

Obstetric Care in Family Practice Residencies: A 5-Year Follow-Up Survey

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Background: The percentage of family physicians delivering babies decreased from 46% in 1978 to 32% in 1992. Some family practice leaders predicted that, by the turn of the century, training for family practice obstetrics would focus primarily on those planning to work in remote or rural settings. A 1993 study found three primary factors associated with an increased incidence of future maternity care. In 1997 the Residency Review Commission (RRC) stipulated that all family practice residencies have at least 1 family physician serve as an intrapartum attending physician for family practice resident deliveries.

Methods: Using an instrument similar to that used in 1993, we surveyed the directors of 462 family practice residencies in the United States. Sixty-four percent (295) of the program directors responded to one of two mailings.

Results: Compared with the survey published in 1993, program directors estimated a 16% increase in the number of residents who included obstetrics in their first practice after residency. Factors associated with increased obstetric participation included having only family physician faculty supervise uncomplicated deliveries and having family physician faculty who could perform other perinatal procedures. Programs that had 4 or more family physician faculty doing obstetrics and those that had more than 10 deliveries per month also produced more physicians who provided maternity care. Fifty-three percent of residencies that did not have family physician faculty attending deliveries before 1997 now meet this RRC requirement.

Conclusions: This study shows that, according to their program directors' estimates, more family practice residents are including obstetrics in their first practice after residency compared with 5 years ago. The new RRC regulation was associated with more than 50% of previously noncompliant programs adding or retraining faculty who could attend resident deliveries within 12 months of the inception of the new policy. (*J Am Board Fam Pract* 2002;15:20–4.)

The 1980s was a troubled decade for family physicians practicing obstetrics. The percentage of family physicians delivering babies decreased from 46% in 1978¹ to 41% in 1987² to 30.7% in 1993.² Some factors associated with the decline in family practice obstetrics included increasing malpractice rates, incursions into lifestyle, and concerns about inadequate training and ongoing continuing medical education opportunities.^{3–7} In 1990 some family practice leaders predicted that by the year 2000 training for family practice obstetrics would focus

primarily on those planning to work in remote or rural settings.⁸

Tietze and associates⁹ reported on a survey of 92 graduates of the Tuscaloosa Family Practice Residency Program. Their survey included questions about each graduate's practice situation as well as factors influencing their practice of obstetrics. They found that those residents who practiced obstetrics spent significantly more time training in obstetrics than those who did not practice obstetrics and that they were significantly more satisfied with their training in this area.

In 1987, Smith and Howard¹⁰ found a positive association with the presence of adequate family physician role models (including community family physician preceptors) during training and the inclusion of obstetrics in future practice settings. Whereas a majority (55%) of the third-year resi-

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dents surveyed intended to practice obstetrics on graduation, residents deciding against obstetric practice expressed concern about legal liability and malpractice fees.¹⁰

In 1993, Sakornbut and Dickinson¹¹ surveyed all family physician residency directors to obtain information about practice faculty and the education setting in which family practice residents learn obstetric care. Sakornbut and Dickinson found that the mean percentage of graduates from the preceding 3 years estimated to be practicing obstetrics was 30%. They also found that several aspects of residency training were associated with an increased incidence of future maternity care. These factors included (1) supervision of resident deliveries by family practice faculty, (2) an increasing number of family practice center deliveries, and (3) having family practice faculty who could manage complicated vaginal deliveries. Marked regional variations in maternity care practice patterns were also found. These findings agreed with an earlier study by Petry and Bobula.¹²

Taylor and Hansen¹³ investigated the perceived characteristics of successful family practice residency maternity care training programs using a Delphi technique. The study concluded that the successful programs have an environment that encourages family practice maternity care. Other important characteristics were an adequate obstetric training volume; mutual respect between obstetric and family medicine faculty and residents; support for family practice maternity care from obstetricians, administration, and nursing staff; and acceptance of family physicians as maternity care providers in their communities.

In 1997, the Residency Review Commission (RRC) stipulated that all family practice residencies have at least 1 family physician to serve as an intrapartum attending physician for resident deliveries. For many programs, this stipulation meant resurrecting a model of family practice maternity care that had been dormant for decades.

This study replicates the 1993 study by Sakornbut and Dickinson,¹¹ in which we surveyed family practice program directors to describe program characteristics associated with residents' decisions to include maternity care in their future practice. A secondary purpose of this study was to determine the impact of the new family practice supervision rules on training programs.

Methods

We compiled a list of all family practice residency program directors and their addresses from the 1998 *Directory of Family Practice Residency Programs*, published by the American Academy of Family Physicians.¹⁴ In the fall of 1998, a questionnaire was sent to each program director, and a second mailing was sent to nonresponders 3 weeks later. The Institutional Review Board of the University of Utah School of Medicine approved the methodology and survey instrument used in this study.

