published studies have investigated the various types of violations, such as impaired physicians^{2,3} and sexual misconduct.⁴⁻⁶ In addition, studies have focused on various issues related to malpractice.⁷⁻¹¹ For example, Taragin and coworkers⁷ attempted to determine if any demographic characteristics of physicians were associated with an

increased rate of medical malpractice claims. However, in California, Morrison and coworkers¹² evaluated the personal characteristics of physicians who were disciplined by a state medical board to identify physicians at high risk for offenses leading to disciplinary action. The difference between a board action and a malpractice suit is significant. A malpractice claim is not always an accurate measure of a physician's competence or violation of the law. Anyone can file a malpractice suit without showing evidence of damage. Also, malpractice insurance carriers often opt to settle out-of-court rather than incur the expense of a court appearance, notwithstanding a decision on the physician's guilt, innocence, or preference.¹ On the other hand, a board action is formal process of complaint, investigation, and hearing.

The welfare of the health care consumer and the increasing number of physicians disciplined within the past decade highlight the importance of further information about the characteristics of these physicians. The National Practitioner Data Bank, a federal database with physician information similar to the FSMB database, was recently opened to the public. This move generated avid debate about the federal government and general public's roles in assuring a safe and improved standard of health care. The limited amount of information of the characteristics of disciplined physicians and extensive media coverage of the debate on public dissemination of physician profiles were the motives for this study.

METHODS

As of January 1999, the Texas State Board of Medical Examiners (TSBME) licensed 32,871 in-state physicians.¹³ During that year, the board received 8,262 written complaints, of which 1,158 resulted in an investigation.¹⁴ However, only 8.5% of these investigations led to a formal disciplinary action. The TSBME has several options once a licensee is found to have violated the Medical Practice Act (also known as the Texas Occupation Code) or the board's rules and regulations.¹⁵ These options range from a written reprimand to a license revocation. Physicians who are formally disciplined are published in a semi-annual newsletter, the Medical Board Report of the Texas State Board of Medical Examiners.

The TSBME has available and disseminates a variety of information about medical practice, rules and regulations, laws, and personal descriptions of practicing and disciplined physicians (DPs) and other health care providers. Accordingly, the two databases that were used in this study were acquired from the TSBME. The “case” database, created in 1989, consisted of demographic and professional information about physicians disciplined in Texas since its creation. The “control” database, created in 1978, was also composed of various demographic and professional information on all practicing physicians licensed by the TSBME. We subsequently limited the control database to in-state physicians who practiced any time from January 1989 to December 1998 to allow a contemporaneous comparison with cases. The variables of interest in this study include sex, race/ ethnicity, degree, and primary specialty. Age was not included since it was essentially controlled by limiting the study population to ten or less years in

practice. Because there were many specialty categories, resulting in potentially small cell numbers, a systematic consolidation was performed. For example, all surgeons, such as thoracic surgeons and neurosurgeons, were considered "surgeons." Table 1 presents the consolidation of specialties. Study methods were approved by the Institutional Review Board of the University of North Texas Health Science Center at Fort Worth.

Case database

The case database was originally comprised of 1382 cases. DPs who were no longer practicing, practicing out-of-state, or entered into the database after December 1998 were ineligible. If physicians were disciplined more than once, only the most recent entry was included. Subjects were also excluded if there was no information about their specialty. A total of 842 cases were eligible for inclusion.

As mentioned earlier, the TSBME did not add physicians disciplined prior to 1989 to the case database. However, DPs may have been practicing for many years prior to being disciplined. On the other hand, only newly licensed physicians were added to the control database which was established in January 1989. Consequently, the maximum number of years a physician in the control database may have been practicing is 10 years. Therefore, when compared to the case database, the control database had a disproportionate number of younger and less experienced physicians. To avoid for these age and experience discrepancies, DPs who practiced for more than 10 years were removed from the case database. The resulting number of DP cases was 174.

