Midwives as Educators of Medical Students and Residents: Results of A National Survey

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This descriptive study explores the roles and responsibilities of midwives involved in teaching medical students and residents. Surveys were received from 74 academic midwifery practices in the United States that are formally involved in medical education (66% response rate). These practices employ 547 midwives. Most of these midwives have >5 years of experience as clinicians (97%) and average >5 years of experience in medical education (73%). Academic midwifery practices teach multiple learners including obstetrics and gynecology residents (80%), family practice residents (60%), medical students in their core clerkship (93%), and midwifery students (83%). Midwives are often clinical preceptors during births of the midwifery practice’s patients, but they assume a more formal academic faculty role with a resident or attending physician-shared case load of patients. Forty-two percent of midwifery practices care for their own patients along with the teaching and supervision of residents’ patients. Roles and responsibilities of the midwifery practice members are explored, including the percentage of time spent in specific clinical and educational functions. Clinical experience and teaching expertise of midwives are valued in medical education. Multiple opportunities exist for collaboration between midwifery and medicine. J Midwifery Womens Health 2009;54:268–274 © 2009 by the American College of Nurse-Midwives.

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**INTRODUCTION**

In 1998, a national survey was conducted to assess the extent of midwifery involvement in medical education. The study found that more than half of the allopathic medical school obstetrics and gynecology clerkships were using midwives as educators. In addition, of those clerkships not using midwives as educators, 18% were exploring the incorporation of formal midwifery teaching roles.

A decade has passed since that study, with numerous situational and contextual factors influencing the extent of midwifery involvement in medical education. For example, in 2003, the Accreditation Council for Graduate Medical Education (ACGME) announced work-hour standards that limited all residents to an 80-hour work week. Additional factors contributing to midwifery’s evolving role in medical education include: continued evidence of midwifery care’s safe, effective, and cost-effective obstetric outcomes; documentation of improved clinical experiences among those taught by midwives; recognition of midwives as excellent teachers, evaluators, and mentors; and recognition of the importance and value of collaborative clinical relationships, teamwork, and interdisciplinary teaching. For these reasons, it is important to evaluate the current state of midwifery involvement in medical education, with particular attention to the depth and breadth of the midwife’s role in teaching both medical students and residents.

Midwives often integrate the teaching of medical students and residents into their care on an informal basis. The tangential or direct involvement of medical students and residents in midwifery care frequently takes place in teaching hospitals where there is a midwifery practice not formally appointed as medical faculty. In these settings, midwives may be the informal consultants and mentors to the residents and medical students, including them in the care of patients or advising them on clinical issues when consulted.

The evolution of formal teaching roles transpired more than 30 years ago. In 1985, Platt et al. first described the Los Angeles County, University of Southern California Medical Center’s collaborative clinical and teaching model where midwives were granted clinical and academic appointments within the school of medicine. Midwifery practices within teaching hospitals continued to develop and publish their descriptions of collaborative models of care and teaching. These descriptions of formalized teaching roles included midwifery divisions that existed within the structure of obstetrics and gynecology departments.

Concurrent to the literature describing midwifery practice models with a formalized teaching role was a proliferating body of literature on the need for an interdisciplinary component of both medical education and practice. This paradigm shift in medical education has brought opportunities for midwifery practices to develop a teaching role...
specific to the needs of medical curricula. While the advantages of midwifery involvement in medical education are numerous, the most significant is the introduction of the midwifery philosophy of care and expanded awareness of the normalcy of birth in tertiary care settings.\(^1\) Further, support for interdisciplinary education is based on the assumption that collaboration among health care providers from different disciplines will not only improve the quality of patient care, but also foster communication between providers.\(^1,13\)

The purpose of this study was to investigate the role and extent of participation of certified nurse-midwives (CNMs) in medical education in the United States and to delineate the clinical practice of CNMs involved in resident and medical student education. Building on Harman et al.’s 1998 research,\(^1\) this study identifies and describes the interdisciplinary models and level of involvement of midwives currently working in medical education. A separate survey tool was developed to assess the academic midwifery practice director’s role with those results presented separately.\(^25\) The results of both surveys will begin cataloging the dimensions of this type of practice along with the unique responsibilities of the director’s role.

