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The Impact of Malpractice Burden on Michigan Obstetrician-Gynecologists' Career Satisfaction

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Abstract

Background—Medical services for pregnancy and childbirth are inherently risky and unpredictable. In many states, obstetrician-gynecologists (ob-gyns) who attend the majority of childbirths in the U.S. and provide the most clinically complex obstetric procedures are struggling with increasing malpractice insurance premiums and litigation risk. Despite its significant implications for patient care, the potential impact of malpractice burden on ob-gyn physicians' career satisfaction has not been rigorously tested in previous research.

Methods—Drawing on data from a statewide survey of obstetric providers in Michigan, this paper examined the association between medical liability burden and ob-gyns' career satisfaction. Malpractice insurance premiums and malpractice claims experience were used as two objective measures for medical liability burden. Descriptive statistics were calculated and multivariable logistic regressions estimated for data analysis.

Results—Although most respondents reported satisfaction with their overall career in medicine, 43.7% had become less satisfied over the last five years and 34.0% would not recommend obstetrics/gynecology to students seeking career advice. Multivariable regression analysis showed that compared to coverage through an employer, paying $50,000/year or more for liability insurance premium was associated with lower career satisfaction among ob-gyns (odds ratio = 0.35, 95% confidence interval: 0.13–0.93). We found no significant impact of malpractice claims experience,

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including both recent malpractice claims (during the last five years, i.e., 2001–2006) and earlier malpractice claims (more than five years ago), on overall career satisfaction.

Conclusions—The findings of this study suggest that high malpractice premiums negatively affect ob-gyn physicians' career satisfaction. The impact of the current medical liability climate on quality of care for pregnant women warrants further investigation.

Keywords

obstetrician-gynecologist; career satisfaction; malpractice; maternity care

Introduction and Background

Medical services for pregnancy and childbirth are inherently risky and unpredictable (Viisainen, 2000). In many states, obstetrician-gynecologists (ob-gyns) who attend the majority of childbirths in the U.S. and provide the most clinically complex obstetric procedures are struggling with increasing malpractice insurance premiums and litigation risk. This can potentially reduce income, erode the patient-physician relationship, and decrease clinical autonomy, which are all essential determinants of physician satisfaction (Mello et al., 2004). Surprisingly, few studies have empirically tested the plausible negative impact of medical liability burden on ob-gyns' satisfaction with their work.

Physician job satisfaction has been associated with better quality of care (Grol et al., 1985), and with increased patient satisfaction (Haas et al., 2000; Linn et al., 1985) and adherence to medical treatment (DiMatteo et al., 1993). Physician dissatisfaction, on the other hand, has been related to inappropriate prescribing practices (Melville, 1980), poor job performance (Kahn & Byosiere, 1992), accidents and errors (Kahn & Byosiere, 1992), and greater likelihood of leaving the medical profession or the physician's practice, decreasing work hours, changing specialty, or relocating (Buchbinder, Wilson, Melick, & Powe, 2001; Landon, Reschovsky, Pham, & Blumenthal, 2006; Pathman, Konrad, Williams, Scheckler, Linzer, & Douglas, 2002; Thommasen, Lavanchy, Connelly, Berkowitz, & Grzybowski, 2001; Williams et al., 2001). The negative impact that liability burden could exert through physician dissatisfaction has implications well beyond the obvious issues of physician exodus and defensive medicine (Zuger, 2004) which have been the dominant focus of previous research (Baldwin, Hart, Lloyd, Fordyce, & Rosenblatt, 1995; Dubay, Kaestner, & Waidmann, 1999; Grant & McInnes, 2004; Grumbach, Vranizan, Rennie, & Luft, 1997). Maternity care is particularly susceptible to such an impact because most women have frequent interaction with their providers over the nine month pregnancy.

