

# Charges for Obstetric Liability Insurance and Discontinuation of Obstetric Practice in New York

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**BACKGROUND.** The study objective was to determine whether New York physicians facing higher charges for obstetric liability insurance coverage are more likely to discontinue obstetric practice than physicians experiencing lower levels of increases in liability insurance charges.

**METHODS.** We performed a physician-level analysis of factors predicting discontinuation of hospital-based obstetric practice by 1989 for physicians active in obstetrics in 1980. We examined both physicians who became completely clinically inactive in New York between 1980 and 1989, and physicians who remained clinically active but restricted their hospital practice to areas other than obstetrics. Multiple logistic regression models were used to analyze predictors of discontinuation of obstetrics, including regional malpractice insurance charges, physician characteristics, and practice characteristics.

**RESULTS.** Although increases in malpractice insurance charges differed considerably among regions within New York State, there was no association between level of increase of charges for liability insurance and discontinuation of obstetric practice. A greater number of years since medical licensure was associated both with complete discontinuation of hospital practice in New York and selective discontinuation of obstetrical practice. Compared with obstetrician-gynecologists, family physicians were less likely to become completely clinically inactive. Among physicians who remained clinically active in hospital care, however, family physicians were less likely than obstetrician-gynecologists to continue to include obstetrics in their practice.

**CONCLUSIONS.** There is no relationship between the level of increase in liability insurance premiums and the likelihood of discontinuing obstetric practice in New York. Discontinuation of obstetric practice appears to mainly reflect trends in the physician's life cycle of practice activity and in the scope of family and general practice.

**KEY WORDS.** Obstetrics; insurance, liability; family practice. (*J Fam Pract* 1997; 44:61-70)

The expense of malpractice insurance and fear of litigation are frequently cited as contributors to the high costs of medical care and the practice of "defensive medicine" in the United States.<sup>1,2</sup> In the area of obstetrics, defensive medicine may manifest in several different ways. Physicians may alter their style of practicing obstetrics, for example, adopting a more interventional style of care, in an attempt to avoid adverse birth outcomes that might lead to lit-

igation. One study found that rates of cesarean section in New York State were higher among physicians who had been targets of malpractice suits and who practiced in areas with higher charges for malpractice insurance coverage.<sup>3</sup> A more recent study, however, found that malpractice claims experiences were not associated with higher rates of elective cesarean sections or higher costs of care for low-risk women in the state of Washington.<sup>4</sup>

A more extreme manifestation of defensive medicine may be to discontinue the practice of obstetrics altogether, either by premature retirement or by restricting clinical practice to areas other than obstetrics. A 1990 New York State physician survey found that 17% of obstetrician-gynecologists and 70% of family physicians who had ever practiced obstetrics had stopped delivering babies.<sup>5</sup> Of those who had discontinued obstetrics, one third stated

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that the cost of malpractice insurance was the most important factor in their decision. Studies of physicians in other states have reported similar rates of attrition from obstetrical practice, with physicians in these studies consistently reporting concerns about malpractice premium costs and litigation as one of the principal reasons for discontinuing obstetrics.<sup>6-10</sup>

More objective data have been lacking, however, to validate the subjective view of physicians that the rising cost of liability insurance is a decisive factor influencing discontinuation of obstetric care. There is a long-standing trend for obstetrician-gynecologists to reduce or discontinue obstetric practice as they age, and this trend does not appear to have changed in recent years.<sup>6,11</sup> Although reductions in the number of family physicians practicing obstetrics have been more dramatic in the past decade,<sup>12</sup> it is not clear that the cost of liability insurance is a prime factor in this greater trend toward their discontinuation of obstetric practice. Pathman and Tropman,<sup>13</sup> in a study of a national sample of rural family physicians, failed to find an association between malpractice premium costs and provision of obstetrical care. Estimates of regional malpractice costs were based on prices from only a single insurance carrier, however. Nesbitt et al<sup>14</sup> surveyed family physicians in northern California who had recently discontinued the obstetrics component of their practice. Although many of these physicians stated that they would consider resuming obstetrics if malpractice insurance costs decreased, none of these physicians actually resumed obstetrics after premiums for obstetric liability insurance declined by nearly 25% in northern California. Rosenblatt et al<sup>11</sup> examined the association between individual malpractice claims experience, rather than overall premium costs, and discontinuation of obstetrics among physicians in Washington State over the period 1982 to 1988. Obstetrician-gynecologists who had been targets of malpractice claims were more likely to cease practicing obstetrics, although no association between claims experience and obstetrical practice was found for family physicians.

