
Data Watch

Effect Of Medicaid Payment Levels On Access To Obstetrical Care

by Michael H. Fox, Jonathan P. Weiner, and Kai Phua

Abstract: Across the nation, the number of providers serving pregnant Medicaid clients has dropped precipitously. In an effort to retain providers, in 1986 the Maryland Medicaid program tripled reimbursement fees for deliveries. This raised Medicaid payments for perinatal care to levels roughly comparable to those paid by private insurers. Providers' participation can be measured using two criteria: the total number of participating providers in a given county and the number of deliveries performed by targeted providers. The fee increase was associated with an overall stabilization in the number of providers performing deliveries. Providers performed slightly more deliveries after the fee increase, relative to predictions derived from statistical models. One-quarter of all providers increased their participation on a scale commensurate with the fee increase.

The problem of ensuring access to obstetrical care for low-income pregnant women has reached critical proportions within most state Medicaid programs.¹ Assuring adequate perinatal care for these women is an economic issue as well as an ethical one. In Maryland, for example, more than half of all Medicaid clients whose annual cost to the program exceeded \$200,000 each are infants born with potentially preventable health problems.² Many state policymakers realize that resources committed to prenatal care will save money in the long term.

Obstetricians and others who give obstetrical care (nurse midwives and family physicians) must be willing to accept Medicaid payment if states are to ensure access. Providers decide whether to participate in Medicaid, in part, on the basis of how Medicaid payment levels compare with those in the private market. Research has attempted to account for the extent to which fee levels in these "dual markets" influence physicians' behavior by predicting the degree to which providers are willing to participate in Medicaid after considering what they could receive for treating private-pay clients.³ These studies, while important, do not always take into account factors other than payment that could have influenced participation. Policies designed to maximize health care

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benefits per Medicaid dollar are still being formulated in most states.⁴

In an effort to encourage private physicians to care for pregnant Medicaid clients, Maryland tripled Medicaid payments for routine deliveries, raising fees from \$265 to \$550 in March 1986 and then to \$795 in July 1986—an unprecedented increase. The rationale for this increase was that Medicaid reimbursement for prenatal care and delivery combined should approach \$1,000. This was close to the 80 percent of usual and customary comprehensive charges that private insurance companies were paying at the time. By eliminating the disparity in payment between Medicaid and private insurers, the state hoped to retain an adequate pool of Medicaid providers.

Data And Methods

We evaluated the effects of this policy initiative on access to obstetrical care among Maryland's Medicaid enrollees. This DataWatch reports the findings of that evaluation. We used Maryland Medicaid claims data for state fiscal years 1985-1988 to identify physicians and nurse midwives who performed Medicaid deliveries two years before and two years after the rate increase. To assess changes in the number of participating providers, we aggregated data for each of the four years by county and by quarter. To assess changes in the number of deliveries by each provider over this period, we aggregated the claims data by provider and totaled each provider's number of claims for deliveries for the two years before and for the year following the intervention.

We statistically adjusted the data for the relative influence of physician and patient characteristics by accounting for these factors in a fixed effects regression model. The influence of the following factors was "fixed" over time: percentage of providers who were obstetricians, percentage of solo practices, percentage of foreign medical school graduates, percentage of deliveries to nonwhite patients, mean age of the mother, county of practice, and the influence of expanded eligibility as a result of the Omnibus Budget Reconciliation Act (OBRA) of 1986.⁵

To compare Medicaid to the private market over the same period, we used data from the Maryland Health Services Cost Review Commission (HSCRC), which documents all hospital discharges throughout the state. We described changes in the proportion of Medicaid deliveries to all deliveries and inferred the extent to which Medicaid policy influenced providers' participation in both private and public markets.

We were also interested in evaluating the effect of the fee increase on providers who were participating in Medicaid at the time of the fee increase. We analyzed characteristics associated with increased partici-

pation for this cohort and the effect of the fee increase on their average yearly Medicaid caseload. Information from the American Medical Association's (AMA's) Physician Directory was merged with claims data to evaluate additional characteristics. By comparing actual yearly Medicaid caseloads of participants with predictions based upon the provider populations from earlier years, we were able to infer the effect of the fee increase on these physicians. In addition, we identified characteristics of providers whose Medicaid participation increased after the fee increase.