The limited number of studies that have explored the relationship between malpractice burden and physician satisfaction have mostly relied on subjective indicators of medical legal pressure (e.g., provider self-rated influence) (Bettes, Strunk, Coleman, & Schulkin, 2004; Cypel, Sunshine, & Ellenbogen, 2005; Larimore & Sapolsky, 1995). Very few have used objective measures such as the providers' actual malpractice premium rates and litigation experience. There is a clear need for more research measuring and testing the effects of medical liability burden on physician career satisfaction. The purpose of this study is: 1) to examine career satisfaction among obstetrician-gynecologists (ob-gyns), a group of physicians particularly at risk for malpractice claims and subject to high professional liability insurance premiums (Rodwin, Chang, & Clausen, 2006), and 2) to assess the influence of their malpractice burden on career satisfaction using objective measures. Findings from this study have implications for improving the quality of health care for pregnant women.

Methods

Conceptual Model

We hypothesized that for an individual physician *i*, his/her overall career satisfaction (*S*) is determined by several factors, including demographic characteristics (*X*) such as age and gender, practice characteristics (*P*) such as type of practice and location of practice, and the amount of liability burden on them (*M*). This is illustrated in the following model:

$$S_i=\beta_0+\beta_1 X_i+\beta_2 P_i+\beta_3 M_i+\varepsilon_i \quad (1)$$

Our central research question was whether ob-gyn physicians' medical malpractice burden affects their career satisfaction and if so, how sensitive their satisfaction level is with regard to such burden. Therefore, our aim was to test whether the coefficient estimate on M_i is statistically significant from zero and the magnitude of the estimate.

Data Sources

Michigan has been classified by the American Medical Association (AMA) as a state showing signs of looming medical liability crisis (American Medical Association, 2007). In February 2006, a random sample of 800 ob-gyns in Michigan was surveyed about their provision of obstetric care, career satisfaction and medical liability concerns. The AMA Physician Masterfile, which contains detailed current and historical information on office- and hospital-based physicians in the U.S. (both AMA members and nonmembers), was used as the sampling frame. It has been widely used in similar studies to identify physicians in the U.S. (Glymour, Saha, & Bigby, 2004; Mello et al., 2004; D. Pathman & Tropman, 1995; Perloff, Kletke, & Fossett, 1995). Combined mail and online survey methods were used with repeated follow-up contacts to improve the response rate. No incentives were provided for completing the survey.

Three hundred sixty five ob-gyns responded to the survey for an adjusted response rate of 48.2% (41 surveys were undeliverable and one physician was deceased). A comparison between respondents and non-respondents based on the demographic and practice characteristics recorded in the AMA Physician Masterfile suggested that male ob-gyns and older ob-gyns were more likely than their other colleagues to respond to the survey. Weights were constructed and routinely applied in analysis to adjust for such observed non-response bias and the complex sample design (see Appendix A for more details). After applying the weights, characteristics of survey respondents were comparable to the general ob-gyn physician population in Michigan.

For the purpose of this paper, we focused on 287 attending physicians currently engaged in clinical practice in Michigan (of the 365 respondents, 24 were not currently engaged in clinical practice, eight were practicing outside Michigan, 42 were residents or fellows in training, and four did not provide sufficient data). This study was approved by the University of Michigan Medical School Institutional Review Board.

Outcome Measures

Our primary outcome measure was respondents' overall satisfaction with their current career. The survey questions asked "Thinking very generally about your satisfaction with your overall career in health care, would you say that you are currently …" Respondents could indicate their satisfaction level on a five point scale ranging from "very dissatisfied" to "very satisfied" with higher score indicating greater satisfaction. To enable comparison with national data, the question on overall career satisfaction in our survey was adapted from that used in the Community Tracking Study (CTS) Physician Survey (Center for Studying Health System Change, 2006). For those who had been in practice for at least five years, we also asked how

their overall career satisfaction had changed compared to five years ago, ranging from "a lot more dissatisfied" to "a lot more satisfied."

In addition, we determined each respondent's satisfaction with specific aspects of their practice, including autonomy, relationship with patients, compensation, administrative responsibility, and interruption of their personal life. Validated survey items developed by Linzer et al. (Linzer et al., 2000) and Williams et al. (Williams et al., 1999) were used to ascertain this information.