We examined changes in obstetric practice and liability insurance in different regions of New York State between 1980 and 1989 to determine whether higher rates of increase of obstetric liability insurance premiums were associated with higher rates of discontinuation of obstetric practice by physicians. We hypothesized that factors such as physician age

and patient volume would be stronger predictors of discontinuation of obstetric practice than the rate of increase of charges for obstetric liability insurance.

## METHODS

Data on charges for medical liability insurance were obtained from malpractice insurance carriers selling policies to New York State physicians and from the New York State Department of Insurance. Because malpractice insurance charges are adjusted on a fiscal year basis, we considered charges in the 1988-89 fiscal year to be the relevant charges for evaluating the decision to discontinue obstetric practice by January 1, 1989. Three carriers sold obstetrical liability insurance in 1980 and four in 1988. Malpractice insurance charge data were unavailable for self-insured hospitals or medical groups; these self-insured policies primarily cover physician staff at teaching hospitals, municipal hospitals such as those of the New York City Health and Hospitals Corporation, and large HMOs, rather than office-based private physicians.

Carriers charge different rates for different regions within New York State. Most carriers group counties into four major territories; we used these territories as the basis for comparing the effects of different levels of increase in liability insurance prices. The four territories are: Manhattan, Westchester (New York, Orange, Ulster, Westchester counties), Bronx, Brooklyn, Queens (Bronx, Kings, Queens, Richmond, Rockland counties), Long Island (Nassau, Suffolk, Sullivan counties), and Upstate New York (all other counties). Although the territories are composed of counties, the county groupings are not necessarily contiguous. Charges were identified according to specialty class of medical practice. Mean charges for each territory and specialty class were calculated weighted by the proportion of total medical liability policies in effect for each carrier in the years 1980 and 1988.

To attempt to better measure the incremental cost of malpractice insurance for obstetrics relative to the general cost of medical malpractice, we subtracted the charge for malpractice coverage for gynecology alone from the cost of coverage for gynecology with obstetrics in each of the study years. We refer to the change in the difference between malpractice premium charges for gynecology with obstetrics and gynecology without obstetrics as the



increase in "adjusted" obstetric malpractice charges in the four territories. In 1980, the baseline year for our study, all liability insurance carriers in New York listed obstetrics and gynecology and gynecology without obstetrics in the same malpractice premium category. Practicing gynecology without obstetrics thus conferred no advantage on obstetrician-gynecologists in 1980 in New York in terms of savings on expenses for liability insurance. The largest medical liability insurance carrier in New York introduced separate categories in 1984 for obstetrics with gynecology and gynecology without obstetrics. A carrier with fewer policies instituted premium differentials between these categories in 1982, and the third largest carrier adopted the differentials in 1988 (personal communication, Elaine Chung, New York Department of Insurance, November 30, 1993). For family physicians, premium differentials between those including and those not including obstetrics in their practice existed in 1980 and widened over the decade.

We also obtained information about trends in physician fees for obstetric care in New York as an indicator of potential increases in earnings for physicians practicing obstetrics. We used data from the Health Insurance Association of America to measure changes in mean prevailing fees at the local level for the service "prenatal care with vaginal delivery."