It is worth noting that even though Medicaid fees for deliveries tripled, fees paid for nonhospital prenatal visits increased only slightly, from \$17 to \$21. This may help account for the lack of significant change in the average number of billed prenatal visits received by continuously enrolled Medicaid women over the course of the study. The only apparent influence of the fee increase on prenatal care to Medicaid women was among women whose infants were delivered by providers whose participation rose after the fee increase; these women received slightly more prenatal care from them (10 percent) in the year following the fee increase.

Study Results

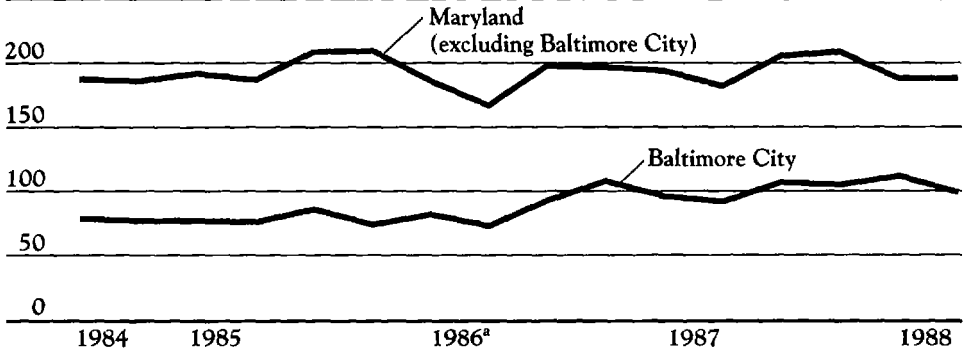
The findings suggest that the fee increase had a positive, albeit modest, effect in retaining a pool of obstetric providers who served the Maryland Medicaid population. The increase in the number of providers appeared to be greatest in Baltimore City, where almost half of all recipients and providers are located. After the fee increase, there was a stabilization of what had been a marked decrease in the number of providers over time in the largely rural or suburban areas outside Baltimore City (Exhibit 1). In Baltimore City, there was an increase in the previously constant number of clinicians providing deliveries.

After adjusting for other potentially confounding factors, the dramatic fee increase was associated with a statistically significant short-term rise in the number of participating providers. The adjusted average number of providers per county rose 20.3 percent between the fourth quarter of 1986 and the first quarter of 1987, after the full increase had taken place (Exhibit 2). Although the increase in participating providers diminishes over time as the impact of the fee increase subsides, we see a marked effect in the short term. The rate of delivering providers per 100 deliveries declined between years before and after the fee increase for both Medicaid and non-Medicaid deliverers in Maryland (Exhibit 3). The drop between years for providers delivering Medicaid babies was slightly higher than for non-Medicaid babies, suggesting a movement

Exhibit 1**Number Of Maryland Providers Billing For Medicaid Deliveries, By Fiscal Year Quarters, July 1984-June 1988**

Number of providers

250



Source: Maryland Medicaid Management Information System.

^a Medicaid fees tripled in July 1986, the first quarter of fiscal year 1987.

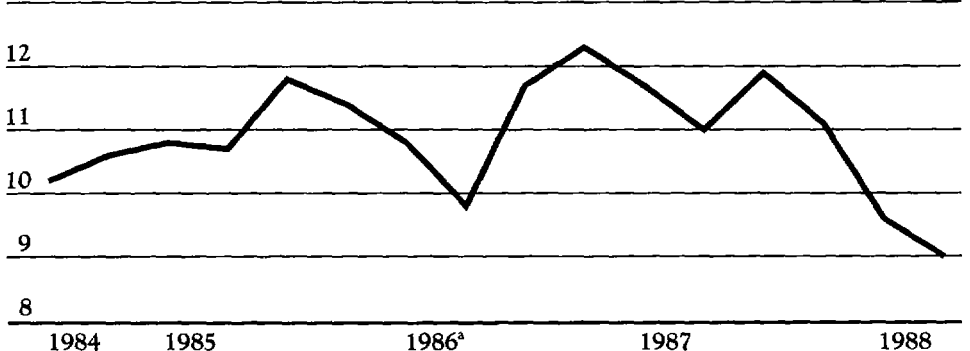
out of obstetrics that was somewhat greater within the Medicaid market. Even though the proportion of Medicaid deliveries among all deliveries statewide rose after the fee increase, the proportion of providers delivering Medicaid babies stayed about the same (Exhibit 4).