Control database

The control database initially included 10,740 licensed physicians. Individuals who were no longer practicing, practicing out-of-state, had a disciplinary record, for whom

specialty data was missing, or for whom data were entered into the database after December 1998 were excluded. A total of 10,356 non-disciplined physicians (NDPs) remained.

Statistical analysis

The two databases were merged, creating a single database for analysis. The case to control ratio was approximately 1:60. Sociodemographic characteristics of the study population were measured, including age, sex, ethnicity, degree, and primary specialty. Each of the latter were included in a simple logistic regression model to compute odds ratios (ORs) and 95% confidence intervals (CIs) for factors associated with disciplined physicians. Multiple logistic regression was then used to adjust for potential confounding variables. Hypotheses were tested at the .05 level of significance using the SPSS software package.¹⁷

RESULTS

The characteristics of the study population are presented in Table 2. Because years in practice was limited to ten, the majority of physicians were 40 years or less of age (66.2%). Most physicians were men (69.5%) and White (65.4%). African-American physicians represented 4.3% of the study population while Hispanics represented 12.1%. Doctors of osteopathy (DO) composed 6.4% of the study population.

The univariate and multivariate ORs and 95% CIs for disciplined physicians are presented in Table 3. Age was not included in the analysis since DPs and NDPs were limited to 10 or less years in practice. An analysis including age categories was conducted and demonstrated no substantive change in the study results.

Female physicians were found to be significantly less likely to be disciplined than male physicians, especially when other variables were controlled (OR = 0.27, 95% CI = 0.17-0.43, P<.001). In addition Hispanic physicians (OR = 0.58, 95% CI = 0.34-1.01, P = 0.05) demonstrated a trend toward significance in the multivariate model.

Osteopathic physicians were 1.8 times more likely to be disciplined than allopathic physicians (P = 0.02). However, osteopathic physicians lost their significance as a predictor once the aforementioned variables were controlled (OR = 1.06, 95% CI = 0.63-1.78, P = 0.82). Psychiatrists, anesthesiologists, and obstetricians/ gynecologists were not more likely to be disciplined than family medicine physicians. However, internists (OR = 0.35, 95% CI = 0.22-0.56), surgeons (OR = 0.30, 95% CI = 0.17-0.54), pediatricians (OR = 0.28, 95% CI = 0.13-0.61), and “other” specialties (OR = 0.27, 95% CI = 0.17-0.43) were significant negative predictors for disciplinary action compared to family medicine physicians. In contrast, general practitioners were significantly more likely to be disciplined (OR = 2.48, 95% CI = 1.24-4.95).

COMMENT

In 1994 the TSBME logged 3,463 complaints on their toll-free telephone line.¹⁸ However, only written complaints are considered for investigation if the allegation falls under the board’s jurisdiction and has merit. Yet, 75% to 80% of all investigations opened have no real basis and are ultimately dismissed. These investigations take an average of 188 days to complete. Nevertheless, the increasing trend of DPs is of concern to the medical profession and the public, and impacts the cost of health care.

Unfortunately, few studies have attempted to identify physicians at risk for disciplinary action.^{2-6, 12}

The eligibility criteria used in this study controlled for the number of years in practice and the age of physicians. However, a potential 10-year temporal discrepancy may exist among DP and NDP observation. For example, physicians who were disciplined in 1989 may have started practicing in 1979, while the earliest year NDPs may have started practicing was 1989. Therefore, shifting physician demographics between 1979 and 1989 may have potentially introduced a bias if the criteria for disciplinary action changed over the time period. Even though ORs were computed, an analysis of the mean years in practice of DPs was performed for each variable, showing that no significant differences existed between the categories for age, gender, ethnicity, primary specialty, or degree. Several studies have found increasing age to be a significant factor for disciplinary action or malpractice claims. For example, Kofoed and coworkers found that nearly 75% of the physicians investigated for inappropriate prescribing were aged 40 to 70 years and, on average, graduated from medical school 26 years before the time of their first complaint.⁶ Morrision also found that disciplinary action was positively associated with being in practice more than 20 years.¹² However, Charles' study on predicting risk for malpractice claims using quality-of-care characteristics determined that overall prediction was more accurate for physicians in practice 15 years or less.¹⁰

The results of this study indicate that female physicians are less likely to be disciplined than male physicians, which is consistent with other studies.^{2,3,7,12} Taragin et al found men to be three times more likely than women to be in the high-claims

malpractice group.⁷ In a study of impaired practitioners, significantly more men than women were notified to the board.² Because female physicians were found to receive higher total satisfaction ratings from patients and tend to spend more time with them than male physicians,¹⁹ they may have more satisfactory relationships with their patients, thus decreasing the risk of being sued or reported to a state medical board.