We used computerized hospital discharge abstract files from the New York Statewide Planning and Research Cooperative Systems to measure hospital admissions of physicians providing inpatient care in New York in the years 1980 and 1989. All discharges were identified that had an ICD-9-CM code for childbirth listed as the principal diagnosis. The discharge files also specify the attending physician for each hospitalization, using an encrypted physician identifier number. We were, therefore, able to construct physician level files measuring the number of births attended in each of the years 1980 and 1989 by New York physicians active in hospital practice. Using the same methods, we also measured the volume of hysterectomies performed by physicians who were active in obstetrics in 1980. We considered hysterectomy volume to be a proxy for the level of inpatient gynecologic practice.

We used 1980 as our baseline year and considered a physician to be active in obstetrics if he or she attended two or more hospital births that year. We excluded physicians with just one delivery to reduce

the chances of mislabeling a physician as an obstetric provider owing to miscoding of a diagnosis or an erroneous physician license number on the discharge abstract. We then examined the hospital practices in 1989 of those physicians who were active in obstetrics in 1980. We used a two-step approach for this analysis. We first determined whether physicians active in obstetrics in 1980 were still active in hospital practice in any form in New York in 1989, defined as attending two or more hospital discharges of any type. Inactivity thus represents retirement from hospital practice in New York or move to a different state. For those physicians who remained active in hospital practice in New York in 1989, we determined whether they still attended births or whether they had restricted their hospital practice to activities other than obstetrics, defined as physicians attending fewer than two births in 1989 but having two or more discharges for nonobstetrical conditions that year.

We also used hospital discharge abstracts to calculate the proportion of each physician's discharges for which the principal payer was Medicaid. In addition, we identified the hospital at which each physician attended the greatest number of deliveries in 1980 and 1989, and calculated the total number of physicians attending births at hospitals within a 15-mile radius of that hospital. We also used the code for the physician's principal hospital to identify the hospital as a public hospital, a private teaching hospital, or a nonpublic, nonteaching hospital.

We linked discharge abstract data with medical license data to obtain more information about physician characteristics. Medical license data were encoded by the New York State Board of Education (the licensing agency) with the same encrypted physician license numbers used on the hospital discharge abstracts. We used the license file data to identify physician specialty and year first licensed to practice medicine in New York State. Physician date of birth was not consistently available. Specialty reporting is mandatory only for physicians enrolled in the Medicaid program. We were unable to match 159 (6.6%) physicians performing obstetrics in 1980 to the medical license file, and excluded these physicians from the analysis. An additional 171 (7.1%) physicians had specialties listed that did not include the specialties of obstetrics-gynecology, family medicine, or general practice. Most of these physicians



with other specialties were listed on only two or three obstetrical discharges, and we considered it unlikely that these were the actual physicians who attended the birth. We therefore excluded these physicians from our further analysis, producing a final sample of 2070 physicians. (We retained physicians with unspecified specialties in the sample because specialty reporting was not required by state agencies, and these physicians had a median of 25 deliveries in 1980.)

We first analyzed predictors of physicians' becoming completely inactive between 1980 and 1989. We then examined physicians who remained active in 1989 to analyze predictors of physicians discontinuing obstetrics but remaining clinically active in other areas. We used 2-tailed *t* tests for continuous variables and chi-square tests for categorical variables when comparing unadjusted results. We then performed multiple logistic regression analyses to measure the independent contribution of each variable. In all physician level analyses we treated the adjusted charge for malpractice insurance as a continuous variable and assigned the charge to each individual physician based on the location of practice in 1980 and 1989. Because of the relatively small sample of family physicians and general practitioners, we lacked the statistical power to perform completely separate regression analyses for the family physician-general practitioner group and the obstetrician-gynecologist group. We did, however, explore adding interaction terms for malpractice premium costs and specialty to the regression model to investigate whether malpractice premiums might affect physicians differently depending on their specialty. Also, because malpractice premium costs were based on area-level prices, the malpractice premium variable may capture area level characteristics other than malpractice costs. We therefore repeated the regression analyses using dummy variables for each of the four malpractice territories instead of using a linear term for the dollar amount of the malpractice premiums.