Medical Liability Burden

Two sets of variables were used to measure the level of medical liability burden experienced by a given respondent: 1) his/her malpractice insurance premium, including five dummy variables indicating high premium rate (self-purchased liability insurance with premiums ≥ $50,000/year), low premium rate (self-purchased liability insurance with premiums <$50,000/year), self-purchased liability insurance but reported not knowing the premium rate, no medical liability coverage, or liability insurance coverage through an employer (reference group); and 2) his/her malpractice claims experience, including three dummy variables indicating any recent malpractice claim (during the last five years, i.e., 2001–2006), past malpractice claims only (more than five years ago), or no claims (reference group).

We used $50,000/year as the cutoff value in defining high versus low liability insurance premium based on our preliminary analysis of the data. In such analysis, respondents who reported premium rates were categorized into more detailed groups: <$25,000, $25,000–$34,999, $35,000–$49,999, and ≥$50,000 (the values were selected to obtain roughly equally distributed groups while at the same time maintain a reasonable sample size within each group). The results showed no significant difference between the reference group (those covered through an employer) and the three lower premium groups in predicting career satisfaction. Therefore, we chose to combine the three lower premium groups and use $50,000/year as the cutoff value in our final analysis.

Statistical Analysis

Summary statistics were calculated for each measure of career satisfaction and liability burden. To assess the level of career satisfaction among Michigan ob-gyns in comparison with their counterparts nationally, we also compared our results with data obtained from the 2004–2005 CTS Physician Survey regarding physicians' overall career satisfaction (Center for Studying Health System Change, 2006).

To examine whether medical liability concerns affect ob-gyns' career satisfaction, we conducted multivariable regression analysis with physician self-rated, overall current career satisfaction as the dependent variable. Besides measures of liability burden, other explanatory variables considered included age, gender (female versus male), race/ethnicity (non-Hispanic White versus other), location of medical school (within Michigan, other country, versus other states in the U.S.), board certification (certified versus not certified), type of practice (primarily solo practice, office-based non-solo practice, or non-office-based practice), urban-rural status of the primary practice, the average number of hours spent on direct patient care each week, and practice of obstetric care (whether currently practicing obstetrics, discontinuation of obstetric care within the last five years, discontinuation of obstetric care more than five years ago, or no practice of obstetric care in the past).

Bivariate analyses were first conducted to examine the relationship between each candidate explanatory variable and career satisfaction. The final specification of the multivariable regression model included only variables with a P value less than 0.10 in bivariate analysis. Due to the ordinal nature of the dependent variable, ordinal logistic regressions were used.

Estimation of equation (1) was performed by first using malpractice premium variables as the primary explanatory variables, and then using claims experience variables as the primary explanatory variables. The two regressions were estimated separately. P values less than 0.05 were considered statistically significant. All data analyses were conducted using SAS 9.1 (SAS Institute Inc., Cary, NC).

Results

Sample Characteristics

Forty three percent of the respondents were female and 80.9% were non-Hispanic white. Fifty five percent had graduated from a medical school within Michigan while 9.3% had graduated from a medical school outside the U.S. Most (88.5%) were board certified. Eighty nine percent had a primary office located in an urban area, and 86% were in office-based practice (21.8% in solo practice and 64.1% in other office-based practice). At the time of the survey, 82.1% reported that they provided obstetric care and among those providing obstetric care, 99.7% were delivering babies.

Career Satisfaction

Seventy nine percent of the respondents indicated that they were satisfied with their career in general, while 15.6% expressed dissatisfaction (Table 1). These figures are comparable to national data on ob-gyns' career satisfaction derived from the 2004–2005 CTS Physician Survey. In the CTS survey, 31.2%, 42.7%, 0.4%, 16.7%, and 8.9% of ob-gyns said that they were very satisfied, somewhat satisfied, neither satisfied nor dissatisfied, somewhat dissatisfied, or very dissatisfied with their overall career in medicine, respectively (data not shown). These percentages reflect significantly lower career satisfaction compared to physicians from other specialties responding to the CTS survey (43.5%, 41.5%, 1.4%, 10.1%, and 3.5%, respectively) ($P<0.01$; data not shown). A notable 43.7% of the respondents in our survey said that they were "somewhat more" or "a lot more" *dissatisfied* with their career compared with five years ago, while only 25.7% reported increased satisfaction.

