OB Fellowship Outcomes 1992–2010: Where Do They Go, Who Stops Delivering, and Why?

Wm. MacMillan Rodney, MD; Conchita Martinez, MD; Millard Collins, MD; Greg Laurence, MD; Carl Pean, MD; Joe Stallings, MD

Background and Objectives: *This study describes characteristics and the evolution of the careers of graduates from a 1-year post-residency fellowship program whose primary objectives included clinical skills in Cesarean section. Besides obstetrical practice, rural service and attainment of faculty appointment were used as surrogate measures of fulfilling an underserved need for family medicine obstetrics.* Methods: *For 18 years, the authors maintained contact with all 80 physicians completing 1-year fellowships in family medicine obstetrics in Memphis and Nashville. The founding chair of these programs surveyed each physician and maintained a network of contacts to study outcomes such as graduation, service location, hospital privileges, retention, and career changes.* Results: *The study tracked 100% of the sample and documented high rates of fellowship completion (74/80 [93%]), Cesarean privileges (71/74 [96%]), and service in a rural community for at least 2 years (47/74 [64%]). The fellowship was also associated with participation as faculty (36/74 [46%]).* Conclusions: *This paper produces the first and longest-term data describing attrition over time and examines the reasons why fellowship-trained family physicians stop doing maternity care. It is the only series with a 100% response rate and provides longitudinal data on the outcomes of these fellowship programs. Attrition was highest at rural sites. Workforce planners and fellowship designers might benefit from these considerations.*

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Rightly or wrongly, a Cesarean section occurs in more than 25% of all deliveries in the United States and is an indispensable life-saving skill for physicians involved with maternity care.[1,2] In rural communities and internationally the need is acute.[3-6] The American Academy of Family Physicians (AAFP) sponsors a course in Advanced Life Support in Obstetrics [ALSO] in response to this need.[7,8]

Maternity care training is a flash point within family medicine, and some residency graduates do not have sufficient documented training or skills to obtain hospital privileges. Fellowship programs in obstetrics have been developed to augment maternity care skills. Although Cesarean section often is a benchmark skill of such fellowships, some family physicians seek obstetrical fellowships to obtain more training in labor management, risk stratification, risk management, and timely response to evolving emergency situations. In addition, there is a need to develop teachers of family medicine obstetrics. This need was confirmed by the 1995 "family medicine faculty with delivery privileges" requirement from the Residency Review Committee.[9]

In 1992, a 1-year fellowship in Advanced Women's Health Care (Family Medicine Obstetrics) began training family physicians in additional pregnancy care skills. Faculty development and clinical research made this curriculum slightly different than other rural obstetrical fellowship programs. The first fellowship class consisted of one physician based at a community hospital in Memphis. Over 6 years, this evolved to a group of fellowship locations involving rural, urban, and suburban settings with a common philosophy and curriculum. Throughout the 18 years of the program, the number of fellows per year has ranged from one to seven, with the current number being four. During the course of the study, the authors served as faculty and/or staff where fellows trained.

The difficulty in recruiting family physicians with skills in family medicine obstetrics has been wide-

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spread and well known. Although this need has been particularly acute in the MidSouth region of the United States, the need is national in its scope. Because a majority of obstetricians have historically been opposed to the provision of obstetrical services within the specialty of family medicine,[10] the faculty group determined that a separate goal of the fellowship would be to publish positions papers, descriptive research, and case series describing outcomes of the contested areas of the curriculum. This included vaginal delivery outcomes, Cesarean section, colposcopy, ultrasound, and others.

Subjects and Methods

The first class consisted of one physician fellow based at a community hospital residency in Memphis. Based on the initial success at this community-based residency, the founding chair expanded the fellowship to include other urban and rural locations. Over the years the fellowship locations and sponsorship expanded to include other residencies and several affiliated private practices. At one time there were seven fellows at different locations whereas in the final year of the study there were four fellows, all training in community-based hospitals in Memphis. Explaining the closure of the rural sites is beyond the scope of this paper.

For purposes of this study, all locations were evaluated as one system. The authors maintained longitudinal contact after graduation for all fellows from all locations. In contrast to other published fellowship data,[2-5] this study focuses on fundamental outcomes such as graduation, service location, hospital privileges, retention, and career change.