These data suggest that the proportion of Medicaid deliveries to all deliveries did not increase over the time period corresponding to the Medicaid fee increase. When this is viewed in the aggregate, providers

Exhibit 2**Average Number Of Providers Who Deliver Infants Per Maryland County, By Fiscal Year Quarters, July 1984-June 1988**

Average number of delivering providers

13



Source: Maryland Medicaid Management Information System.

^a Medicaid fees tripled in July 1986, the first quarter of fiscal gear 1987.

Exhibit 3**Participation Rates Of Maryland Providers Who Deliver Infants, For Both Medicaid And Non-Medicaid Deliveries, Fiscal Years 1985-1988**

Fiscal year	Medicaid	Non-Medicaid
1985		
First quarter	14.63	9.45
Second quarter	15.18	9.76
Third quarter	14.52	9.16
Fourth quarter	14.59	10.36
1985 total	6.46	3.76
1986		
First quarter	14.78	9.31
Second quarter	13.46	9.57
Third quarter	13.90	9.18
Fourth quarter	13.33	9.03
1986 total	5.78	3.21
Total, 1985-1986	5.97	3.24
1987 ^a		
First quarter	11.72	8.24
Second quarter	11.79	9.02
Third quarter	12.19	9.43
Fourth quarter	12.23	8.79
1987 total	4.71	2.83
1988		
First quarter	11.98	7.91
Second quarter	11.38	8.58
Third quarter	11.26	8.91
Fourth quarter	10.96	8.51
1988 total	6.83	4.68
Total 1987-1988	4.49	2.78

Source: Maryland Health Services Cost Review Commission (HSCKC) files.

Note: Participation rate equals the number of delivering providers per hundred deliveries per quarter, per year, and per two years.

^a Medicaid fees tripled in July 1986, the first quarter of fiscal year 1987.

did not appear to significantly alter their practices to include more Medicaid patients. The studies cited earlier identified the opposite effect, consistent with what would have been predicted by the two-market theory.⁶ That is, physicians increased Medicaid participation at the expense of participation in the private market. On the other hand, in 1989 James Fossett and John Peterson found results similar to ours.⁷ They suggested that residential segregation and practice patterns may have offset what otherwise would have resulted in increased physician competition for Medicaid patients. While our results do not contradict the finding of movement from private to Medicaid markets, they do suggest that factors other than the fee increase seem to have limited this movement relative to predictions based upon the two-market theory.

We then focused on the provider as the unit of analysis, to identify

Exhibit 4**Medicaid Delivering Providers And Deliveries As A Percentage Of All Delivering Providers And Deliveries In Maryland, By Quarter, Fiscal Years 1985-1988**

Fiscal year/quarter	Delivering providers	Deliveries
1985		
First quarter	54.0%	26.5%
Second quarter	53.4	26.9
Third quarter	52.1	25.8
Fourth quarter	48.5	26.3
1986		
First quarter	51.4	25.3
Second quarter	50.2	27.0
Third quarter	53.1	26.7
Fourth quarter	51.6	26.5
1987 ^a		
First quarter	51.9	27.4
Second quarter	50.2	28.2
Third quarter	51.7	29.4
Fourth quarter	51.5	27.7
1988		
First quarter	56.2	27.8
Second quarter	56.0	30.6
Third quarter	56.5	31.8
Fourth quarter	55.5	31.4

Source: Maryland Health Services Cost Review Commission (HSCRC) files.

Note: Participation rate equals the number of delivering providers per hundred deliveries per quarter, per year, and per two years.

^a Medicaid fees tripled in July 1956, the first quarter of fiscal year 1987.

characteristics associated with increased participation. More deliveries were performed after the fee increase by male physicians who were not board certified and who were licensed within ten years of the intervention. These physicians delivered more babies after the fee increase as the average age of their clients dropped, but fewer as their percentage of nonwhite clients rose.

We grouped providers according to their change in participation between the year before and the year after the fee increase (Exhibit 5).⁸ Among providers showing a large drop in participation, the mean number of patients delivered between fiscal years 1986 and 1987 dropped 34 percent. Among providers showing large increases during this time, participation rose 72. percent. Thus, the subset of providers who showed the largest gain in participation increased their caseloads by 72 percent in response to the 200 percent fee increase. It is important to stress that this relationship appears to be valid only among those providers most influenced by the increase.