When asked about detailed aspects of career satisfaction, most ob-gyns agreed that they had the freedom to make clinical decisions in the best interest of their patients, could obtain referrals to specialists for patients when medically necessary, and felt a strong personal connection with patients (Table 2). Other aspects of practice, however, revealed worrisome results. In particular, 79.3% of the ob-gyns reported paperwork/reimbursement/administrative demand as a burden, and 35.7% of the respondents indicated that time pressure kept them from developing good patient relationships. An additional 47.3% felt that their total compensation package was not fair. An alarming 34% of the physicians would not recommend obstetrics/gynecology to students seeking career advice.

Impact of Medical Liability Burden

Fifty two percent of the respondents obtained liability insurance coverage through their employer, while 2.4% were practicing "bare" (Table 3). Nearly one in ten ob-gyns in our sample paid $50,000 or more per year for their malpractice premium. In terms of malpractice claims, 46.4% had been filed a claim within the last 5 years. Only 21.4% of the respondents had never been filed with a claim previously.

Bivariate analysis found no significant association between most demographic variables (e.g., age, gender) and career satisfaction; therefore, they were not included in the multivariable analysis. Results from ordinal logistic regression analysis suggested that after adjustment for other factors, ob-gyns who paid $50,000/year or more for medical liability insurance premiums had significantly lower career satisfaction than their counterparts who obtained liability

coverage through an employer (odds ratio = 0.35, 95% confidence interval: 0.13–0.93) (Table 4). However, personal malpractice claims experience did not appear to affect career satisfaction. Other significant factors that were associated with ob-gyns' career satisfaction included the location of primary practice and recent discontinuation of obstetric care. Ob-gyns with a primary office in a metropolitan area of Michigan were twice as likely as non-metropolitan ob-gyns to report higher satisfaction, while ob-gyns who had stopped obstetrics within the last five years tended to have significantly lower career satisfaction than other physicians.

Conclusions and Discussion

The major changes in the finance, technology, organization, and delivery of health care that have occurred in recent years have led to an increased interest in physicians' satisfaction or dissatisfaction with their jobs (Freeborn, 2001; Glymour et al., 2004; Konrad et al., 1999; Landon, Reschovsky, & Blumenthal, 2003; Leigh, Kravitz, Schembri, Samuels, & Mobley, 2002; Linzer et al., 2000; Pathman, Konrad, Williams, Scheckler, Linzer, & Douglas, 2002; Williams et al., 2001). Increased time pressures, erosion of autonomy, rising expectations, numerous guidelines and recommendations from varying professional societies, health plans, and advocacy organizations all contribute to physicians' professional distress (Mechanic 2003). Although some studies have shown only marginal decline in physicians' career satisfaction (Landon, Reschovsky, & Blumenthal, 2003), others have suggested increased dissatisfaction over the past decade (Landon, Aseltine, Shaul, Miller, Auerbach, & Cleary, 2002). Physicians in the specialty of obstetrics/gynecology have reported more dissatisfaction than other specialties (Leigh, Kravitz, Schembri, Samuel, & Mobley, 2002; Kravitz, Leigh, Samuels, Schembri, & Gilbert, 2003).

Medical liability adds another layer to physicians' burden and can have significant implications for their income, relationship with patients, and clinical autonomy (Mello et al.. 2004). However, this important attribute of the current practice environment has been largely neglected in the literature assessing physician career satisfaction. This issue is of particular relevance for obstetrics/gynecology, a specialty heavily affected by liability issues. Although most ob-gyns practicing in Michigan reported satisfaction with their overall career in medicine, 43.7% had become less satisfied over the last five years (compared with 34.4% of family/general medicine physicians whom we also surveyed, $P<0.01$). Those who paid $50,000/year or more for malpractice insurance premiums reported lower career satisfaction than ob-gyns who obtained liability insurance through an employer.