METHODS

A descriptive survey was developed to explore the roles and responsibilities of CNMs involved with education of obstetrics and gynecology residents, family practice residents, and medical students in their obstetrics and gynecology core clerkship. Questions from the 1998 survey were used as the framework for the survey tool.\(^1\) In addition, a literature review and information obtained from questioning several expert midwifery medical educators were used to design a survey about roles and responsibilities of the academic midwifery practice. The questions were constructed in a multiple choice format for ease of use and comparisons among practices. Content validity was assessed by an expert panel of 4 midwifery medical educators who reviewed the survey questions to ensure clarity of wording and to validate the appropriateness and understanding of all items. Their feedback formed the basis for the final survey format. No further validity or reliability testing was done before conducting the survey. Study approval was granted through the Women and Infants’ Hospital Institutional Review Board.

Potential participants were identified through a rigorous process of creating an exhaustive list of midwifery practices involved in medical education. Ultimately, through multiple sources and cross comparison, a comprehensive list of CNM practice directors who participate in medical education was compiled using the following sources: 1) the 2006 American College of Nurse-Midwives (ACNM) membership directory;\(^26\) 2) the 2006 database of names from the ACNM list-serv for midwives participating in medical education; 3) a direct mailing to residency directors or obstetrics and gynecology chairs of medical schools listed in the 2007–2008 Directory of the Association of Professors of Gynecology and Obstetrics (APGO)\(^27\) and the American Medical Association (AMA)\(^28\) Web site of obstetrics and gynecology residencies; 4) the names of members of the ACNM task force “Midwives in Medical Education”; and 5) consulting expert CNMs currently involved as faculty in obstetrics and gynecology departments.

One hundred fifty-six practices were identified; 44 of these were excluded because of incorrect addresses, multiple midwives from the same practice, practices that were no longer involved in medical education, or those that had no forwarding addresses. The final list of potential participants included 112 practices. Questionnaires were mailed and returned between February and June 2008.

The survey consisted of 35 questions investigating the characteristics of academic midwifery practices: demographics (7 questions), academic role of the midwifery practice (7 questions), interactions with learners (9 questions), and clinical issues (12 questions). The format consisted of closed-ended and several open-ended questions that required qualitative responses. A separate survey tool was developed to assess the midwifery practice director’s role.\(^25\) Both questionnaires were mailed together to potential participants with stamped, self-addressed envelopes included for their completed surveys. There were 2 follow-up mailings for those who had not responded.

A tabulation of quantitative items from each completed survey was entered into an Access 2003 data file for statistical analyses and grouped according to the state and university affiliation of the midwifery practice. Data were cleaned and verified for accuracy. Descriptive statistics were used for quantitative analysis. Text responses to open-ended questions were categorized by the authors using content analysis followed by frequency counts of responses.

RESULTS

Seventy-four (N = 74) practice directors or staff designees returned completed questionnaires, yielding a response rate of 66%. The director or designee from each academic midwifery practice completed the survey so that the results would describe the practice as a whole.

Demographics

Midwifery practices from 34 states were represented, with >50% of the practices located in the eastern and western portions of the country. The most common job titles of the staff
midwives as written in their job description included the words “clinical,” “certified,” or “staff,” along with the following: assistant/associate professor; instructor; teaching associate; (nurse) midwife; faculty, department of obstetrics and gynecology; faculty, school of nursing; allied health professional; and clinic nurse V. One practice reported that they are in the process of negotiating their faculty job description.

The 74 midwifery practice respondents employ a total of 547 midwives. The number of full-time equivalents (FTEs) per midwifery practice ranged from 1 to 34, with a mean of 6.6 FTEs and median of 5 FTEs. The majority of practices employ full-time midwives who work an average of 43.5 hours per week (range, 36–76 hours, including on-call hours; median, 40 hours). The mean number of full-time midwives employed in practices is 5.2 (range, 1–27; median, 4 full-time midwives). Part-time employment averages 2.6 midwives per practice (range, 1–25; median, 2 part-time midwives).

Most of the hours that midwives work in the hospital are performed in shifts ranging from 4 to 12.5 hours and 24-hour on-call coverage. Shifts may include multiple midwives covering any given 24-hour period or 1 midwife covering the entire 24-hour period. Seventy-four percent of practices report some type of shift work, with 26% providing hospital coverage 24 hours every day. Of the 35 practices that responded to the question “specify the shift,” 57% described working “day” hours only and 43% provide both “day” and “night” coverage and as frequent as being “on-call 1 in 3 (24-hour shifts)” for our case load.