We predicted what average yearly caseloads should have been after the fee increase by controlling for the characteristics of participating

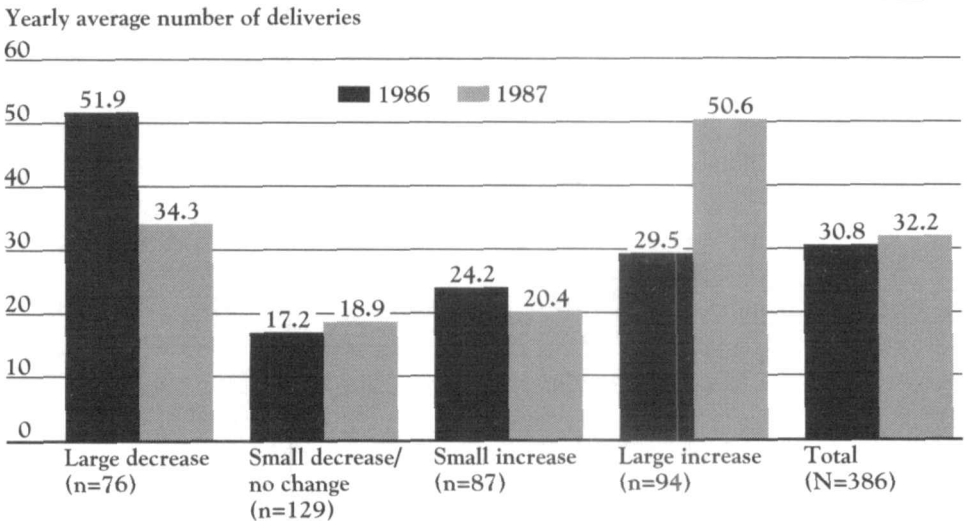
providers between study years and compared that figure to what the actual caseload was. The average number of deliveries per participant per year increased 7.1 percent in fiscal year 1987, compared with the 2.6 percent we would have predicted based on characteristics of the 1985 provider population.

Data Limitations

The use of claims data to study health policy issues has grown, even as questions about the quality and consistency of data originally collected for administrative purposes are being addressed.⁹ Our inability to link Maryland Medicaid claims data with HSCRC hospital discharge data in this study made it impossible to study providers' participation in Medicaid relative to their non-Medicaid participation. Linking these data would have aided our understanding of factors influencing providers' decisions to participate in one of the two markets.

We can only speculate on the effects of provider coding artifacts, even if we assume that these were consistent throughout the study. For example, providers practicing in groups that pooled and redistributed fees among members may have had to work harder than solo practitioners to realize some financial benefit from the fee increase. Although we observed a small increase in deliveries among group practices after the fee

Exhibit 5
Average Yearly Medicaid Deliveries, By Providers' Change In Participation After The July 1986 Fee Increase, 1986 And 1987



Source: Maryland Medicaid Management Information System

increase, the overall effect of this factor is difficult to assess.

Underreporting of claims may have occurred under some circumstances if physicians performed a large number of deliveries as part of a group that submitted the bill, and thus submitted few or no claims under their own names. This “masked” billing may have occurred when residents or interns performed deliveries at teaching hospitals.

As with most billing practices, the effects of this masking likely varied to a significant degree according to hospital policy. We discovered a wide range of resident billing policies during our study. In some hospitals no physician bill was submitted if a resident or intern performed the delivery. In others the attending physician was cited. In still others delegated staff were named. Not surprisingly, we found that some hospitals were associated with large increases in deliveries after the fee increase. Although hospital policy seems to have influenced the responsiveness of some physicians to the fee increase, identifying the factors responsible for this effect was beyond the scope of our study and remains a subject for further investigation.

The single greatest shortcoming of this study was our inability to estimate easily and accurately the effects of malpractice costs, providers’ true costs, and other unmeasurable factors on the willingness of individual providers to participate. For this evaluation, it was assumed that the rise in providers’ true costs, malpractice premiums, and claims had a largely uniform influence on providers who performed deliveries.