Interestingly, ethnicity is a variable that has been rarely included in past studies. Our study revealed a trend that Hispanic physicians are less likely to be disciplined than White physicians. Although Hispanic patients have been found to be less satisfied with their overall health care than White patients,²⁰ they were very satisfied with their care if their physician was Hispanic. Also, Hispanic patients seek physicians of their own race because of personal preference and language, not solely because of geographic accessibility,²¹ although Hispanic physicians are more likely than non-Hispanics to have addresses in heavily Latino zip codes.²² Stronger physician-patient relationships may exist based on a mutual understanding of culture and language, and a comfort level with one another, thus decreasing the incidence of reported complaints against Hispanic physicians. Again, this reveals the importance of the physician-patient relationship and its various facets, such as cultural sensitivity.

Previous studies support the finding that osteopathic physicians are not more likely to be disciplined than allopathic physicians.^{7,12} Although the univariate analysis found osteopathic physicians to be a positive predictor of disciplinary action, significance was lost when other variables were controlled, especially primary specialty. As of January 1999, 44% of osteopathic physicians were in family/ general practice compared to only 13% of allopathic physicians.¹³

The risk for disciplinary action for family medicine physicians, psychiatrists, anesthesiologists, and obstetricians/ gynecologists were similar. Kofoed and co-workers found family/ general practitioners and internists to be over-represented in their study.⁶ In addition, Dehlendorf found family/ general medicine physicians, psychiatrists, and obstetricians/ gynecologists to be disciplined for sex-related offenses more often than any other specialty⁴, while Morrison found psychiatrists and anesthesiologists to be over-represented¹² Each specialty's practicing environment contains unique factors that may place it at risk. For example, a study of impaired physicians found anesthesiology to be positively associated with disciplinary action.³

While specific reasons of why certain specialties at high risk for disciplinary action remains unclear, there may be some possible explanations. Patient volume may be a significant factor, especially for family/ general practitioners. Managed care has inevitably resulted various constraints in primary care offices while reducing the time to be spent with patients.²³ Patient-physician discordance occurs when the number of patients seen is a greater priority than the time spent with them. In 1999, family/ general practice had the second highest number of patient visits per week, only second to dermatology.²⁴ Feldman's study on the effects of managed care on physician-patient relationship found that under managed care physicians are less able to avoid conflicts of interest and less able to place the best interests of patients first.²³ On the other hand, patient volume does not explain why psychiatrists are over-represented in our study. In addition, psychiatrists tend to spend more time with patients based on the attributes of their profession. Again, the practicing nature of psychiatry may place this specialty in a

higher-risk group for disciplinary action, compensating for reduced patient volume and time spent with patients.

Several state medical board and malpractice studies have included foreign medical graduates and board certification as variables, which were not available in our study. It has been found that foreign medical graduates were not at increased risk for disciplinary action or malpractice claims^{7,9,12}, while disciplinary action was negatively associated with board certification.¹² Board certification for primary care physicians is 54.9%, the lowest compared to all other subspecialties.¹⁶ Additionally, as of 1998, only 14.5% of general practitioners were board certified compared to 65% of family practice physicians in the United States.¹⁶ Our study found general practitioners to be the only significantly over-represented specialty compared to family medicine physicians, although caution is advised in this interpretation since the actual cell size for NDPs was less than the expected cell size. Further studies must consider analyzing these two specialties separately to avoid misclassification bias.