We asked program directors to provide estimates of the number of deliveries in the family practice center, information about the number of full- and part-time faculty who delivered babies, and the range of obstetric skills and procedures they performed. We asked the directors to provide the actual number of program graduates within the preceding 3 years and to estimate the number who included obstetrics in their first practice after residency completion. For programs that had not been previously compliant with the 1997 RRC requirement to have at least 1 family practice faculty member who could supervise a resident's delivery, we asked how the program had responded to this new rule.

Survey responses were analyzed using analysis of variance and *t* tests for continuous variables, and Spearman's analysis was used for noncontinuous variables.

Results

We divided the residencies into seven geographic regions with the eighth representing the 13 armed service residencies. Table 1 details the regional distribution of the states. We received 295 of 462 inquiries of program directors, for a response rate of 64%. The response rate by geographic region ranged from 58.3% to 70.0%. Seven of the nine regions were within 2.5% of the mean of 64%.

We asked program directors to state the total number of program graduates in 1996 through 1998 and then to estimate the number of these graduates by year who had included obstetrics in their first postresidency practice. The program directors estimated that 35.1% of their graduates from 1996 through 1998 were practicing obstetrics in their first postresidency practice compared with 30.0% when asked the same question in 1993. All geographic areas of the United States saw an in-

Table 1. Division of 462 Residencies into Geographic Regions.

Region	Number of Residencies	States in Region
Northeast	98	Conn, DC, Del, Mass, Md, Me, NJ, NY, Pa, RI, Vt
South	88	Ala, Fla, Ga, Ky, Miss, NC, Puerto Rico, SC, Tenn, Va, WV
Midwest	95	Ill, Ind, Mich, Ohio, Wis
North Central	40	Iowa, Kan, Minn, Mo, ND, Neb, SD
South Central	48	Ark, La, Okla, Tex
Mountain	29	Ariz, Colo, Idaho, Mont, NM, Nev, Utah, Wyo
Pacific	51	Alaska, Calif, Hawaii, Ore, Wash
Military	13	Not available

crease in obstetric participation, except for the South Central and Pacific regions (Table 2).

Programs that have only family practice faculty supervising vaginal deliveries had the highest percentage (44.6%) of graduates practicing obstetrics ($P < .05$). Table 3 compares 1993 survey results with those obtained in 1998. This trend is even more pronounced in programs that provide only

family practice faculty for supervision of vacuum and forceps deliveries, with 53.2% of graduates doing obstetrics on completion of training (Table 4).

Having family practice faculty who performed cesarean sections did not influence the rate of graduate participation in obstetrics. Table 5 shows that having at least 1 family physician who performed

Table 2. Comparison by Geographic Region of Residencies Offering Obstetrics and Residency Graduates Practicing Obstetrics, in 1993 and 1998.

Region	1993		1998		Change %
	Residency Programs No.	Practicing Obstetrics %	Residency Programs No.	Practicing Obstetrics %	
Northeast	57	20.0	63	27.1	7.1
South	54	12.0	55	18.9	6.9
Midwest	64	34.0	60	42.1	8.1
North Central	30	57.0	28	57.1	0.1
South Central	27	28.0	28	23.5	(4.5)
Mountain	15	33.0	19	48.1	15.1
Pacific	25	38.0	34	33.6	(4.4)
Military	12	63.0	8	82.2	19.2
Total	284	30.0	295	35.1	5.1

Table 3. Physician Supervision of Residents' Vaginal (Nonoperative) Deliveries and Residency Graduates Practicing Obstetrics, in 1993 and 1998.

Attending Physician	1993		1998	
	Residency Programs No. (%)	Practicing Obstetrics %	Residency Programs No. (%)	Practicing Obstetrics %
Family physician only	126 (45)	40.4	112 (40)	44.6
Family physician and obstetrician	77 (27)	35.0	132 (47)	34.0
Obstetrician only	78 (28)	10.3	37 (13)	10.3

Note: $P < .0001$.

Table 4. Physician Supervision of Residents' Operative Vaginal Deliveries (Vacuum and Forceps, not Cesarean Section) and Residency Graduates Practicing Obstetrics.

	Residency Programs No. (%)	Practicing Obstetrics %
Attending Physician		
Family physician only	34 (14)	53.2
Family physician and obstetrician	162 (59)	39.6
Obstetrician only	78 (28)	18.3

Note: $P < .0001$.

other perinatal procedures did have a significant correlation with future obstetric practice.