Policy Implications

Enrollment in the Maryland Medicaid program grew by almost 25 percent in fiscal year 1992, coinciding with a \$1 billion end-of-year budget deficit.¹⁰ Compounding such problems still further is the ever-present threat of losing providers who are willing to treat Medicaid clients. Rising malpractice insurance costs, perceived difficulties in serving poor patients, and low reimbursement have all been cited as reasons why many physicians and nurse midwives are reluctant to participate in Medicaid. There is little doubt that until long-term solutions to the nation’s health care crisis are developed, states have painfully few options in their struggle to ensure access to care for their poorest residents.

The findings from this study evoke interesting parallels to earlier work. We found that the average Medicaid caseload of providers who showed the greatest increase in participation rose by 72 percent. Frank Sloan and colleagues estimated in 1978 that based on physician survey data, Medicaid caseloads would increase by 70 percent if reimbursements were doubled.” Likewise, Jack Hadley determined in 1979 that a

10 percent increase in reimbursement resulted in a 3 percent increase in caseload.¹² Both of these findings are very close to ours, with one critical exception: The relationship of fees to participation appears to be valid only for providers whose increase in participation placed them in the upper quartile of all participants at whom the fee increase was targeted.

Although the 200 percent fee increase for deliveries helped to retain the pool of private Medicaid providers who were willing to perform deliveries, how effective was this strategy? Could the money used to fund this initiative (just under \$5 million in fiscal year 1987) have been better spent elsewhere or in different ways? It is apparent from our study that relatively few providers were influenced by higher fees to increase their Medicaid participation. Among those who were, the associations between increased participation and lack of board certification or recent licensure could be viewed with some concern. These findings are not surprising, however. Because two years of training are required of Maryland obstetricians before board certification, the increase in participation among these providers did not necessarily imply that Medicaid women were being served by less-qualified providers. In fact, younger graduates may have been trained in more advanced techniques of patient care, which could have offset their relative lack of experience.

The apparent responsiveness of younger providers to the fee increase is consistent with literature that suggests that the Medicaid market is more readily entered by newer practitioners who are in the process of building their practices.¹³ Even though these providers traditionally are considered to provide lower-quality care, real differences in quality of care provided by younger doctors who participate heavily in Medicaid and by older, more experienced doctors primarily serving the private market may be inconsequential.

We also found that the clients of providers who increased participation tended to be both younger and white, even though the overall proportion of black Medicaid women delivering rose over the study period. Given recent estimates that the infant mortality rate for blacks is approximately double that of whites, this finding suggests that to some extent the patients benefiting most from this policy change may not have been women whose need for obstetrical care was greatest.¹⁴ A possible explanation for this finding is that unmeasured factors such as a lack of freestanding inner-city facilities or possible discrimination against black patients may continue to limit access to private obstetrical care for black women, regardless of the payment incentive.

The increase in caseload among providers whose participation rose greatly after the fee increase was both encouraging and consistent with the literature. The finding that presents interesting policy implications,

however, is the apparent unresponsiveness of almost three-quarters of the targeted providers to the fee increase. It could be argued that these providers might have left Medicaid altogether or might have reduced their participation further in the absence of a fee increase. However, recognizing this unresponsiveness has led to recent efforts on the part of Maryland's Medicaid administrators to link future fee increases for deliveries to documented evidence that providers have rendered prenatal care to clients whose babies they eventually deliver.

The intended message to providers is that if they show a clear commitment to Medicaid clients, they will be rewarded and encouraged to maintain their participation in the future. Similarly, one could argue for a policy of establishing higher fees for "high-volume" providers of deliveries. This concept of rewarding providers who appear to have a service commitment to the Medicaid population is not new. Measuring this commitment using valid, meaningful criteria has been and will continue to be the primary challenge associated with implementing this policy.

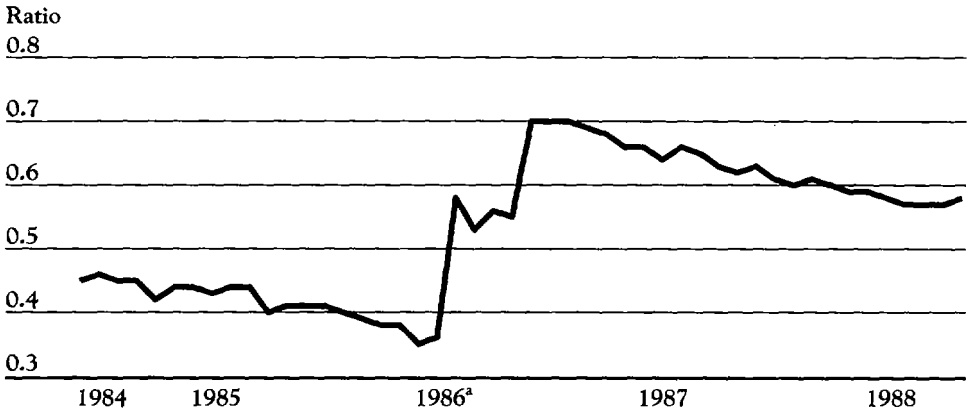
While low fees may be a popular reason given by some physicians to justify their low rates of Medicaid participation, the results of this study suggest that eliminating fee disparities for obstetrical services will not be sufficient in itself to increase physician involvement in the program. The more important effect of increased fees may be that physicians willing to participate in the program to any degree will be retained.