This study has attempted to identify predictors of physicians who are disciplined by a state medical board. Unfortunately, it does not address incompetent or negligent physicians who were reported but never disciplined. The physician-patient relationship and its various facets appeared to be an underlying factor in our findings. One study examined the attitudes of primary care physicians who believed that managed care has had negative effects on the physician-patient relationship, freedom in clinical decisions, time spent with patients, and ease of ordering expensive tests or procedures.²³ Consumer awareness has grown with a concomitant rise in consumer reporting to state boards. In addition, the public perception about the adequacy of board disciplinary actions has been

threatened over the years, while physicians' status in society has been eroding, partially as a result of the liability crisis as it relates to the increase in malpractice claims. Consequently, the public is better informed about reporting physician misconduct.²⁶ For example, in 1993 the TSBME adopted a rule that required physicians to display easily accessible signs, in both English and Spanish, containing the board's contact information for patient complaints.²⁷ Since state boards have been undergoing drastic changes and patients have become active consumers in health care, the increase in disciplinary actions may reflect an increase in reporting of disciplinary actions rather than an increased occurrence of misconduct.

The FSMB has been active in improving data collection and analysis of disciplinary actions. As mentioned before, physicians at risk of disciplinary action are a liability to the medical profession, the public, and the financial stability of the health care system. Although less than 1% of all physicians in the country are disciplined each year, this remains as an unnecessary threat to the public.²⁶ Further studies are needed to identify predictors of disciplined physicians, including those who are reported to, but never disciplined by state medical boards.

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REFERENCES

1. Summary of board actions by type, 1991-1999. Available at: <http://www.fsmb.org>. Accessed February 24, 2001.
2. Wijesinghe CP, Dunne F. Impaired practitioners notified to the medical practitioners board of Victoria from 1983 to 1997. *Med J Aust.* 1999; 171:414-417.
3. Talbott DG, Gallegos KV, Wilson PO, Porter TL. The medical association of Georgia's impaired physicians program. *JAMA.* 1987; 257:2927-2930.
4. Dehlendorf CE, Wolfe SM. Physicians disciplined for sex-related offenses. *JAMA.* 1998; 279:1883-1888.
5. Enbom JA, Thomas CD. Evaluation of sexual misconduct complaints: The Oregon board of medical examiners, 1991 to 1995. *Am J Obstet Gynecol.* 1997; 176:1340-1346.
6. Kofoed L, Bloom JD, Williams MH, Rhyne C, Resnick M. Physicians investigated for inappropriate prescribing by the Oregon board of medical examiners. *West J Med.* 1989; 150:597-601.
7. Taragin MI, Wilczek AP, Karns E, Trout R, Carson JL. Physicians demographics and the risk of medical malpractice. *Am J Med.* 1992; 93:537-542.
8. Slawson PF, Guggenheim FG. Psychiatric malpractice: A review of the national loss experience. *Am J Psychiatry.* 1984; 141:979-981.
9. Schwartz WB, Mendelson DN. Physicians who have lost their malpractice license. *JAMA.* 1989; 262:1335-1341.

10. Charles SC, Gibbons RD, Frisch PR, Pyskoty CE, Hedcker D, Singha NK. Predicting risk for medical malpractice claims using quality-of-care characteristics. *West J Med.* 1992; 154:433-439.
11. Adamson TE, Baldwin DC, Sheehan TJ, Oppenberg AA. Characteristics of surgeons with high and low malpractice claims rates. *WJM.* 1997; 166:37-44.
12. Morrison J, Wickersham P. Physicians disciplined by a state medical board. *JAMA.* 1998; 279:1889-1893.
13. Texas State Board of Medical Examiners, Physicians by specialty, January 1999. Available at: <http://www.tsbme.org/demo/docs/0199/spec.html>. Accessed on February 24, 2001.
14. Texas State Board of Medical Examiners, Enforcement Program Statistics. Available at: <http://www.tsbme.org/enforce/enforce-aug-00.html>. Accessed on February 24, 2001.
15. Texas State Board of Medical Examiners, Board Mandates. Available at: <http://www.tsbme.org/board/mbman.html>. Accessed on February 24, 2001.
16. Pasko T, Seidman B, Birkhead S, eds. Physician characteristics and distribution in the United States. 2000-2001 ed. Chicago: American Medical Association Press; 2000: vi,31.
17. SPSS v.10 software (SPSS Inc, Chicago, IL).
18. Moran T. Board trouble: What activities attract the attention of the Texas State Board of Medical Examiners. *Tex Med.* 1995; 91:14-17.
19. Linn LS, Cope DW, Leake B. The effect of gender and training of residents on satisfaction ratings by patients. *Journal of Medical Education.* 1984; 59:964-966.