Ninety-six family practice residencies (35.4%) had fewer than 10 deliveries per month. These programs estimated that 22.7% of their graduates practiced obstetrics. One hundred nine (40.3%) of the respondents had 10 to 24 deliveries per month, and estimated that 36.8% of their graduates from 1996 through 1998 practiced obstetrics. The remaining 66 residencies (24.3%) had 25 or more deliveries per month, and 50.1% of their graduates practiced obstetrics ($P < .0001$).

Table 6 examines the relation between increasing numbers of full-time faculty who took obstetric call and increased graduate participation in subsequent maternity care ($P < .0001$).

The 42.4% of programs that utilized any part-time faculty had 43.2% of its graduates include obstetrics, compared with 28.6% of graduates from programs that did not use part-time faculty ($P < .05$).

This study also found that, as of 1 July 1997, 53 of 295 (17.9%) programs surveyed were not in

Table 6. Residencies Offering Obstetrics and Residency Graduates Practicing Obstetrics, by Number of Full-time Faculty Who Take Obstetric Calls.

Number of Faculty	Residency Programs No.	Practicing Obstetrics %
0	37	13.3
1-3	91	25.2
4-7	99	43.9
8+	33	62.1

Spearman's coefficient, $r = .5379$ (significant difference if 4 or more full-time faculty take calls).

compliance with the new RRC regulation of having at least 1 family practice faculty member who could attend for some resident deliveries. These noncompliant programs had a much lower percentage (13.0%) of their graduates practicing obstetrics than compliant programs (40.2%). Since 1997, 30 of these 53 programs (52.8%) have come into compliance by retraining existing faculty (4) or recruiting new family physicians (26) to do intrapartum attending. During the first year of the new regulation, the addition of new family physician obstetrics faculty had not yet resulted in an increase in future maternity care practice.

Discussion

A questionnaire response rate of 64% is acceptable for this type of survey research. Asch and colleagues¹⁵ reviewed 178 survey reports published in 1991. The response rate for mail surveys across 321 distinct mail surveys was 60% for all types of respondents and 54% for physicians.

Table 5. Residencies Performing Various Obstetric Procedures and Residency Graduates Practicing Obstetrics, by Number of Attending Faculty.

Procedure	No Faculty		At Least 1 Faculty		<i>P</i> Value
	Residency Programs No.	Practicing Obstetrics %	Residency Programs No.	Practicing Obstetrics %	
Low forceps	69	30.7	165	41.3	<.05
Vacuum extraction	19	24.2	215	39.4	<.05
Cesarean section	190	37.6	44	40.4	>.05
Dilatation and curettage	124	30.8	111	46.1	<.05
Amniocentesis	216	36.6	18	56.2	<.05
Tubal ligation	191	36.0	43	47.3	<.05
Prenatal sonography	111	32.9	124	42.7	<.05
Intrapartum sonography	94	31.3	138	42.3	<.05

There are, however, several limitations to this study. Selection bias can exert an influence in several ways. It is possible that programs stronger in maternity care training might have been more likely to respond to the survey. Residents might show a selection bias with regard to obstetrics in that they tend to have well-formulated ideas about their future career plans when they enter a residency program.¹⁶ Attributes of a residency training program are just one aspect of a complex decision-making process with respect to future obstetric practice.

The percentage of residency graduates practicing obstetrics is based on program director estimates and is subject to recall bias. In 1987 a report by Ferentz and colleagues¹⁷ challenged the veracity of the estimates of program directors. This study, however, used the same methodology as used by Sakornbut and Dickinson.¹¹ It is valid to compare the estimates obtained in 1993 and 1998. Compared with the 1993 report, program directors responding to this survey reported a 16% increase in the number of graduating residents choosing to practice obstetrics.

In 2000 the Research Division of the American Academy of Family Physicians surveyed its membership and determined that 34.6% of family physicians under the age of 36 years practiced obstetrics (Mike Rabbitt, 18 April 2001). This survey result closely matches the 35% estimate of program directors in 1998 reported in this study.

This study describes many factors that are associated with an increased likelihood of the subsequent practice of obstetrics. It is desirable for programs to have only family practice faculty supervising vaginal deliveries. Having 4 or more full-time faculty delivering babies increases the residents' likelihood of future obstetric practice. Programs that have any part-time faculty doing obstetrics will almost certainly increase future obstetric rates. This practice results in more diverse role modeling and should be encouraged. Programs should aim for more than 10 deliveries per month from the family practice center.

The new RRC requirement to have at least 1 faculty member who can attend for deliveries has been effective in prompting more than one half of the noncompliant programs to recruit or retrain this person. Future survey research is needed to measure the ongoing impact of the RRC rule on programs and their graduates.

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