Innovative Midwifery Teaching for Medical Students and Residents

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Many midwives are full-time faculty members of departments of obstetrics and gynecology in academic medical centers. As such, they contribute to the medical school’s educational mission by teaching undergraduate and postgraduate medical students in both the clinical area and in didactic lectures. Midwives are also instrumental in the development of many innovative electives, workshops, and lectures, which provide students and residents with more exposure to the midwifery model of care. This article presents some of these innovations. J Midwifery Womens Health 2009;54:301–305 © 2009 by the American College of Nurse-Midwives.

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INTRODUCTION

From clinical teaching at the bedside of a laboring woman, to modeling a woman-focused pelvic examination, to more didactic education within medical schools and residency programs, midwives have been teaching future physicians in innovative ways for many years. Some departments of obstetrics and gynecology in academic medical centers recognized the contribution that midwives could make—not only as members of the clinical team, but also as educators of residents and medical students—as early as the 1960s. By the 1980s, midwifery sections or divisions had become well established in medical schools such as the University of Southern California, the University of New Mexico, and Brown University.

In 1994, Harman et al. surveyed 133 medical school departments of obstetrics and gynecology, more than half of which included certified nurse-midwives (CNMs) as educators. They also surveyed CNMs known to be involved in medical education to learn more about their roles and responsibilities. The majority of respondent midwives held academic appointments, usually in the clinical track, and taught family practice as well as obstetrics and gynecology residents. Today, a network of midwives involved in medical education communicate through a list serve and meet at the annual meeting of the American College of Nurse-Midwives. The individuals in this unique group have been responsible for innovative teaching models for medical students and residents. This article presents some of the teaching initiatives spearheaded by these midwives.

A request for contributions to this report was placed on the medical educators list serve and resulted in three responses. The author also directly solicited colleagues from 12 medical centers whose programs were known in the network. The contributors were asked to provide brief information on their institution and the involvement of the midwives in residency and medical education, a description of the innovation, including background and obstacles to its development, evaluation information, and future plans for other programs. Some CNMs did not respond or were unable to contribute for various reasons. Eight midwives from six academic medical centers across the United States agreed to contribute to this brief report; Table 1 summarizes the institutional contributors. The programs highlighted are a sample of interesting and unique midwifery teaching in medical schools and residencies.

INNOVATIVE MIDWIFERY TEACHING WITH MEDICAL STUDENTS

University of California, San Francisco

The elective course Unique Teaching Experience About Childbirth and Health (UTEACH) has been offered at the University of California, San Francisco since 1997. The objective of this 10-week course is to provide first- and second-year medical students with the opportunity to learn about pregnancy, childbirth, and obstetric care through a long-term experience with a pregnant family. In addition to gaining knowledge about the role of preventive care, the student observes a comprehensive, multidisciplinary team approach to prenatal care. The course is directed by a midwife faculty member of the Department of Obstetrics, Gynecology and Reproductive Sciences. The course is taken for credit by approximately 40 first-year medical students every fall semester. The UTEACH model involves second-year students in course planning and teaching for first-year students. Each year, students who took the course volunteer to be coordinators for the next year’s class, for which they receive a letter from the course coordinator to the dean to add to their applications for residency. Many of these students choose obstetrics and gynecology as a career.

The second-year student coordinators choose topics and speakers for the didactic sessions, with assistance from the midwifery faculty. Speakers include obstetricians, midwives, childbirth educators, genetic counselors, and a mother-and-infant/student team from the previous year.
Topics include reproductive rights, international childbirth, prenatal care, labor, and birth. The student coordinators recruit women from prenatal offices and the University of California, San Francisco, teen clinic, publicize the course to the incoming students, and match each student who takes the course to a pregnant family. The first-year student then attends all prenatal visits, the birth for the mother they are matched to, and the 10 lectures. The faculty midwife maintains a course Web site, with educational materials and e-mail via the University of California, San Francisco, WebCT (Blackboard). She attends all the sessions, gives some lectures, and supports the students when questions arise. When a student misses the birth of his or her “UTEACH mom,” he or she makes up the hours by spending a day in the labor and delivery unit with a midwife on faculty.