20. Saha S, Komaromy M, Koepsell TD, Bindman AB. Patient-physician racial concordance and the perceived quality and use of health care. *Arch Intern Med.* 1999; 159:997-1004.
21. Saha S, Taggart SH, Komaromy M, Bindman AB. Do patients chose physicians of their own race? *Health Aff (Millwood).* 2000; 19:76-83.
22. Hayes-Bautista DE, Hsu P, Hayes-Bautista M, Stein RM, Dowling P, Beltran R, Villagomez J. Latino physician supply in California: sources, locations, and projections. *Acad Med.* 2000; 75:727-736.
23. Feldman DS, Novack DH, Gracely E. Effects of managed care on physician-patient relationships, quality of care, and the ethical practice of medicine. *Arch Intern Med.* 1998; 158:1626-1632.
24. Wassenaar JD, Thran SL, eds. Physician socioeconomic statistics. 2000-2002 ed. Chicago: American Medical Association Press; 2000:48,125,187.
25. Scutchfield FD, Benjamin R. The role of the medical profession in physician discipline. *JAMA.* 1998; 279:1915-1916.
26. Medical practice act changes made by 73rd legislature. *Texas State Board of Medical Examiners Newsletter.* 1993; 15:5-9.

Table 1. Consolidation of Specialties

Specialties represent those listed within the Texas State Board of Medical Examiners' databases.

Table 1. Consolidation of Specialties*

Family Medicine	General Medicine	Pediatrics	Internal Medicine	Surgery
Family practice	General practice	Adolescent medicine Child neurology Child psychiatry General pediatrics Neonatal/ perinatal Pediatric allergy Pediatric cardiology Pediatric endocrine Pediatric hematology/ oncology Pediatric radiology	Cardiology Endocrinology Gastroenterology General internal medicine Genetics Geriatrics Hematology/ oncology Immunology/ allergy Infectious disease Nephrology Neurology Pulmonary diseases Rheumatology	Abdominal Cardiovascular Colon Rectal General Head and neck Neurological Ophthalmology Orthopedics Otolaryngology Pediatric Plastic Thoracic Traumatic
Anesthesiology	Psychiatry	Obstetrics/ Gynecology	Other	
Anesthesiology	General Psychoanalysis	Gynecology Obstetrics Obstetrics/ gynecology	Administrative medicine Dermatology Emergency medicine Legal medicine Manipulative therapy Pharmacology Physical medicine & rehabilitation Public health/ preventive medicine	Radiology Pathology

*All specialties represent those listed within the Texas State Board of Medical Examiners' databases.

Table 2. Characteristics of the study population

The data are presented as numbers and percentages. Percentages may differ from 100% because of rounding. DO denotes osteopathic physician; MD, allopathic physician.

Table 2. Characteristics of the study population*

	(N=10530)	
<u>Characteristic†</u>	<u>No.</u>	<u>%</u>
Age, yr		
≤40	6973	66.2
41-52	2945	28.0
53-64	522	5.0
≥65	90	0.9
Sex		
Men	7317	69.5
Women	3213	30.5
Race/ Ethnicity		
White	6888	65.4
Hispanic	1279	12.1
African-American	454	4.3
Asian/ Pacific Islander	1886	17.9
American Indian/ Native Alaskan	23	0.2
Degree		
MD	9851	93.6
DO	679	6.4

Table 2. Characteristics of the study population (cont)*

(N=10530)

<u>Characteristic†</u>	<u>No.</u>	<u>%</u>
Primary Specialty		
Family medicine	1513	14.4
General practice	136	1.3
Internal medicine	2796	26.6
Surgery	1315	12.5
Anesthesiology	752	7.1
Psychiatry	493	4.7
Obstetrics/ gynecology	611	5.8
Pediatrics	1140	10.8
Other	1774	16.8

*Data are presented as number and percentage. Percentages may differ from 100% because of rounding.