Eighty family physicians have been chosen as obstetrical fellows over the past 18 years. All 80 fellows have been graduates of accredited family medicine training programs, and all but one achieved a valid state medical license and routine privileges for vaginal delivery prior to starting fellowship. These were minimal requirements for entry into the program. Fellows were required to complete 12 months of structured curriculum that included, but was not limited to, serving as assistant surgeon to a Cesarean privileged faculty. Table 1 shows a description of the main aspects of the fellowship curriculum.

Thirty-eight percent (30/80) of the physician fellows were female, and 16% (13/80) were international medical graduates. The average age at entry was 31 years. Twenty percent came from a previous practice to enter the fellowship; the other 80% came directly from residency in family medicine. In addition to family medicine residencies, one physician had also previously completed a residency in urology, and one physician had completed a general surgery residency.

Fellowship graduates and community resources were surveyed to determine longevity and career changes with an emphasis on the delivery of babies within the specialty of family medicine. A structured interview format with key questions was prepared. Contact was made by phone call, e-mail, or personal meeting at graduations, 2 years after graduation, and at subsequent intervals no greater than 5 years. Locations and practice activity were reconfirmed for 77/80 (96%) during 2009–2010. The following outcomes were tabulated: location of initial and subsequent practice, ability to obtain hospital privileges for Cesarean section, years

Table 1

Curriculum Basics

Maintain the Family Medicine Identity
a. Minimal assignment to services outside of family medicine department
b. Frequent presence in the family medicine office
c. Function as junior faculty for students and residents
d. Care for mothers and babies delivered as part of the Family Medicine Hospital Service
e. Offer continuity care to mothers and babies in the family medicine center
f. Teach non-pregnant hospital care to residents (minimum 4 weeks)
g. Spend two nights a month in a rural hospital emergency department (1992–1999)

Develop Obstetrical Skills Equivalent to Those of Average Obstetrical Resident
a. Take and pass OB-GYN in-service residency (CREOG) exam 1993–1997
b. Have protected time to scrub all available Cesareans in the hospital
c. Minimum 50 Cesareans as primary operator
d. Organize and attend weekly review of all OB activity
e. Review and present evidence-based articles from OB-GYN weekly
f. Follow core curriculum of standard OB textbook

Attend Curriculum Enrichment Courses Outside of Department
a. Advanced Life Support in Obstetrics (instructor encouraged)
b. Neonatal Resuscitation Program
c. Advanced Cardiac Life Support
d. Advanced Trauma Life Support (1992–1999)
e. American Academy of Family Physicians Maternity Care Conference
f. Vanderbilt High Risk Obstetrical Conference
g. International and other conferences by arrangement

Procedural Skills Clinics in the Family Medicine Center
a. Office surgery sedation/analgesia
b. Advanced OB and GYN ultrasound
c. Colposcopy/cryosurgery/LEEP
d. Colonosocpy/EGD (optional after 2000)
e. ECG Interpretation Test (optional)
f. Fracture management (optional)
g. Chest radiograph interpretation (optional)

Separate From Identity as Resident—Acquire Professional Assets
a. Obtain valid medical license and DEA #
b. Obtain medical liability insurance and understand cost
c. Obtain hospital privileges including normal OB and surgical assisting
d. Obtain accreditation with regional health care insurers
e. Learn and perform billing etiquette for reimbursement
f. Track clinical services and project revenue
g. Others

The curriculum evolved, but retention of family medicine as a core identity required a full-service family medicine center as the medical home and training center as compared to previous models where family physicians would serve as junior residents on an obstetrical hospital service.

of delivery practice, changes in practice location, and reasons for discontinuing maternity care services. Since faculty development was one of the curriculum goals, participation as clinical or full-time faculty was also tabulated. This study received an exemption from the hospital Institutional Review Board.

To describe the longitudinal affects of attrition, there was a subgroup analysis of graduates with at least 9 or more years of medical practice following fellowship. This analysis tabulated those who did deliveries for less than 2 years, 2–5 years, 6–10 years, and more than 10 years. The total number of physicians still delivering was counted. A count of total years of delivery service by the group was tabulated.

Rural physicians with at least 9 years post-fellowship experience (graduates 1993–2001) were also asked to describe the one major reason for discontinuing delivery services. Discrete choices were offered, and interviews were conducted to clarify multifactorial issues.

Results

Eighty physicians entered the program over the 18 years studied, and 74 (93%) completed the fellowship. One physician left early to accept a faculty position providing non-operative obstetrics. He was counted as achieving the goal of maternity care service but not counted as achieving Cesarean privilege. Two physicians were dismissed for academic reasons, and one required a career change for medical reasons. One discontinued the fellowship for administrative reasons. One resigned after deciding that he would not do maternity care in his future office. He has a suburban family medicine office without hospital patients.

