BRIEF
REPORTS

Maternal-Child Health Fellowship: Maintaining the Rigor of Family Medicine Obstetrics

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BACKGROUND AND OBJECTIVES: The United States has a growing shortage of maternity care providers. Family medicine maternity care fellowships can address this growing problem by training family physicians to manage high-risk pregnancies and perform cesarean deliveries. This paper describes the impact of one such program—the Maternal Child Health (MCH) Fellowship through the Department of Family Medicine at Brown University and the careers of its graduates over 20 years (1991–2011).

METHODS: Fellowship graduates were mailed a survey regarding their training, current practice and teaching roles, and career satisfaction. Seventeen of 23 fellows (74%) responded to the survey.

RESULTS: The majority of our fellowship graduates provide maternity care. Half of our respondents are primary surgeons in cesarean sections, and the majority of these work in community hospitals. Nearly all of our graduates maintain academic appointments and teach actively in their respective departments of family medicine.

CONCLUSIONS: Our maternal child health fellowship provides family physicians with the opportunity to develop advanced skills needed to provide maternity care for underserved communities and teaching skills to train the next generation of maternal child health care providers.

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The United States faces a significant shortage of maternity care providers, with nearly half (49%) of US counties having no practicing obstetrician-gynecologist.[1,2] Many obstetrician-gynecologists are choosing not to provide maternity care, especially for high-risk patients.[3] Appropriately trained family physicians can fill this gap, but fewer are providing maternity care, from 46% in 1978[4] to 10% in 2010.[5] Family medicine maternity care fellowships (referred to as either maternal child health (MCH) or obstetrics (OB) fellowships address this problem by training family physicians to manage high-risk medical conditions in pregnancy, perform cesarean deliveries, and teach the next generation of family physicians.[6] This paper describes the MCH Fellowship of the Brown University Department of Family Medicine, located in an urban, underserved setting, and the careers of its graduates from 1991–2011.

Fellowship Curriculum

Selection and Clinical Training

Fellows are selected through a competitive process; each year 20–40 family physicians apply, five to 10 are interviewed, and one to three fellows are accepted each year, depending on the needs and resources of our clinical sites. Local federally qualified community health centers (FQHC) and a private multi-specialty group employ MCH fellows to care for their patients. Fellows spend approximately 50% of their time practicing family medicine at their respective outpatient sites. Each fellow coordinates prenatal care at his/her community site, working with a multidisciplinary team of health professionals using a case management approach. Fellows provide perinatal care for mothers and newborns, including ultrasound, spontaneous and operative vaginal delivery, cesarean delivery, tubal ligation, and uterine aspiration. All fellows take cesarean delivery call, rotate through the weekly high-risk obstetrical clinic, and attend in the labor and delivery call group at a community hospital with 500 deliveries per year, which sponsors a 13-13-13 family medicine residency. Fellows complete an average of 72 cesarean deliveries (range 60–112) and 58 vaginal deliveries per year (range 42–97).

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Didactic Curriculum
A weekly 2-hour seminar emphasizes skills needed to provide high-risk obstetrical care for underserved MCH populations. Journal club, didactic teaching, research mentoring, case management, and special skills training (such as level 2 and nuchal translucency ultrasound and genetic counseling), also occur in this forum.

Faculty Development
Fellows teach and supervise family medicine residents and medical students in obstetrical triage, delivery, and newborn care and take part in simulation and assessment of trainee performance. Fellows may choose a 1- or 2-year program; those enrolled for 2 years complete a masters degree with a research thesis; 1-year clinical fellows also complete a mentored research project.

We surveyed fellowship graduates since 1991 to assess their current practice environment, procedures performed, salary, and job satisfaction.

Methods

We mailed surveys to all fellowship graduates from 1991–2011. The 43-item survey was created by the fellowship director and reviewed for clarity by two colleagues in family medicine obstetrics. The survey was mailed again if there was no response within 12 weeks. The hospital's Internal Review Board reviewed the study and deemed it exempt from oversight. Table 1 describes the survey content.

Results

Seventeen of the 23 graduates from 1991 to 2011 completed the survey (overall response rate of 74%). Two respondents no longer provide clinical care, but both have academic appointments in departments of family medicine. Forty-one percent (7/17) completed a 2-year fellowship, earning either a master of science in epidemiology or master of public health. The remainder completed a 1-year clinical fellowship.