Our study is among the first to directly test the relationship between physicians' medical liability burden and career satisfaction using objective measures of liability burden. Mello et al. (Mello et al., 2004) examined data from specialists (including ob-gyns) practicing in Pennsylvania, one of the states hit hardest by escalating liability costs. They found that prior liability experience, measured by whether the physician had been dropped by an insurer and/or sued over the last three years, was negatively associated with the physician's likelihood of recommending practice in Pennsylvania (without adjustment for other factors). The study also showed a significant negative impact of malpractice premium burden on physician career satisfaction; however, the burden was measured by respondents' self-perception (rated as minor, major, or extreme burden) as opposed to actual premium rates, and no sub-analysis was conducted by specialty (e.g., obstetrics and gynecology versus other specialties). Becker et al. (Becker, Milad, & Klock, 2006) recently undertook a survey of obstetrics and gynecology residents and examined the relationship between career satisfaction and malpractice concerns. The authors found an inverse correlation between overall career satisfaction and concerns about malpractice. Even after adjustment was made for other factors, consideration of pursuing

fellowship training or exclusively gynecology because of concerns about malpractice was found to be strongly predictive of diminishing career satisfaction (Becker et al., 2006).

Other studies have mostly relied on subjective indicators, e.g., subjective measures of liability burden, or physician cited reasons for dissatisfaction. Surveys conducted among a national sample of radiologists and among Florida family physicians showed that medicolegal issues were cited as a major contributor to dissatisfaction with their practice (Cypel et al., 2005; Larimore & Sapolsky, 1995). Leigh and his colleagues (Leigh et al., 2002) examined physician career satisfaction across specialties using data from the 1996–1997 CTS survey of 12,474 physicians and found that among all of the specialties surveyed, obstetrics/gynecology specialists ranked second in their adjusted odds ratio of reporting being dissatisfied. Close to a quarter of respondents reported being somewhat or very dissatisfied with their overall career in medicine. “Rising expectations for perfect birth outcomes and high medicolegal risks” were proposed as the possible reasons (Leigh et al., 2002).

In 2001, a national survey was conducted among the American College of Obstetricians and Gynecologists (ACOG) Fellows to assess the impact of their career pressures on career satisfaction (Bettes et al., 2004). The study used physician self-rated impact of liability insurance concern on duration of professional life to measure malpractice pressure (low-, moderate-, or high-impact based on a seven point scale, 0 (not at all) to 6 (greatly)), and showed that decreased pressure was associated with increased career satisfaction (Bettes et al., 2004).

Results from our study extend this literature by providing objective evidence that in Michigan, high malpractice premiums significantly reduced ob-gyns’ contentment with their career. Higher liability insurance premiums can affect a physician’s career satisfaction through several mechanisms. First, they potentially reduce physicians’ income by increasing their practice expense. Prior research comparing trends in inflation-adjusted annual incomes in five specialty groups (family practitioners, general internists, general surgeons, pediatricians, and ob-gyns) showed that ob-gyns were the only group experiencing a net loss of income between 1987 and 1998; all other specialty groups examined had a considerable increase in incomes over the period (Weeks & Wallace, 2003). Our data also indicate that 47% of Michigan ob-gyns felt their compensation was unfair. High malpractice insurance premiums could further reduce their income, which is known to be associated with decreased satisfaction (Hadley & Mitchell, 2002). Second, it has been argued that “premiums are calculated using the probabilities of claims and payment amounts and attorney fees” (Bhat, 2001). Therefore, at least to some extent, higher premium rates can influence a physician’s expectation for both the risk of having a malpractice claim filed and the expected payment amount, which may negatively affect the patient-physician relationship and decrease clinical autonomy. All these factors can result in decreased career satisfaction (Mello et al., 2004; Landon, Reschovsky, & Blumenthal, 2003). Efforts to reduce liability insurance cost for ob-gyns have the potential to improve their career satisfaction. Given the profound influence of physician satisfaction on patient care, the implications of our findings for the quality of maternity care also warrant further investigation.

Although we did not find a significant association between Michigan ob-gyns’ personal malpractice claims experience and their overall career satisfaction, the measure we used (i.e., recent claims, earlier claims, versus no claims) captured only whether the physician had any malpractice claim and the approximate timing of these claims. It did not reflect certain details about the experience, such as the total number of lawsuits, the exact timing of the claims, and the outcome of the claims. A recent study conducted by researchers from the Harvard University found that nearly half of malpractice claims are dismissed without any compensation payment (Studdert et al., 2006). Therefore, whether or not a claim was filed may not fully reflect the negative impact of the experience. It is also likely that given its modest sample size, our study may be underpowered in detecting small differences in career

satisfaction between physicians with different malpractice claim experiences. Future studies of larger scale will help test such effects more definitively.