## RESULTS

Charges for medical liability insurance rose steeply in all territories of New York from 1980 to 1989 (Table 1). Although the percent increase in premiums was similar across territories, the absolute increases differed considerably by territory because

of the different premium levels at baseline. By fiscal year 1988-89, the malpractice insurance charge for obstetrics in the highest priced territory (Long Island) was over \$48,000 more than the charge in the lowest priced territory (Upstate New York). Similarly, the difference between malpractice coverage for obstetrics with gynecology and coverage for gynecology only in 1988-89 was \$25,500 in Long Island compared with \$11,596 in Upstate New York. For family physicians, the trends were similar, although the absolute charges for liability insurance were much lower than those for obstetrician-gynecologists.

In 1980, 2070 physicians in our sample attended two or more deliveries in hospitals in New York. By 1989, 611 (30%) were completely clinically inactive in New York. Physicians active in obstetrics in New York in 1980 were somewhat less likely to become completely clinically inactive by 1989 than the overall pool of physicians practicing any facet of hospital care in New York in 1980 (30% vs 44%, respectively). Of the 1459 physicians who remained clinically active in 1989, 1193 (82%) still included obstetrics in their hospital practice. These 1193 physicians represent 58% of the physicians in the original cohort of physicians active in obstetrics in 1980.

Table 2 compares physicians who were active in obstetrics in 1980 and became completely clinically inactive in New York by 1989 with those who remained clinically active in some area of hospital care. Physicians who became inactive by 1989 had lower volume obstetric and gynecologic practices in 1980, attending fewer births and performing fewer hysterectomies in 1980 than their counterparts who remained clinically active in 1989. Physicians who became inactive had also been licensed longer, had a higher percentage of Medicaid patients in their practice, and were more likely to have a specialty that was unspecified or in obstetrics-gynecology. (The predictiveness of an "unspecified" specialty likely reflects less stringent reporting requirements by the licensing board in the early 1980s; physicians who discontinued practice by 1989 would therefore be less likely to have had specialty data recorded.) Of note, there was no difference in the absolute increase in adjusted charges for obstetric malpractice insurance faced by physicians who remained active and those who became inactive.

Table 3 examines the 1459 physicians still active in 1989, comparing the characteristics of the 1193



who continued obstetrical practice with those of the 266 who discontinued obstetrics. Compared with physicians who remained active in obstetrics in both study years, physicians who selectively discontinued obstetrics attended fewer deliveries in 1980 and attended fewer births in 1980 relative to the number of hysterectomies performed. Physicians selectively discontinuing obstetrics also had been licensed longer and had a lower proportion of discharges covered by Medicaid. Physicians with a specialty of obstetrics-gynecology were less likely to selectively discontinue obstetrics than were family physicians. Physicians selectively discontinuing obstetrics faced an average increase in malpractice premium charges that was actually somewhat lower than that for physicians who maintained obstetrical practice.

We performed multiple logistic regression analyses to adjust for confounding and to examine the independent contribution of the variables in Tables 2 and 3. Obstetric liability insurance charges were not significantly associated with discontinuation of complete clinical activity or of selective discontinuation

of obstetrical practice in the regression models (Tables 4 and 5). When we repeated the regression models using interaction terms for malpractice premiums and the three specialty groups (obstetrician-gynecologists, family physicians, and unspecified specialty), none of the interaction terms were significant (data not shown); this result indicates that malpractice premium charges did not appear to affect physician practice decisions differently according to the physician's specialty. Years since licensing was the variable most strongly associated with discontinuing obstetric practice in both regression models (Tables 4 and 5). Compared with obstetrician-gynecologists, family physicians were much less likely to become completely inactive by 1989 (odds ratio [OR], 0.45, 95% confidence interval [CI], 0.28 to 0.73, Table 4) but were much more likely to limit their practices in 1989 to areas other than obstetrics or gynecology (OR, 16.27, 95% CI, 8.88 to 29.81, Table 5).