The majority of respondents reported >5 years of clinical midwifery experience (97%) as the average for the individuals in the practice, with 13% of practices employing midwives who average >20 years experience. In addition, members of obstetrics and gynecology faculty midwifery practices have been teaching in medical education for many years. Fifty-five percent of faculty practices average 6 to 15 years of experience teaching residents or medical students, and 18% average >16 years working in medical education (range, 1–35 years). Figure 1 depicts the clinical and medical education experience of staff midwives.

Academic Role of Midwifery Practices

When asked to clarify the learners taught by academic midwives, 80% of practices teach obstetrics and gynecology residents, 60% teach family practice residents, and 93% teach medical students. In addition, 83% of practices teach midwifery students. When asked about clinical faculty or academic appointments, 56% of practices reported that staff midwives hold clinical faculty or nonclinical academic appointments in obstetrics and gynecology departments, and 37% of practices have a formal academic appointment in the medical school. Ten practices describe “appointments through the school of nursing,” “informal acknowledgement,” “staff” appointments, “administrative faculty,” “volunteer,” or no academic or clinical appointment. One program has a faculty appointment only for the midwifery practice director and not for the remaining staff midwives. An additional practice states that academic/clinical faculty appointment is available if the individual staff member desires it.

Eighteen percent of practices offer a joint appointment with the school of medicine and school of nursing. Staff members from four academic practices (6%) are offered tenure in the school of medicine exclusively, and 3% (2) are offered tenure solely in the school of nursing. More than half (63%) of practices are responsible for teaching and supervising other learners, including emergency medicine residents, nurse-midwifery students, nurse practitioner students, physician assistant students, undergraduate nursing students, fire department paramedics, and US Armed Forces special medics.

Interactions With Learners

In reviewing the extent of the midwives’ role in medical education, three areas were taken into consideration: level and number of learners, type of midwifery involvement, and the clinical teaching site for births. Twenty-five percent (18) of the practices teach medical students in their first or second years for didactics and shadowing in the clinical area. Eighty-one percent of the practices teach third- and fourth-year medical students. Three-quarters of the practices teach or supervise obstetrics and gynecology residents with the majority of teaching occurring with interns. Forty-seven percent of the practices instruct family practice residents, primarily in their intern year.

The total number of obstetrics and gynecology residents supervised by midwives ranges from 6 to 40 with a mean of 17 residents (median, 16). Family practice programs in which midwives are faculty average 16 residents per program with a range of 4 to 56 (median, 12). Didactic and clinical teaching responsibilities of midwifery practices for medical students and residents are summarized in Figure 2. All but one midwifery practice reported...
a role in the intrapartum setting. Midwives are often the clinical preceptors for medical students and residents during births of the midwifery practice’s patients. In addition, they assume a more formal academic faculty role with a resident or attending shared case load of patients. Thirty-nine percent of respondents have a midwifery case load of patients and 17% report a resident only or shared resident/faculty/attending case load. Forty-two percent of midwifery practices care for their own patients along with the teaching and supervision responsibilities of the residents’ patients.

The practice setting for births was explored. Forty-two percent of faculty practices are employed in university or academic practices, with 26% as hospital employees. Forty-seven percent of births occur in tertiary care centers while 15% are in community hospitals. Twelve percent of practices attend births at in-hospital birth centers and 4% attend births at out-of-hospital birth centers. One practice reported not attending births.

Clinical Issues

Clinical issues assessed included the dimensions of clinical practice and an overview of job responsibilities of academic midwifery faculty involved in medical education. The responses defined specific roles, including the allocation of time in clinical practice, teaching, and professional growth. When asked how staff divide their time, 80% of practices describe a clinical teaching role, and 69% are involved in didactic teaching. Several practice directors commented that clinical care represents the majority of their day-to-day responsibilities in the primary clinical arenas of labor and delivery and triage. Table 1 presents a description of the academic midwifery practice job-related duties.

When asked about roles specific to labor and delivery, participants added additional comments. Commonalities that emerged included “supervision of residents and medical students,” “performing deliveries with learners,” “managing all vaginal births with interns,” “teambuilding,” and “being the attending for all patients greater than 34 weeks.” Other responsibilities include “full-scope care of midwifery practice patients,” “assisting with physician patients as backup,” “first assisting at cesarean deliveries,” and “primary provider for private patients of faculty practice.”