Several other limitations of this study should be acknowledged. First, as is the case with all surveys, our results are subject to potential non-response bias. If physicians with more adverse experiences with malpractice issues were more likely to respond, our results may have overestimated the negative impact of malpractice concern on ob-gyns' career satisfaction. In addition, our survey did not ascertain information on the respondents' salary and data on the level of involvement with managed care was not available for all the respondents, which potentially could also affect physician satisfaction. However, in a sensitivity analysis, we replicated our models using a sub-sample of physicians (n = 207) for whom some information on managed care involvement was available. Specifically, respondents in our survey who reported currently engaging in obstetric practice were asked what percentage of their current obstetric patients was covered under managed care: 0%, 1–10%, 11–25%, 26–50%, >50%, or "Don't Know" (physicians who did not include obstetrics in their practice at the time of the survey skipped this question). Analysis including this additional managed care variable showed no significant influence of managed care involvement on these obstetrician-gynecologists' career satisfaction and there is no meaningful difference in our key findings. Finally, given that professional liability insurance premiums and state policies relating to malpractice issues (e.g., damage caps in medical malpractice litigation) vary substantially across geographic areas (Mello, 2006), our findings based on data from Michigan may not generalize to other parts of the country.

Despite these limitations, our study provides further evidence that high malpractice insurance premiums are associated with lower career satisfaction among ob-gyns. The fact that 43.7% of ob-gyns reported a reduction in career satisfaction over the last five years is of great concern. The implications of these data for the quality of health care for pregnant women warrant further investigation to help fully understand the effect of current medical liability climate on obstetric care.

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Appendix A. Construction of Weights

The design of our survey used stratified random sampling in which non-office-based physicians (e.g., hospital employed, residents/fellows) and physicians whose addresses were in a non-metropolitan county were over-sampled. As a result, physicians with different characteristics had a different probability of being selected. In addition, comparisons between survey respondents and non-respondents suggested significant differences by physician age and gender. Therefore, we created weighting variables to account for the unequal probabilities of selection across sample strata and adjust for non-response. The weights were routinely used in our analysis.

Physicians were drawn from seven strata defined based on their specialty, location in metropolitan versus non-metropolitan counties, and office-based versus non-office based practices. The base weight for a particular respondent in stratum *i* was calculated as the total number of eligible physicians in that stratum (based on the AMA Physician Masterfile) divided

by the number of sampled physicians in the stratum. Next, post-stratification using physician age (five categories: <35, 35–44, 45–54, 55–64, and ≥65) and gender (male versus female) were performed to adjust for non-response. Physicians were categorized into different cells based on the combination of these characteristics. A non-response factor for cell *j* was calculated as the total weight of all sampled physicians in the cell divided by the total weight of respondents in the cell. The final weight was then calculated as the base weight multiplied by the non-response factor. By applying the final weights, proportions of selected characteristics (gender and age) of the respondents equal the estimated proportions in the eligible Michigan physician population and the sum of the weights equal the number of eligible physicians in Michigan.

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Table 1

Michigan obstetrician-gynecologists' overall career satisfaction

Overall Career Satisfaction	%
Thinking very generally about your satisfaction with your overall career in health care, would you say that you are currently	
Very satisfied	28.9
Somewhat satisfied	50.5
Neither satisfied nor dissatisfied	5.0
Somewhat dissatisfied	12.2
Very dissatisfied	3.4
Compared with your career satisfaction 5 years ago, would you say you are now	
A lot more satisfied	9.4
Somewhat more satisfied	16.3
About the same	30.6
Somewhat more dissatisfied	31.7
A lot more dissatisfied	12.0

Respondents with missing data on the variable were not included in these descriptive statistics. For any one of the variables, the proportion with missing data did not exceed 3.8%. Percentages may not add up to exactly 100% due to rounding.