†DO denotes osteopathic physician; MD, allopathic physician.

Table 3. Factors associated with physician disciplinary action

The results are based on simple and multiple logistic regression models using NDPs as controls, and are presented as odds ratios (ORs) and 95% confidence intervals (CIs). The data are presented as numbers and percentages. Percentages may differ from 100% because of rounding. DPs denotes disciplined physicians; NDPs, non-disciplined physicians; DO, osteopathic physician; MD, allopathic physician. A ‡ represents reference categories. The statistical result for American Indian/Native Alaskan was not reported due to small cell frequencies.

Table 3. Factors associated with physician disciplinary action*

Variable†	DPs		NDPs		Univariate			Multivariate		
	No.	%	No.	%	OR	95%CI	P	OR	95%CI	P
Sex										
Men‡	154	88.5	7163	69.2	1.00	...	...	1.00	...	...
Women	20	11.5	3193	30.8	0.29	0.18-0.47	<.001	0.27	0.17-0.43	<.001
Race/ Ethnicity§										
25 White‡	127	73.0	6761	65.3	1.00	...	...	1.00	...	...
Hispanic	15	8.6	1264	12.2	0.63	0.37-1.08	0.10	0.58	0.34-1.01	0.05
African-American	9	5.2	445	4.3	1.08	0.54-2.13	0.83	1.32	0.66-2.65	0.43
Asian/ Pacific Islander	21	12.1	1865	18.0	0.60	0.38-0.95	0.03	0.69	0.43-1.11	0.12
Degree										
MD‡	155	89.1	9696	93.6	1.00	...	...	1.00	...	...
DO	19	10.9	660	6.4	1.80	1.11-2.92	0.02	1.06	0.63-1.78	0.82

Table 3. Factors associated with physician disciplinary action (cont)*

Variable†	DPs		NDPs		Univariate			Multivariate		
	No.	%	No.	%	OR	95%CI	P	OR	95%CI	P
Primary Specialty										
Family medicine‡	48	27.6	1465	14.1	1.00	...	...	1.00	...	...
General practice	11	6.3	125	1.2	2.69	1.36-5.30	0.004	2.48	1.24-4.95	0.01
Internal medicine	31	17.8	2765	26.7	0.34	0.22-0.54	<.001	0.35	0.22-0.56	<.001
Surgery	16	9.2	1299	12.5	0.38	0.21-0.67	0.001	0.30	0.17-0.54	<.001
Anesthesiology	18	10.3	734	7.1	0.75	0.43-1.30	0.30	0.67	0.38-1.16	0.15
Psychiatry	17	9.8	476	4.4	1.09	0.62-1.91	0.76	1.10	0.69-2.17	0.73
Obstetrics/ gynecology	8	4.6	603	5.8	0.41	0.19-0.86	0.02	0.47	0.22-1.01	0.05
Pediatrics	8	4.6	1132	10.9	0.22	0.10-0.46	<.001	0.28	0.13-0.61	<.001
Other	17	9.8	1757	17.0	0.30	0.17-0.52	<.001	0.27	0.17-0.43	<.001

Table 3. Factors associated with physician disciplinary action (cont)*

*Results are based on simple and multiple logistic regression models using non-disciplined physicians (N = 10356) as controls, and are presented as odds ratios (ORs) and 95% confidence intervals (CIs). Data are presented as number and percentage. Percentages may differ from 100% because of rounding.

†DO denotes osteopathic physician, MD, allopathic physician.

‡Reference category.

§The statistical result for American Indian/Native Alaskan was not reported due to small cell frequencies.