Table 2 is an overview of the major outcomes. Among fellows completing the program, 96% (71/74) received privileges for Cesarean section. Rural service of at least 2 years occurred among 64% of the graduates (47/74).

An additional goal of the program was the development of academicians in family medicine obstetrics. Forty-nine percent (36/74) of fellowship graduates have served at least 1 year as faculty and, among these, 30% (22/74) served at least 1 year as full-time faculty. In addition, the published research from this fellowship is significant in its volume and impact.[11-19] Topics include, but are not limited to, skills in higher-risk obstetrics,[11] Cesarean section,[12] diagnostic ultrasound,[13-16] and other procedures.[17] Research has emphasized preparation for rural family medicine, with a focus on additional skills in obstetrics and emergency medicine.[18,19]

For physicians (Table 2) who had completed at least 9 years of post-fellowship experience, 14% (6/44) stopped delivering within the first 2 years. Another 9% (4/44) stopped within 5 years, and another four stopped within 10 years, for a total attrition of 32% (14/44) within 10 years after graduation. An additional three stopped after more than 10 years of family medicine obstetrics. The number of graduates from 1992–2001 that remain delivering as of 2010 is 27/44 (61%), and the total years of maternity care service by the total group is 376 years to date.

Table 2

Career Statistics Fellowship Group 1992–2010

	Total
Entered	80
Female	30 (38%)
Completed	74 (93%)
Obtained Cesarean privileges	71 (96%)
Spent ≥ 2 years rural	47 (64%)
At least 1 year as faculty	36 (49%)
At least 1 year as full-time faculty	22 (30%)

These fellowships met the primary goals of Csarean section privileges, rural placement, and faculty involvement.

Table 3 depicts the impact of time on attrition. Ninety percent (27/30) of recently graduated fellows are currently doing deliveries whereas only 61% (27/44) of fellows that graduated 2001 or earlier are still doing deliveries.

Table 4 depicts the attrition of delivery services among rurally placed fellows from the classes of 1992–2001. Thirty-one entered a rural site and completed at least a year of family medicine obstetrics. Sixty-eight percent (21/31) remained in the rural location as of 2010, but only 39% (12/31) had continued with deliveries. Among the classes of 2002–2010, 75% (12/16) have continued to do deliveries at the rural site.

Among rural physicians with at least 9 years post-fellowship experience (graduates 1992–2001), 17 of the 19 that no longer deliver described "the one major reason" for their dropping of delivery services in the rural community. Major reasons were described as follows: hospital closure of delivery services (four), lack of call group support (four), hospital privileges refused (two), insurance cost greater than revenue (two), child care issues (three), and career change (two). Face to face and phone interviews were conducted to further clarify. Interviews revealed that reasons were frequently multifactorial, and two of the 19 physicians could not describe one major reason.

Discussion

This report tracks outcomes from this fellowship system over 18 years and is the largest single series published to date. Providing 100% follow-up on the experience of 80 graduates, it is one of the largest

Table 3

Fellowship Outcomes—Stopped Delivering, Effect of Time on Attrition

	1992–2001 Classes	*2002–2010 Classes*
Completed	44	30
Never did any OB	2 (5%)	2 (7%)
Stopped OB ≤ 2 years	6 (14%)	1 (3%)
Stopped OB ≤ 5 years	4 (9%)	2 (7%)
Stopped OB ≤ 10 years	4 (9%)	2 (7%)
Stopped after 10 years	3 (7%)	N/A
Still deliver	27 (61%)	27 (90%)

The 1992–2001 Fellows, who have experienced at least 9 years after fellowship, demonstrate that attrition increases with time after graduation.

Table 4

Rural Attrition Family Medicine Obstetrics

	1992–2001 Classes	*2002–2010 Classes*
Entered rural site or mission hospital	31	16
Did at least 1 year rural OB	31 (100%)	13 (81%)
Hospital closed OB services	4 (13%)	None
Still at rural site	21 (68%)	16 (100%)
Still doing family medicine rural OB	12 (39%)	10 (63%)
Doing rural family medicine or ER, no OB	9 (29%)	3 (19%)
Moved to city but still doing deliveries	4 (13%)	1 (6%)

Attrition in the rural group was notable for the large number of physicians who dropped their OB but stayed in the rural area. Some of this may have been due to the hospitals closing their labor and delivery services.

subsets within a recently published follow-up on 165 fellowship graduates.[2] It adds information about successfully obtaining hospital privileges for operative obstetrics and reasons for stopping deliveries after a successful start. We also show that the curriculum has successfully met its stated goals of rural placement and faculty development.