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Table 1. Innovative Midwifery Initiatives for Medical Student and Residency Education

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<thead>
<tr>
<th>Institution</th>
<th>Targeted Learners</th>
<th>Educational Initiative</th>
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<tbody>
<tr>
<td>University of California, San Francisco</td>
<td>First- and second-year medical students</td>
<td>10-week perinatal elective Unique Teaching Experience about Childbirth and Health for first-year students, which includes attendance at a birth, organized by second-year students having taken the course, with coordination and support of faculty midwives</td>
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<tr>
<td>University of Washington, Seattle</td>
<td>First- and second-year medical students</td>
<td>6-week perinatal elective for first- and second-year students interested in obstetrics and gynecology or family medicine, pairing students with patients of the midwifery practice for a continuity experience, including the birth</td>
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<td>Tufts University, Baystate Medical Center</td>
<td>Third-year students in obstetrics and gynecology clerkship</td>
<td>Five seminars focusing on disparities in reproductive health and cross-cultural care in obstetrics and gynecology, includes site visits to jails and mobile health units</td>
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<td>Brown University, Women &amp; Infants Hospital of Rhode Island</td>
<td>First-year obstetrics and gynecology residents</td>
<td>10-hour obstetric skill workshop, Intern Bootcamp; one-on-one teaching of basic labor and delivery skills at the onset of residency and an assigned midwife mentor</td>
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<tr>
<td>Brown University, Women &amp; Infants Hospital of Rhode Island</td>
<td>Second- and third-year obstetrics and gynecology residents</td>
<td>Workshops for second-year residents on advanced obstetric skills and fetal monitoring taught by midwives; third-year residents are taught pudendal anesthesia and repair of third- and fourth-degree lacerations (co-taught by midwives and urogynecologists)</td>
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<td>Brown University, Women &amp; Infants Hospital of Rhode Island</td>
<td>Fourth-year obstetrics and gynecology residents</td>
<td>4-hour leadership training workshop given by midwifery faculty for rising chief residents using the Synectics approach to creative thinking and problem solving</td>
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<td>University of Maryland</td>
<td>Third-year medical students in obstetrics and gynecology clerkships, first-year obstetrics and gynecology residents, and other obstetric providers</td>
<td>Three simulation-based training sessions for medical students and a 1-hour session for interns focused on learning basic obstetric skills in a safe and supportive environment New center for training in obstetric emergencies for obstetric providers from all disciplines</td>
</tr>
<tr>
<td>University of Rochester Medical Center</td>
<td>Third- or fourth-year family practice residents</td>
<td>24-week elective in CenteringPregnancy for family medicine residents sharing responsibility for leading a group of teens throughout their pregnancies and providing the opportunity for attending patients’ births under midwifery supervision</td>
</tr>
<tr>
<td>University of Rochester Medical Center</td>
<td>Medical students, residents, attendings, midwives, and other professionals</td>
<td>Annual endowed midwifery lectureship given by a nationally prominent midwife in a citywide grand rounds format, with 2 hours of additional teaching of obstetrics and gynecology residents and third-year medical students in their obstetrics and gynecology clerkship</td>
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University of Washington

At the University of Washington in Seattle, a perinatal elective was developed by a midwife on the faculty, targeting first- and second-year medical students interested in obstetrics and gynecology or family medicine. Students are matched with patients from the midwifery practice and attend prenatal visits in the last 4 to 5 weeks of the pregnancy. There are weekly readings related to obstetric care in the third trimester, labor, birth, and postpartum. A midterm class taught by midwife faculty focuses on the physical and emotional aspects of labor and birth, with emphasis on giving labor support. The course also requires writing a journal and a final paper. The weekly reflective writings are shared with the midwife faculty to answer questions and provide direction. Attendance at the birth is encouraged, but not mandatory, for credit in this course. This elective provides students an opportunity to develop continuity relationships with the patients over time, to observe the changes occurring in the last month of pregnancy, and to see this experience from the patient’s point of view. Students are exposed to the role of the midwife on the perinatal team, as well as a model of care that is patient focused and educationally rich—hallmarks of midwifery care.
Tufts University and Baystate Medical Center