Scope of Practice
Table 2 describes scope of practice for the 12 respondents currently providing maternity care. Eleven of 12 (92%) stated that they were able to obtain the maternity care privileges they requested, including cesarean delivery. Ninety-two percent (11/12) of respondents manage high-risk medical conditions such as preeclampsia (including magnesium infusion), gestational diabetes (including insulin infusion), and 33% (4/12) manage multiple gestations. Fifty-eight percent (7/12) of respondents practice in hospitals where less than or equal to 50% of the deliveries are managed by obstetricians. Sixty-seven percent (10/15) take at least some night call at the hospital; 80% (12/15) take some or all of their night call from home.

Teaching/Academics/Research
All respondents reported currently teaching medical students, residents, and/or fellows, as well as developing family medicine obstetrics curricula. Thirteen (76%) have an academic appointment and are involved in research. Twelve (71%) reported peer-reviewed publications since fellowship.

Salary and Professional Satisfaction
We asked respondents still practicing medicine to compare their salaries with those of their family medicine colleagues who do not provide maternity care. Sixty percent (9/15) believe they earn similar or higher salaries than their colleagues. Forty-seven percent (7/15) of respondents reported performance incentives built into their income, so that their salary is partially based on the volume of deliveries they perform. All respondents stated that their decision to pursue fellowship training enhanced their career satisfaction.

Table 1: Maternal Child Health Fellowship Graduate Survey

Training and Current Activities
Length of fellowship
Current practice of maternity care
Cesarean privileges obtained: primary surgeon, first assist
Involvement in education of medical students, residents, fellows
Maternity Care Practice Setting
Socioeconomic status of patient population served
Size and type of birthing center
Community type: urban, rural, etc
Presence of obstetrical backup services
Complications managed prenatally
Complications managed intrapartum
Academic Activities
University academic appointment
Research activities
Presentations and publications
Income and Career Satisfaction
Current salary/income
Professional satisfaction

Discussion

We describe a successful maternal child health fellowship in an urban underserved setting with a high proportion of graduates providing maternity care, including operative deliveries. Family medicine residencies should be equipped to train physicians to manage low-risk prenatal and intrapartum care, and the 2014 Family Medicine Program Requirements state that "Residents must demonstrate competence in their ability to provide maternity care," including performing spontaneous

Table 2: Current Practice of Fellowship Graduates Providing Maternity Care*

Clinical Activity	
Vaginal Deliveries	
Average number per year=29 (range 5–75)	
Cesarean Deliveries	
67% operating as primary surgeon	
Average number per year=24 (range 2–50)	
Hospital Privileges	
Normal vaginal delivery	100%
Cesarean delivery (primary surgeon)	67%
Vacuum-assisted vaginal delivery	100%
Forceps delivery	67%
Third-degree laceration repair	100%
Fourth-degree laceration repair	83%
IUD Insertion	100%
Colposcopy	75%
Vasectomy	33%
Diagnostic amniocentesis	50%
Uterine aspiration	58%
Delivery Setting	
Tertiary care hospital	33%
Community hospital	58%
Hospital-based birth center	8%
Free-standing birth center	0
Home birth	0

* n=12

vaginal delivery and managing basic obstetrical emergencies.[7] Those choosing to work in rural underserved areas or urban community hospital settings might require fellowship training to enhance their skills to provide independent full-spectrum care.

Nationally, only 10% of family physicians deliver babies,[5] yet the majority of our fellowship graduates provide maternity care, and the majority of those provide cesarean delivery. Although six graduates did not complete the survey, even if all nonrespondents are no longer providing maternity care, the rates of maternity care practice after fellowship would still be greater than 50%, much higher than the rate among family medicine residency graduates.

The majority of our fellowship graduates work in community hospitals where obstetricians are responsible for less than half of the delivery volume, suggesting that our graduates might be choosing to practice in smaller critical access hospitals or residency programs, as nearly 50% of graduates reported residency teaching roles. Both of these findings parallel results of a national survey of MCH fellowship graduates.[6] The majority of our graduates also report high career satisfaction and believe they earn salaries at or above the level of their peers.

Family physicians' broad scope of practice makes them uniquely qualified to care for underserved communities, yet many require enhanced training to develop operative delivery skills, recognize and manage high-risk pregnancies and obstetrical emergencies, and identify and address pertinent public health issues for underserved women and children. Expansion of MCH fellowships using this model could enhance access to care for underserved communities as well as improve maternity care training for the next generation of family physicians.

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