Triage responsibilities include “evaluate and admit labor patients from midwifery case load, resident case load, and private attending patients” and “…I see everything that comes through the door.” In many instances, additional education and supervision is provided to emergency medicine residents, student nurse-midwives, and medical students.

Allocation of time was measured by asking what percent of time the staff midwives spend in clinical areas, in didactic and clinical teaching, and in administrative duties. When no time was spent in a specific area, the result was left blank and did not count as 0%. In this manner, these results could be expressed as a range.

The majority of clinical time was spent in providing intrapartum and triage care (53%; range, 1–100%), antepartum care (37%; range, 5–93%), and gynecologic/family planning care (18%; range, 3–50%). Thirty-four practices reported an average of 3% of their weekly time spent on expanded skills, such as circumcisions, ultrasound, and first assist at cesarean deliveries. In a similar manner, the participants were asked to record the percentage of time that staff midwives spend in teaching and administrative duties. Sixty-four percent of respondents (n = 48) reported that...
clinical teaching uses the majority of time (48%; range, 0.6–100%). Multiple respondents commented that there was much variation among the members of the midwifery practice and did not specify percentage of time spent. Thirty-four practices (51%) report that they have protected administrative time, and the average time allotment was 5% (range, 0.2–50%) of their weekly work hours. Sixty-three percent of respondents (n = 47) provide formal lectures and workshops. These respondents use an average of 6% of time for these job functions. One practice reported that staff midwives have 5% of their time allocated to research while another practice has 4% of their time allocated to a grant program. Additional commitments include “patient education,” “marketing,” “unpaid on-call option,” and “clinical care of our own patients.”

Midwifery staff in obstetrics and gynecology departments often have the dual role of teaching midwifery students along with medical students and residents. Nineteen academic midwifery programs reported an affiliation with midwifery schools: 11% have full-time faculty status and 23% are part-time faculty members in midwifery schools. These faculty members teach midwifery students didactic courses, basic and advanced skills, integration/advanced clinical, and in online programs. Several practices reported that teaching midwifery students was “not allowed.”

When asked how the education of residents and medical students impacts the time spent with midwifery students, multiple participants commented that they split their responsibilities between the different learners. Several practices “put midwifery students first” while another described, “they are each assigned specific patients to follow and we supervise both. They learn from each other.” One participant noted, “It has impacted greatly our ability to precept midwifery students.” Some practices schedule their clinical supervision of residents and medical students separate from midwifery students’ clinical hours. Many participants reported that they rarely or never take midwifery students because of “obligation” and “priority” to medical students and residents. Many employers believe that the midwives’ “primary focus should be residents and medical students.” Finally, several participants stated that there is minimal or no impact on precepting midwifery students. There is “plenty of clinical experience to go around.”

The ACGME change in work hours limiting residents to an 80-hour work week and the push for interdisciplinary education models have had an impact on the use of midwives to teach physicians and medical students. Several midwifery practices were developed or expanded when the residents’ protected time off created a shortage of coverage. When asked why the midwifery practice became involved in the education of residents and medical students, responses included: asked by faculty (53%), volunteered or sought out employment (23%), requested by students or residents (22%), and it was part of the job description (40%). When asked in an open-ended question how teaching medical students or residents affects how the faculty midwives work with their patients, several common themes emerged in the 58 statements. Twenty-four percent of the responses discussed how the provision of care takes a longer amount of time. “Working with learners can slow things down.” However, one participant commented “it’s about the same as working with midwifery students.” Conversely, 19% of responses reveal that teaching medical students or residents does not impact how midwives work with patients. Several participants report a positive impact on patient care, such as “more detailed description of pregnancy and labor events due to teaching in the room,” “increases patient satisfaction,” “shows patients how closely medicine and midwifery can work together,” and “…fostered a positive working relationship with the residents—there is mutual respect and teamwork, making us provide better care for the patients.”

DISCUSSION

Midwives play a significant and important role in the education of residents and medical students. The respondents identified 547 midwives currently involved in teaching residents and medical students; this is more than triple the number of midwives identified in 1998 (176). To date, no studies have explored the outcomes of residents and medical students who are taught by midwives. Given the current level of midwifery involvement in medical education, there are numerous opportunities for researchers to understand the impact that midwifery teaching has on clinical and learning outcomes and quality indicators. For example, is the cesarean delivery rate lower in obstetric residency programs that have midwives as educators? Is patient satisfaction different? Are the numbers of lawsuits lower?