At Baystate Medical Center in Springfield, Massachusetts, three Tufts University obstetrics and gynecology faculty received an Innovations in Education grant to design a “community health curriculum in reproductive health disparities and cross-cultural care in obstetrics-gynecology clerkship” for third-year medical students. One of the faculty is a midwife on the obstetrics team, that was recently reported on in this journal, who identified the need for more cultural sensitivity training.

Five seminars are given during the clerkship. The topics include social determinants of health; Springfield’s different ethnic communities, as represented by a panel of women from the community; and a site visit to a jail, community health center, or a family planning clinic that has expanded its services to include needle exchange and a mobile health care unit. Students also simulate navigating the system from a patient’s perspective and give case presentations on addressing the health care disparities at the level of the health care encounter itself, the health care system, and the wider community.

Designed as a research study, the students do not receive any additional credit for this component of the Baystate third-year curriculum. Knowledge, beliefs, and attitudes about health care disparities in reproductive health are assessed before and after the seminars. Tufts medical students rotating at other sites for their clerkship serve as a control group. Depending on the outcome of the study, this may become a permanent part of the Baystate obstetrics and gynecology curriculum.

INNOVATIVE MIDWIFERY TEACHING WITH RESIDENTS

Brown University and Women & Infants Hospital of Rhode Island

At Brown University in Providence, Rhode Island, the midwives mentor the obstetrics and gynecology residents at Women & Infants Hospital of Rhode Island in several innovative ways. Midwives participate in interviewing and ranking applicants for the obstetrics and gynecology residency, then assign themselves as mentors to one or two interns. Beginning with an e-mail welcome offering assistance transitioning to residency, each midwife meets with her mentee throughout the residency. The midwives have also developed different teaching approaches for each resident year. Interns attend a 10-hour obstetric skill workshop, Intern Bootcamp, taught by midwives during orientation. When the interns rotate through obstetrics, midwives provide one-on-one teaching of skills, such as vaginal examinations, hand maneuvers for delivery, suturing, and obstetric triage. Interns are not allowed to function independently until they are formally checked off by the midwives for competence on agreed upon skills. The midwives teach the second-year residents a 4-hour workshop on fetal monitoring and review of advanced obstetric skills, such as shoulder dystocia and postpartum hemorrhage management. In the third year, in collaboration with the Urogynecology Division, a 2.5-hour workshop is given on repair of third- and fourth-degree lacerations and pudendal anesthesia.

For chief residents, the midwives developed a unique leadership workshop inspired and guided by Synectics, an approach to problem stating and problem solution based on creative thinking. Used in Fortune 500 companies, the method involves freeing the mind to make new connections and powering creative ideas. The workshop creates a ritual around the transition to being a chief—time and space where the residents are encouraged to look at their final year with new eyes. The session is held in a comfortable room decorated with colorful posters with quotations and action-oriented, positive vocabulary. The midwives show a short humorous video made specifically for each class and lead exercises to encourage silliness. Once an atmosphere of fun and creativity is set, the question, “How does one become a great chief resident?” is considered. The residents express their hopes and concerns as questions or wishes, which are posted on the wall. While the residents reflect on the pages of their ideas, prioritize them, and discuss possible solutions, the midwives serve them dinner. Afterward, the focus shifts to communication issues. The midwives model specific feedback techniques by performing a short skit of a typical communication problem. Then the residents write out and perform their own skits based on difficult situations that they have or anticipate. As a resident dyad performs, the others participate in problem solving. Invariably this is hilarious and very helpful in practicing feedback vocabulary. The workshop ends with a ceremony pinning participants with a leadership pin and taking a group photo.