When we repeated the regression analyses substituting dummy variables for each malpractice territo-

TABLE 1

Medical Liability Insurance 1980 and 1989: Annual Premium Charges (\$), by Territory and Physician Classification

Physician Classification	Territory			
	Upstate NY	Manhattan, Westchester	Bronx, Brooklyn, Queens	Long Island
Obstetrics and Gynecology				
1980	9,800	17,372	18,441	20,601
1989	40,061	68,757	77,895	88,530
From 1980 to 1989, change (%)	30,261 (309)	51,385 (296)	59,454 (322)	67,929 (330)
Gynecology without Obstetrics				
1980	9,800	17,372	18,441	20,601
1989	28,475	48,772	55,096	63,029
From 1980 to 1989, change (%)	18,675 (191)	31,400 (181)	36,655 (199)	42,428 (206)
Family Practice with Obstetrics				
1980	2,530	4,476	4,762	5,315
1989	10,253	17,536	19,812	22,665
From 1980 to 1989, change (%)	7,723 (305)	13,060 (292)	15,050 (316)	17,350 (326)
Family Practice without Obstetrics				
1980	1,684	2,967	3,157	3,526
1989	5,277	9,025	10,195	11,664
From 1980 to 1989, change (%)	3,593 (213)	6,058 (204)	7,038 (223)	8,138 (231)

NOTE: 1980 charges are based on 1980-81 fiscal year and 1989 charges on 1988-89 fiscal year.

Manhattan, Westchester = New York, Orange, Ulster, Westchester counties; Bronx, Brooklyn, Queens = Bronx, Kings, Queens, Richmond, Rockland counties; Long Island = Nassau, Suffolk, Sullivan counties; Upstate NY = all other New York counties.



TABLE 2

**Characteristics of Physicians Attending Births in 1980 According to Practice Status in 1989: Active in Hospital Care vs Inactive in Hospital Care**

Variable	Active 1989 (n = 1459)	Inactive 1989 (n = 611)
Mean no. of births attended, 1980	108.8	85.4*
Mean no. of hysterectomies	12.3	8.3†
Mean ratio of births to births-plus-hysterectomies, 1980	0.88	0.88
Mean no. of years licensed in NY, as of 1980	14.5	22.6‡
Mean % of all discharges paid by Medicaid, 1980	14.0	17.3†
Mean no. of physicians within 15 miles attending births, per 1000 births, 1980	11.3	11.4
Specialty, no. (%)		
Obstetrics-Gynecology	1196 (73)	449 (27)*
Family Practice-General Practice	118 (78)	34 (22)
Unspecified	145 (53)	128 (47)
Hospital type, no. (%)		
Private teaching	603 (74)	212 (26)‡
Public	55 (66)	28 (34)
Nonpublic, nonteaching	801 (68)	371 (32)
Mean change between 1980 and 1989 in adjusted malpractice premium charges for obstetrics, \$	18,540	18,297
Mean change between 1980 and 1989 in prevailing fees for obstetrics, \$	1,813	1,759

\* $P < .01$ .† $P < .001$ .‡ $P < .05$ .

Adjusted malpractice premium charges for obstetrics = (charge for obstetrics) - (charge for gynecology without obstetrics).

ry instead of treating malpractice premium as a linear term in dollars, we failed to detect any association between the malpractice territory and discontinuation of obstetrical practice that was related to the level of premium change in a territory. For example, we ranked each of the four territories according to its level of premium increase and compared the likelihood of physicians in each territory selectively discontinuing obstetrics while controlling for other variables in the regression analysis. Compared with physicians in the area with the lowest increase in

malpractice premiums, physicians in areas with progressively higher premium increases had an odds ratio of 0.79 (95%CI, 0.26 to 2.41), 0.90 (0.35 to 2.33), and 0.68 (0.26 to 1.80), respectively, of selectively discontinuing obstetrics. Thus, residing in areas with higher average premium increases did not make physicians more likely to discontinue obstetrics.

