OBSTETRICS

Putting the "M" back in maternal–fetal medicine

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Although maternal death remains rare in the United States, the rate has not decreased for 3 decades. The rate of severe maternal morbidity, a more prevalent problem, is also rising. Rise in maternal age, in rates of obesity, and in cesarean deliveries as well as more pregnant women with chronic medical conditions all contribute to maternal mortality and morbidity in the United States. We believe it is the responsibility of maternal-fetal medicine (MFM) subspecialists to lead a national effort to decrease maternal mortality and morbidity. In doing so, we hope to reestablish the vital role of MFM subspecialists to take the lead in the performance and coordination of care in complicated obstetrical cases. This article will summarize our initial recommendations to enhance MFM education and training, to establish national standards to improve maternal care and management, and to address critical research gaps in maternal medicine.

Key words: maternal-fetal medicine, maternal-fetal medicine education, maternal-fetal medicine research, maternal morbidity, maternal mortality

With a seminal article presented in the *Lancet* less than 25 years ago, Allan Rosenfield and Deborah Maine[1] galvanized the international public health movement to reduce maternal mortality and improve maternal health. Inspired by their message and their legacy, we recently published a call to action for an organized, national approach to decrease maternal mortality and morbidity in the United States.[2]

Although maternal death is rare in the United States, particularly in comparison to the developing world, maternal mortality has not decreased for 3 decades.[3,4] There continue to be dramatic disparities in health care outcomes–including marked differences in maternal mortality rates–between different socioeconomic and racial groups.[5] Moreover, severe maternal morbidity is a much more prevalent problem than maternal death, affecting tens of thousands of women each year.[6,7]

Maternal mortality and morbidity rates may even be rising due to a number of reasons. Delaying childbearing and assisted reproductive technology has allowed more women of advanced maternal age to conceive. Obesity has also become a national epidemic and is responsible for increasing rates of hypertension, diabetes, and other chronic diseases affecting pregnancy.[8] The rising cesarean delivery rate has increased the incidence of placenta accreta, a diagnosis associated with a high risk of postpartum

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hemorrhage and need for postpartum hysterectomy.[9,10] Recent advances in medicine have also made it possible for women with relatively rare but serious medical conditions, including congenital heart disease, genetic conditions such as cystic fibrosis, transplanted organs, or a history of malignancy, to consider pregnancy. It may even be argued that the lack of universal, comprehensive medical care in the United States affects the baseline health status of women with chronic medical conditions and their subsequent pregnancy outcomes.

Meanwhile, there have been changes in the practice of maternal-fetal medicine (MFM). MFM was established as a subspecialty in the 1970s for physicians focused on the treatment and prevention of medical and surgical complications of pregnancy. In many areas of the United States today, generalist obstetrician-gynecologists, laborists, or other obstetrical providers continue to primarily manage the labor and delivery (L&D) process. Despite the original focus of MFM specialists, there has been an increasing trend in relying on medical subspecialists to treat chronic disease or medical complications in obstetrical patients, and increasing involvement of gynecological oncologists or other surgical specialists to assist in advanced obstetrical surgery. This reliance on nonobstetrical specialists excludes MFMs from many aspects of maternal care.

This shift may be occurring in part because of the increasing popularity of outpatient, consultative MFM practice. Certainly that form of practice offers predictable hours and a greater potential for part-time employment. There is also a vast reimbursement differential between providing obstetrical ultrasound services and providing care for women with significant medical problems, exemplified by the relative time and effort requirements of each, and a marked disparity in the medicolegal burden between outpatient and inpatient services. A recent survey of generalist obstetrician-gynecologists reported that 31% were not satisfied with the MFM services available to them, citing lack of MFM availability, unwillingness of MFM specialists to care for hospitalized patients, and limitation of MFM services to ultrasound and diagnostic procedures among their reasons.[11]

We believe that it is the responsibility of MFM subspecialists to lead the effort to decrease maternal mortality and morbidity in this country. To accomplish this goal, we must engage all obstetrical providers and trainees across the country. In so doing we also hope to reestablish the vital role of MFM subspecialists in the performance and coordination of care in complicated obstetrical cases. Toward this effort, the American Board of Obstetrician Gynecologists (ABOG) sponsored a meeting with participation from the American Congress of Obstetricians and Gynecologists (ACOG), the Society for MFM (SMFM), and the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD) at the annual meeting of the SMFM in Dallas, TX, in February 2012 to: (1) enhance the education and training in maternal care for MFM fellows; (2) improve the medical care and management of pregnant women around the country; and (3) address the critical research gaps in maternal medicine. This article will summarize the initial recommendations for each of those objectives.

Education and training

The fellowship in MFM began as a 2-year program after completion of a 4-year residency in obstetrics and gynecology. In 1996, the fellowship was extended to 3 years, to augment the research component. Currently the ABOG requires fellows to spend a minimum of 12 months on clinical rotations and 18 months on research activities with 6 months' time designated by the program director for elective activities.

Over the past few decades, however, there have been significant changes in the practice of medicine and residency training in virtually all of the clinical specialties. With the many recent advancements in medical science–the sheer volume of medical research, the accelerating adoption of technology in medicine, the drive toward subspecialization across disciplines–there is no question that the breadth and depth of clinical expertise required of the MFM physician has expanded.

More recently, restrictions on resident and fellow duty hours have increased. In addition to the 80-hour work per week rule instituted in 2003, there is a new limitation to 16 hours per day as the maximum duration of duty for interns. Certainly the goals of such restrictions are valid: to reduce medical errors as a consequence of practitioner fatigue and to improve the quality of life for our physicians in training. However, in essence, there is more to learn in less time. An unintended consequence of work-hour restrictions may be a decrease in the knowledge base, clinical skills and preparation for practice, or advanced training after residency. To respond to these trends, we suggest that ABOG modify the MFM fellowship requirements to include: 18 months of clinical rotations, 12 months of research, and 6 months of elective time. In addition, to enhance training in obstetrical complications and maternal medicine, formal rotations on L&D and in an intensive care unit (ICU) should be required. More specifically, fellows should complete a minimum of 4 months of L&D/inpatient services and 2 months of ICU rotations. Fellows on both of these rotations should actively participate in patient care and resident education as well as fulfill on-call requirements. Only direct, hands-on patient care and responsibility will lead to the knowledge base and experience with obstetrical and critical care complications necessary for MFM physicians. Because serious pregnancy complications are low frequency events, the program must be structured to allow enough time on obstetrical services and ICUs to gain adequate exposure to these relatively rare patients.

ABOG has already responded to the above requests and has recently modified the MFM fellowship requirements to include 15 months of clinical rotations, 12 months of research, and 9 months of elective time. Fellows must now complete 2 months of L&D/inpatient services and a 1-month ICU rotation. These changes will be put into effect in July 2013.

Expanded rotations will certainly increase the exposure of MFM fellows to obstetrical complications and critical