University of Maryland

At the University of Maryland School of Medicine, Department of Obstetrics, Gynecology and Reproductive Sciences in Baltimore, Maryland, the nine midwives on faculty participate in simulation training as well as classroom and clinical education. Simulation is an emerging teaching strategy that allows students and residents to gain skills efficiently and safely, and is ideal for teaching management of obstetric emergencies or training in teamwork and communication. Midwives conduct 1-hour obstetric skills sessions with the interns early in their residency, providing one-on-one hands-on training in basic obstetric skills in a safe and nurturing environment. The interns can conduct labor checks, repair second-degree lacerations, and conduct births on simulators. Medical students in their third-year obstetric clerkship also participate in three simulation-based training sessions. In the first session, they rotate through three stations: one in which they learn how to do sterile vaginal examinations to determine dilation, effacement, and station; a second one in which
they learn how to perform a breast examination; and a third in which they learn how to perform Leopold’s maneuvers. In the second session, they learn and practice the hand maneuvers for a vaginal birth. In the third session, they conduct a labor triage visit, including basic fetal heart rate interpretation and a labor check.

Finding space and funds to conduct simulation-based training was a significant hurdle for this program. Another challenge was finding time in everyone’s schedule to conduct the teaching sessions, especially when incorporating interdisciplinary scenario training. Rotating schedules will need to be created when a new simulation center opens. This center, designed to train providers of obstetric care from all disciplines, will be directed by a faculty midwife who helped the department chair obtain funding for and set up the obstetric simulation program. The center will include high-fidelity simulated sessions of shoulder dystocia, hemorrhage, eclampsia, and other obstetric emergencies.

University of Rochester

At the University of Rochester Medical Center in Rochester, New York, midwives have been members of the obstetrics and gynecology faculty since 1975. The midwives have a teen pregnancy program that piloted group prenatal care in 1986 and has used the CenteringPregnancy model of group prenatal care since 2002. The midwife coordinator of the program developed an elective experience in response to requests from family medicine residents with an interest in both group care and teen pregnancy. To fully participate and learn the CenteringPregnancy model, the residents agree to commit to over 5 months of continuity of care for a selected group of teens. The family medicine residency program director approved of the schedule arrangements required for this elective.

The 10 sessions of group care begin around 16 weeks gestation. The resident cofacilitates the sessions with a midwife mentor who shares group leadership if the resident cannot get to the clinic. As part of the family medicine continuity experience, the resident is expected to come in for the births of the teens in his or her group whenever possible. The division on-call midwife notifies the resident of the patient’s admission and supervises the resident in labor and delivery. The first resident who took this elective was able to attend the births of six of eight CenteringPregnancy patients. The communication and facilitation skills learned from the midwives and nurses doing teen groups were transferable to the family medicine clinic’s new group diabetic care. One of the residents joined the faculty and is developing a CenteringPregnancy program in the family medicine clinic.

In contrast to the intense one-on-one training of the CenteringPregnancy elective, Rochester’s Department of Obstetrics and Gynecology began a unique community-wide educational initiative in 2006 to acknowledge midwifery as a specialized body of knowledge with expert clinicians, educators, and researchers. This annual teaching day begins with the endowed Elizabeth Cooper Midwifery Lecture, which is given as an Obstetrics and Gynecology Grand Rounds by an invited nationally preeminent midwife. Research on timing of umbilical cord clamping, management of second stage, and the prevention of perineal trauma have been presented thus far. The lecture is followed by 2 hours of highly interactive teaching for approximately 40 residents and medical students. The speakers often challenge what is considered “routine” obstetric care, which results in lively discussion. The lectureship has proved to be an exceptional format for incorporating the midwifery perspective into residency and continuing medical education, as well as raising the entire medical community’s awareness of the quality of midwifery-related research.