## DISCUSSION

We were able to detect several factors that predicted discontinuation of obstetric practice among New York State physicians. These factors were mainly related to physician and practice characteristics, however, and not to the specific level of increase in charges for obstetric liability insurance faced by the physician. A consistent finding across all our analytic models was the association between the length of time since receiving a medical license in New York and the discontinuation of obstetric practice. The longer the lapsed time since licensing, the more likely a physician was to become completely clinically inactive or to limit hospital practice to areas other than obstetrics. Although we could not directly measure physician age, the relationship between discontinuation of obstetrics and duration since licensing very likely represents the phenome-

non of physicians retiring from practice or curtailing obstetrics as they age. Attending births is a demanding endeavor, requiring much time on call. The desire for a more flexible lifestyle may lead physicians to discontinue attending births even if they continue to practice gynecology or family medicine.

Physician specialty was another strong predictor of discontinuation of obstetric practice. Although family physicians-general practitioners who were active in obstetrics in 1980 were the most likely to remain active in some area of hospital practice in



1989, nearly two thirds of these family physicians-general practitioners who remained clinically active in 1989 had limited their practice to areas other than obstetrics and gynecology. In contrast, most obstetrician-gynecologists who practiced obstetrics in 1980 and remained clinically active in 1989 were still attending births in the latter year. Other analysts have commented on reasons unrelated to malpractice that may influence the disproportionate decline of obstetric practice among family physicians, such as lack of support for obstetric practice from colleagues and hospitals.<sup>13,14</sup>

Physicians active in obstetrics in 1980 who performed more hysterectomies relative to the number of deliveries were more likely by 1989 to limit their practice to gynecology only. These findings suggest that physicians may gradually reduce their volume of deliveries as a prelude to discontinuing obstetrics altogether, and that obstetrician-gynecologists with practices that emphasize gynecology at the outset are the physicians who go on to completely eliminate obstetrics from their practices.

Our study has several limitations. Foremost among them is that we could study variations in charges for obstetric liability insurance based on only four geographically defined rate-setting standards. Although the range in charges from the lowest to highest priced territory was considerable, the application of uniform prices to a large geographic area makes it difficult to control for other territorial characteristics that may confound or obscure relationships between malpractice insurance charges and individual physician behavior. Mitigating this concern is the ability of Localio et al<sup>3</sup> to detect relationships between territorially defined malpractice insurance charges and cesarean section rates in New York. These investigators used a similar approach to applying territory level liability insurance data to models analyzing individual physician practice patterns, finding a relationship between higher charges and an increased rate of cesarean section.

TABLE 3

**Characteristics of Physicians Attending Births in 1980 According to Practice Status in 1989: Clinically Active With Obstetrics vs Clinically Active Without Obstetrics**

Variable	Active With Obstetrics (n = 1193)	Active Without Obstetrics (n = 266)
Mean no. of births attended, 1980	119.6	60.7*
Mean no. of hysterectomies performed, 1980	12.4	11.5
Mean ratio of births to births-plus-hysterectomies, 1980	0.88	0.85†
Mean no. of years licensed in NY, as of 1980	13.4	19.4*
Mean % of all discharges paid by Medicaid, 1980	15.1	8.9*
Mean no. of physicians within 15 miles attending births, per 1000 births, 1980	11.3	11.8†
Specialty, no. (%)		
Obstetrics-Gynecology	1046 (87)	150 (13)‡
Family Practice-General Practice	45 (38)	73 (62)
Unspecified	102 (70)	43(30)
Hospital type, no. (%)		
Private teaching	511 (85)	92(15)‡
Public	40 (73)	15 (27)
Nonpublic, nonteaching	642 (80)	159 (20)
Mean change between 1980 and 1989 in adjusted malpractice premium charges for obstetrics, \$	18,774	17,492*
Mean change between 1980 and 1989 in prevailing fees for obstetrics, \$	1,841	1,688†

\* $P < .001$ .