The learners are primarily composed of obstetrics and gynecology residents, family practice residents, and medical students. However, many midwifery practices have the additional responsibility of teaching midwifery, nurse practitioner, or physician assistant students, paramedics, and emergency medicine residents. While midwives have seized the opportunity to teach learners at multiple levels, documenting what we do is paramount. Research evaluating learning outcomes and satisfaction with midwifery teaching will build a solid evidence base for how to best teach, mentor, and evaluate learners. In addition, understanding the learning needs of students from a variety of educational backgrounds will facilitate teaching efforts. For example, there are no data on how obstetric residents learn, what their learning styles are, and what factors are associated with academic success.

Fifty-six percent of faculty midwifery practices have formal clinical or nonclinical academic appointments. These results are similar to the results obtained 10 years ago. While there has been a rise in the number of midwives involved in medical education, there has been no change in
the proportion of practices that have a formal academic appointment. In practices that offer academic appointments, these roles seldom have the same potential for promotion as physicians do within medical schools. According to the survey results, very few midwifery practices are offered tenured positions in the school of medicine. The reasons for the lack of availability of academic appointments and tenured positions may be manifold; however, it is a subject that deserves deeper investigation and thoughtful interdisciplinary discussion.

Quality teaching requires the preparation time necessary to develop and implement didactic classes and workshops as well as the time for development and continuing education of teaching skills. However, protected administrative time in which to accomplish the teaching role is available to only 51% of practices. Most administrative time is limited to 5% of their average week or 2 hours per 40-hour week. Therefore, many midwives accept the role of teaching in addition to their other responsibilities and often prepare for didactic teaching “on their own time.” Practices need to consider planning and teaching responsibilities when determining time allocation of the midwifery positions. Midwifery practices with demonstrated success in teaching can have a positive impact on the development of new teaching practices by sharing role descriptions and factors that facilitate and hinder collaborative teaching and practice. Evaluation of how the teaching role is most successfully executed is yet another opportunity for research.

Teaching medical students and residents may impact the ability of practices to teach midwifery students. Midwifery medical educators who also teach midwifery students must be able to balance their education responsibilities for the different learner groups. Perhaps this is an opportunity for collaborative teaching efforts between midwifery education programs and obstetrics and gynecology departments. While midwives and physicians often approach birth from different philosophical stances, there are many skills that are universal. Is there an opportunity to have midwifery students and residents participate in the same skills workshops? Ultimately, interdisciplinary training makes sense in a health care climate that is identifying interdisciplinary teamwork as important to safety. For example, the teaching of fetal monitoring is an opportunity for midwives and physicians to learn together, discuss, and improve communication. Further research is needed to describe how practices have achieved success in interdisciplinary training, what the opportunities and challenges are in collaboration, and how can we optimize teaching and learning.

This study would have been strengthened by pilot testing the questionnaire and incorporating feedback into the final questionnaire. The survey tool was developed for this study and not previously validated. The surveys were sent to the practice directors to reduce the information overlap that may have occurred from sampling all midwives within a given practice. In addition, because the survey tool was lengthy and detailed, surveying the practice director minimized participant burden and increased the return of the surveys. Attitudes, values, and practice philosophy were explored in the 1998 study because individual staff midwives completed the questionnaire; these concepts were not assessed in the current study. The descriptive nature of this study, rather than an exploration of attitudes and values, may have reduced respondent bias.

This study describes the roles and responsibilities of midwives in medical education. The study is descriptive, leaving many questions left to be answered in depth. For example, understanding what the optimal role attributes for educators are, the appropriate allocation of time for the many responsibilities involved in quality teaching, and how best to balance the needs of the learner with patient care are all important topics that deserve more discussion, exploration, and research. Interdisciplinary models of care that render high-quality outcomes and satisfaction in learning and patient care should be identified, shared, and replicated. Expert midwives can have a positive impact on how obstetrics is taught to physicians and therefore how obstetric care is practiced.

Positive relationships with physicians in their training will ideally create respect and appreciation of midwifery management and philosophy and may foster collegial future relationships.

REFERENCES