Although the teaching format is traditional, a lectureship devoted to midwifery is unique in a US medical school department. The division’s senior midwife, who contributed to this report, garnered support to the idea from the chairman of the University of Rochester’s Department of Obstetrics and Gynecology and the chief of obstetrics and gynecology at the community hospital where the midwives practice. The community hospital pledged significant seed money to initiate the first lecture, whereas additional charitable contributions were solicited from the midwifery and obstetric-gynecologic community. The endowment is still being developed to ensure that the lectureship will be self-sustaining.

DISCUSSION

This brief report highlights a variety of educational initiatives developed by midwives teaching medical students and residents. Three key themes are identified among the programs and teaching strategies: interdisciplinary teamwork, the midwifery model of care, and professionalism.

Perhaps the most significant contribution of these initiatives is teaching physicians to deliver patient-centered care within a multidisciplinary team. The team-based approach provides care that brings together the strengths of each professional, decreases medical errors, and is more efficient. Students become skilled at collaborative practice by learning from and with other health care professionals, leading to better understanding of abilities and values of other professions. The electives described teach collaboration as an explicit goal, such as in the University of Maryland’s simulation lab, the University of California, San Francisco, UTEACH elective, or the University of Rochester’s teen CenteringPregnancy elective, or as an implicit value, as in the Brown University resident teaching or the Rochester midwifery lecture.

A second theme that emerges is that these innovations teach the biopsychosocial approach to patient care. Midwifery is family-centered care that provides psychosocial support, promotion of health, cultural sensitivity, and
respect for individual differences. The Baystate seminars and the Rochester CenteringPregnancy elective focus on teaching these aspects of women’s health care. Continuity, another midwifery hallmark, is built into the University of California, San Francisco, and University of Washington electives, reinforcing the value of ongoing patient-centered care for both the woman and her health care provider.

Professionalism and humanistic communication skills are competencies expected of medical school graduates, as reported by Kern et al.,13 who developed recommendations on teaching communication skills that include connecting personally with the trainee; role modeling desired attitudes and behaviors; and creating a safe, supportive, and enjoyable learning environment. The Brown University innovative programs do exactly that. From the intern mentorship to the “serious fun” of the leadership workshop for chiefs, the midwifery faculty extend support and model professionalism. The obstetric skill training sessions for residents at the University of Maryland provide a nurturing environment where one learns the value of communication with team members. The University of Washington perinatal elective uses journaling as a tool to develop professional communication skills.

All initiatives reported on in this article required significant planning. The inclusion of additional curricular material into limited residency training hours requires creativity. Development of new programs should include research into what has already been found to be effective in other institutions, as well as planning for program evaluation. Evaluation may include student and resident surveys, performance data, interviews, and focus groups.14 Most of the reported innovations rely on student satisfaction and general course evaluations to assess the success of the initiative. The objective data being collected in the Baystate study will be useful to evaluate whether the intervention accomplished the desired attitude changes.

A prerequisite for the success of innovations is that the educational leadership must support change and provide political and financial support. The fact that these initiatives occurred in centers where midwives have been part of the faculty for many years suggests that they achieved a level of respect that allows them to develop and implement such programs. Long-term funding, which is part of a medical center’s financial infrastructure, is essential for expensive innovations such as simulation and endowed lectureships.

Midwives have taken a leadership role in developing innovative ways to teach medical students and residents. For many, commitment to improvement of maternity care has taken them on the path of being physician educators. Some of the midwife respondents to the 1994 survey of those involved in medical education described themselves as “disciples of normal birth.”15 The midwives involved in the initiatives described in this report have shared much more than a view of the normalcy of birth—they have taught a patient-centered multidisciplinary collaborative approach to reproductive care. According to Harman et al.,5 the “ultimate beneficiary is the woman who is jointly served by midwives and physicians.”

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