† $P < .01$ .

‡ $P < .05$ .

Adjusted malpractice premium charges for obstetrics = (charge for obstetrics) - (charge for gynecology without obstetrics).

Because the differences in liability premiums across territories are most striking when comparing absolute, rather than adjusted, rates for obstetric premiums (ie, the second row in the Obstetrics and Gynecology classification of Table 1), the use of liability charge in our analysis is probably most valid for the models predicting the behavior of physicians who became completely inactive in hospital care in



TABLE 4

**Predictors of Physicians' Becoming Clinically Inactive as of 1989: Results of Multivariate Analysis**

Variable	Unit	Odds Ratio (CI)
No. of births attended, 1980	10	0.99 (0.99-1.00)
No. of hysterectomies performed, 1980	10	0.63 (0.54-0.72)
Ratio of births to births-plus-hysterectomies, 1980	0.1	0.93 (0.85-1.01)
No. of years licensed in NY, as of 1980	1	1.08 (1.07-1.09)
% of all discharges paid by Medicaid, 1980	1	1.02 (1.02-1.03)
No. of physicians within 15 miles attending births, per 1000 births, 1980	1	0.98 (0.93-1.03)
Specialty (referent=Ob/Gyn)		
Family Practice-General Practice		0.45 (0.28-0.73)
Unspecified		1.86 (1.35-2.56)
Hospital type (referent = nonpublic, nonteaching)		
Private teaching		0.78 (0.62-0.98)
Public		1.48 (0.87-2.54)
Change between 1980 and 1989 in adjusted malpractice premium charges for obstetrics, \$	1000	1.00 (0.96-1.03)
Change between 1980 and 1989 in prevailing fees for obstetrics, \$	100	0.97 (0.94-1.00)

NOTE: Includes physicians active in obstetrics in 1980 and compares those remaining active in any form of hospital care with those discontinuing practice altogether.

$\chi^2 = 378.8$ .

CI denotes 95% confidence interval.

out obstetrics was approximately \$13,000 lower in Upstate New York than in Long Island. Because of the lower magnitude of the differences across territories in these adjusted malpractice charges, and the phase-in of the differentials in charges in the 1980s, our research design may be less sensitive for detecting the influence of malpractice charges on obstetricians' decision to restrict their practice to gynecology. We used 1980 as our baseline year and 1989 as our follow-up year, although premium differentials did not begin until 1982 and were not adopted by the largest carrier until 1984. We considered that physician exposure to 5 years of premium differentials by the dominant carrier in New York was of sufficient duration to allow us to detect behavior change in scope of practice by physicians, were such behavior to occur in response to these types of economic considerations.

Our analysis was limited to patterns within a single state, and the results may not be generalizable to other states. It is also possible that charges for malpractice insurance in New York State may exert a statewide effect on discontinuation of obstetric practice or entry of new obstetric providers that cannot be measured in an analysis of within-state practice variations.

Despite these limitations, our findings are noteworthy for the relatively small number of obstetrician-gynecologists overall in New York who opted to selectively discontinue obstetrics while continuing to practice gynecology. Only 13% of obstetrician-gynecologists still active in 1989 had narrowed their practices to gynecology, despite the introduction of malpractice insurance differentials in New York in the early to mid-1980s. In contrast, almost two thirds of family physicians remaining clinically active in 1989 had limited their practice to nonobstetrical areas.