Table 2

Michigan obstetrician-gynecologists' satisfaction with specific aspects of clinical practice

Aspects of Career Satisfaction	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Have the freedom to make clinical decisions in the best interest of my patients (%)	26.6	52.2	9.5	11.1	0.7
Can obtain referrals to specialists for patients when it is medically necessary (%)	25.1	53.1	12.7	8.5	0.6
Feel a strong personal connection with patients (%)	47.2	40.3	9.7	1.8	1.0
Time pressure keeps me from developing good patient relationships (%)	2.6	33.1	20.7	37.7	5.9
The interruption of personal life by work is a problem (%)	19.2	33.2	18.9	25.4	3.2
My total compensation package is fair (%)	3.8	27.9	21.1	33.4	13.9
Paperwork/reimbursement/administrative demand is a burden to me (%)	38.3	41.0	13.2	5.1	2.5
I would recommend my specialty to a student seeking advice (%)	9.4	33.6	22.9	24.5	9.5

Respondents with missing data on the variable were not included in these descriptive statistics. For any one of the variables, the proportion with missing data did not exceed 3.1%. Percentages in each row may not add up to exactly 100% due to rounding.

Table 3

Michigan obstetrician-gynecologists' medical liability burden

Medical Liability Burden	%
Malpractice insurance premium	
Self-purchased coverage with premium rate ≥ $50,000/year	9.4
Self-purchased coverage with premium rate < $50,000/year	29.0
Self-purchased coverage but did not know the premium rate	7.7
No malpractice insurance coverage	2.4
Covered through an employer (reference group)	51.5
Malpractice claim experience	
Malpractice claim within the last five years	46.4
Malpractice claim more than five years ago	32.2
No claim (reference group)	21.4

Respondents with missing data on the variable were not included in these descriptive statistics. For any one of the variables, the proportion with missing data did not exceed 4.5%. Percentages may not add up to exactly 100% due to rounding.

Table 4

Multivariable analysis on the effects of medical liability burden on Michigan obstetrician-gynecologists' overall career satisfaction

Explanatory Variables	Overall Career Satisfaction [a]	Overall Career Satisfaction [a]
	Adjusted OR (95% CI)[b]	Adjusted OR (95% CI)[b]
Non-Hispanic White (vs. other race/ethnicity)	1.73 (0.86–3.47)	1.76 (0.88–3.54)
Primary practice located in a metropolitan (vs. non-metropolitan) county	**2.13 (1.12–4.08)**	**2.16 (1.18–3.97)**
Private solo practice (vs. office based non-solo practice)	0.85 (0.43–1.67)	0.79 (0.41–1.52)
Non-office-based practice (vs. office based non-solo practice)	1.59 (0.78–3.24)	1.88 (0.96–3.68)
Stopped obstetric practice within the last five years	**0.40 (0.18–0.91)**	**0.35 (0.14–0.83)**
Malpractice insurance premium (reference group = covered through an employer)		
Self-purchased coverage with premium rate ≥ $50,000/year	**0.35 (0.13–0.93)**	-
Self-purchased coverage with premium rate < $50,000/year	0.98 (0.54–1.78)	-
Self-purchased coverage but did not know the premium rate	0.34 (0.12–1.00)	-
No malpractice insurance coverage	0.22 (0.04–1.41)	-
Malpractice claim experience (reference group = no claim)		
Malpractice claim within the last 5 years	-	1.21 (0.63–2.33)
Malpractice claim more than 5 years ago	-	1.12 (0.55–2.27)
Sample size[c]	268	272
Likelihood ratio	122.33	79.59
Prob > Chi square	<0.0001	<0.0001

Multivariable ordinal logistic regression analysis was conducted. Odds ratios greater than one indicate association with higher career satisfaction, and odds ratios less than one suggest association with lower career satisfaction.

[a] Measured as an ordered categorical variable from 1 to 5 with greater values indicating higher career satisfaction (1 = "very dissatisfied"; 5 = "very satisfied").

[b] OR: odds ratio; 95% CI: 95% confidence interval.

[c] Less than 7% of the respondents had missing data on one of more of the variables and hence were not included in the regression analysis.