These data demonstrate the weakness of workforce planning without longitudinal follow-up. For recent graduates, retention of obstetrical services appears to be 90%, but for rural fellows completing at least 9 post-fellowship years, the retention is 39%. Overall, the major reason for discontinuation of deliveries over time is failure to obtain written guarantees of hospital commitment, hospital privileges, and OB call coverage. In interviews, it was found that some fellows had also clearly not paid attention to development of a basic business plan. Ironically, those family physicians who resolved these issues in metro areas seemed to find them more sustainable. Metro hospitals did not close marginally profitable OB operations, and loss of one partner did not collapse the call coverage system. The continued presence and support of an academic department of family medicine with an obstetrical commitment was important.

The fellowship goal of faculty development was achieved with 49% (36/74) serving at least 1 year as clinical faculty or full-time faculty. The published research from this fellowship has had an impact on the region and nationally.[11-22] The program produced data describing lifestyle and financial realities of providing these services in private practice.[20-22] These data supported the inclusion of these skills as required curriculum for family physicians.[23] Academic goals have also been fulfilled with the birth and contribution to other programs staffed by graduates of this fellowship system.

Although family medicine obstetrics has been the core identity, the fellowship has retained the flavor of traditional family medicine while including contributions from public health, emergency medicine, obstetrics, and surgery. Some academic family physicians in the region criticized this curriculum as being beyond the limits of generic primary care and too difficult, which led to closure of fellowship activity in middle Tennessee. Learning from these issues as well as fellows' reasons for attrition over time, we would suggest similar fellowships include legislative support, destination counseling, and an approach to creating a sustainable business plan in their curriculum.

Prior to the institution of this fellowship program, family physicians in Tennessee were not providing operative delivery services. From 1982–1992, one author had attempted a non-fellowship training model in maternity care skills for family medicine residents with the goal of increasing Cesarean section privileges for family physicians.[24] This model was a failure. In 1992, there were only three Cesarean-privileged family physicians in the state of Tennessee. In contrast, in 2010 after 18 years of the fellowship training model described here there were more than 24 family physicians in Tennessee providing operative deliveries. This fellowship training model predicted the value of a fourth year beyond the traditional 3-year family medicine residency but is distinctly different from the P4 programs that came later and has proved more successful in our experience for many reasons. First, these "fellows" have completed their residency and function as junior faculty.

This seems to create a more intellectually robust role. Secondly, these junior faculty do not require another faculty's counter signature to function independently in the family medicine center or in the hospital. Since the fellows are billable entities, these programs have supported themselves financially. Workforce planners may find this to be an advantage.

Weaknesses of this study include the potential bias of a single region, but these programs were conducted over a career that spanned three medical schools, two community hospitals, and four rural hospitals in two states. This weakness is mitigated by the face validity of reported hospital privileges and continuing activity in family medicine obstetrics. There is little reason to suspect that these reports were fabricated or misrepresented. Despite potential differences in locations and rotations, the common denominator of Cesarean privileges, rural placements, and sustained participation in deliveries is documented.

The 100% follow-up over almost 2 decades gives additional insight into the dilemma of obstetrical training within family medicine. Since this length of follow-up is rare in educational research, our analysis divides the whole group into two subgroups to illustrate evolution over time. For example, those with at least 9 years of post-fellowship experience have run a professional gauntlet of moves and personal life changes. This minimizes the point of graduation bias present in many other studies.

Survival of even basic delivery skills in family medicine has been questioned.[25,26] Some feel that an additional year of training is necessary. Others have stated that family medicine should focus on basic primary care to the exclusion of hospital patients and deliveries. The ability to obtain hospital privileges for the performance of a Cesarean section in the event of an obstetrical emergency is essential to the survival of these services in any community[1] and is the foundation for providing higher-risk maternity care. Our successful fellowship model began with the core purpose of providing training in Cesarean deliveries but has evolved to an enriched curriculum combining public health, family medicine, emergency medicine, and obstetrics. Similar fellowship programs have published promising reports,[1-3] but the role of obstetrics in family medicine remains under discussion.[4-6] This report adds to that dialogue.

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Corresponding Author: Address correspondence to Dr Rodney, Medicos para la Familia, 6575 Black Thorn Cove, Memphis, TN 38119. wmrodney @aol.com.

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