Rather than contradicting physicians' perceptions that malpractice costs are a problem, our results may provide a context for interpreting these physician attitudes. We found that almost one third of physicians who actively practiced obstetrics in 1980 became completely clinically inactive by the end of the decade. Physicians in New York State may therefore be accurately perceiving that many of their colleagues are retiring from obstetrics. This trend is not unique to obstetrics, however, as an even larger proportion of physicians overall in New York became inactive during this period. In addition, our research

New York State. To maintain practice in obstetrics in 1989, an obstetrician-gynecologist in Long Island faced liability premiums over \$48,000 more than those charged to an obstetrician-gynecologist in Upstate New York. For physicians discontinuing obstetrics but maintaining practice in gynecology or other clinical areas, the differences in "savings" in liability premiums were much lower across territories. The difference in premium charges for coverage of obstetrics with gynecology and gynecology with-



approach of measuring objectively defined variables predictive of discontinuation of obstetrics may provide qualitatively different information from results of surveys inquiring about subjective reasons for stopping obstetrics. Physicians may consider a factor such as length of time in practice to be a self-evident reason for retiring from obstetrics and therefore not cite age when queried about specific motives for discontinuing obstetrics. Similarly, physicians may consider a declining volume of clinical activity to be part of a continuum leading to total inactivity rather than a reason for discontinuing obstetrics.

The discrepancy between physicians' self-ascribed motives for their behavior and more objective evaluation of factors associated with this behavior has been noted in research in areas other than the study of obstetrical care. For example, reports have criticized research on medical student choice of specialty career for excessive reliance on students' subjective impressions of factors affecting their choice.<sup>15,16</sup> This approach has led to such common paradoxes as students' minimizing the role of expected professional income as an influence on their specialty choice while residency match fill rates have been demonstrated to correlate highly with the average earnings of the specialty.

The one study that has objectively documented an effect of liability issues on discontinuation of obstetrics examined individual physicians' experience as the subject of an actual claim.<sup>11</sup> The emotional trauma of this personal experience may be a much more compelling influence in physicians' practice decisions than a more general concern about marginal increases in expenses for practice overhead required for malpractice insurance coverage for continued obstetrical activity.

## CONCLUSIONS

We were unable to detect any "dose-response" relationship between the level of increase in liability insurance premiums and the likelihood of discontinuing obstetric practice in New York State, although in the case of differentials between liability premium costs for obstetrics and for gynecology without obstetrics the differences in costs across territories may be too small to induce different responses in physician behavior. Consistent with many previous studies, our findings suggest

TABLE 5

### Predictors of Physicians Remaining Active in Clinical Areas Other Than Obstetrics as of 1989: Results of Multivariate Analysis

Variable	Unit	Odds Ratio (CI)
No. of births attended, 1980	10	0.99 (0.99-0.99)
No. of hysterectomies performed, 1980	10	1.20 (1.00-1.43)
Ratio of births to births-plus-hysterectomies, 1980	0.1	0.86 (0.75-0.99)
No. of years licensed in NY, as of 1980	1	1.07 (1.05-1.09)
% of all discharges paid by Medicaid, 1980	1	0.99 (0.97-1.00)
No. of physicians within 15 miles attending births, per 1000 births, 1980	1	1.04 (0.97-1.12)
Specialty (referent=Ob/Gyn)		
Family Practice-General Practice	—	16.27 (8.88-29.81)
Unspecified	—	3.35 (2.09-5.39)
Hospital type (referent = nonpublic, nonteaching)		
Private teaching	—	0.84 (0.60-1.19)
Public	—	2.33 (1.08-5.03)
Change between 1980 and 1989 in adjusted malpractice premium charges for obstetrics, \$	1000	0.98 (0.93-1.04)
Change between 1980 and 1989 in prevailing fees for obstetrics, \$	100	1.01 (0.96-1.05)

NOTE: Includes physicians active in obstetrics in 1980 and compares those remaining active in obstetrics in 1989 with those limiting their practice to areas other than obstetrics.

$\chi^2 = 341.2$ .

CI denotes 95% confidence interval.

that discontinuation of obstetric practice in New York primarily reflects trends in the physician's life cycle of practice activity and in the scope of family and general practice.

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