Fairness is defined in this instance not by the equanimity with which the fee increase was received by providers, but rather by the effects it had upon the women whom the program was designed to serve. Medicaid's declared goal, to bring low-income Americans into the "mainstream" of medical care, was well served through this policy change. Prior to the change, these women's inability to retain the services of private obstetricians was becoming increasingly serious. By stoically keeping fees for this essential health service at low levels for years, the Medicaid program effectively discouraged access to private obstetrical care by low-income pregnant women. In doing so, the state may have increased the likelihood of poor birth outcomes among these women.

The fee increase did not eliminate the problem of poor access to obstetrical care for Medicaid clients in Maryland. It did appear to provide them, if only for a short time, with access to perinatal care that may have been more similar to the care other pregnant women in Maryland received. The large fee increase seems to have curtailed the flight of providers out of the Medicaid program,

Indexing Medicaid fees to providers' costs should be considered as another possible method of avoiding restricted access. The gradual decline in the payment-to-charge ratio for Medicaid providers before and

Exhibit 6
Monthly Payment-To-Charge Ratio Of Maryland Medicaid Deliveries, Statewide,
July 1984-June 1988



Source: Maryland Medicaid Management Information System.

* Medicaid fees tripled in July 1986, the first quarter of fiscal year 1987.

after the fee increase points to a reactive, rather than proactive, system of maintaining adequate payment to providers. Exhibit 6 illustrates Medicaid's inability to maintain constant payment levels relative to providers' charges for deliveries. Once a baseline is established (tied more closely to costs than to charges), increases need never rise 200 percent for parity with third-party insurers to occur. Considerably lower fee adjustments could help to maintain levels of participation comparable to those found in the broader health care community. In this way, crises in obtaining obstetrical care would no longer be a regular and predictable occurrence.

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NOTES

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2. Lawrence Triplett and Terry Lied, Maryland Department of Health and Mental Hygiene, personal communication, February 1991.
3. F. Sloan, J. Cromwell, and J.B. Mitchell, "Physician Participation in State Medicaid Programs," *Journal of Human Resources* 13 (1978): 2-11; J. Hadley, "Physician Participation in Medicaid: Evidence from California," *Health Services Research* 14, no. 4 (1979): 266; and J.B. Mitchell and R. Schurman, "Access to Private Obstetrics/Gynecology Services under Medicaid," *Medical Care* (November 1984): 1026.
4. M. Schlesinger and K. Kronebusch, "The Failure of Prenatal Care Policy for the Poor,"

- Health Affairs* (Winter 1990): 92.
5. As allowed under the sixth Omnibus Budget Reconciliation Act (OBRA) of 1986, Maryland expanded eligibility for women and children from 75 percent to 100 percent of the federal poverty level. We adjusted for this factor in our fixed effects regression model by including deliveries performed on OBRA-eligible women as an additional independent variable. This allowed us to hold the recipient mix constant over time.
 6. Sloan et al., "Physician Participation in State Medicaid Programs;" Hadley, "Physician Participation in Medicaid;" and Mitchell and Schurman, "Access to Private Obstetrics/Gynecology Services under Medicaid."
 7. J.W. Fossett and J.A. Peterson, "Physician Supply and Medicaid Participation: The Causes of Market Failure," *Medical Care* (April 1989): 386.
 8. Changes in the yearly Medicaid caseload between the year preceding and following the fee increase were divided into quartiles after adjusting for providers' market share within each county. We measured the change in participation for each provider as the difference in number of deliveries between fiscal years 1986 and 1987 plus 100 times the change in county market share.
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