Certified Nurse-Midwives and Physicians:

Identifying Biases and Barriers to Successful Collaboration

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Abstract

Certified nurse-midwives (CNM’s) have been heralded by many as the answer to problems of cost and access in providing obstetric care. The benefits—to mother, infant, and health care provider—have been consistently documented, yet questions about the roles, responsibilities, and privileges granted to CNM’s remain. At the heart of these issues are usually unresolved or disputed questions about the professional relationship between doctor and CNM. MD’s and CNM’s throughout Illinois and Indiana were surveyed for practice characteristics, experience with either CNM’s or physicians, and attitudes regarding the competence and value of CNM’s in providing obstetric care. Specific questions were asked about fees, reimbursement, liability, protocol, and consultation and referral practices. The net return rate for the survey was 19.0% (n=385). Results suggest that most physicians have little contact with CNM’s, but among those that do, their experiences are positive. Among physicians who said they would not be willing to consult with or refer to CNM’s, the reasons most often cited were concern about the skill, increased risk of malpractice suits, and reduction in income and patient load. This paper identifies barriers to successful collaboration as defined by physicians and CNM’s, and compares and contrasts differences in attitudes between the two professions.
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Introduction

The need for primary health care in America has been widely demonstrated. Despite increases in the number of health care providers, great need still exists in rural and inner-city areas (Dunham, Better, & Monson, 1995; Dunham, Kindig, & Libby, 1995; Kindig & Kaufman, 1995; Weiner, 1994; Williams, Whitcomb, & Harris, 1994). Increasing the supply of physicians has not resolved the problem as physicians tend not to locate their practices in rural and underserved areas after graduation from medical school (Dunham, Kindig, & Libby, 1995; Williams, et al., 1994). As Schroeder stated at the 1996 National Rural Health Association meeting, the problem is not undersupply of health care providers but maldistribution.

Researchers argue that increasing the supply of primary health care facilities and personnel, including the use of advanced practice nurses (such as nurse practitioners and certified nurse midwives), is one possible solution to the problem of access in rural, underserved areas (Axelrod, Killam, Gaston, & Stinson, 1994; Jacox, 1987; Mullan, 1991; Weaver, 1990). Beyond increased access, utilizing advanced practice nurses could also decrease the cost of health care in rural areas (Jacox, 1987).

In a recent study, LeBlanc, Simon, and Garard, (1996) demonstrated considerable need for obstetric care services throughout Illinois and Indiana. We utilized population and epidemiological data to assess obstetric care need at the county level (see Leitner, Gast, Sarvela, Ring, & Newell, 1996). We then compared the
results to the list of counties specified as federal health professional shortage areas and determined that little correlation existed between counties which demonstrated obstetric care need and those which were designated as medically underserved. This comparison suggests that not enough is being done to rectify access to obstetric care for many women.

The purpose of that study and the present study is to assess the feasibility of implementing a recruitment, training and placement program for certified nurse-midwives (CNM’s) in rural and medically underserved regions in Illinois and Indiana. Whereas, the former study demonstrated need, the present study will address the professional climate issues between physicians and CNM’s.

Midwifery has an ancient history, and has existed informally in some form in this country at all times. A lay midwife, however, is to be distinguished from a CNM, who is a registered nurse with advanced training in midwifery that has been certified by the American College of Nurse-Midwives Certification Council (ACC) (Adams, 1989). Apart from this description, the roles, responsibilities, and privileges of the CNM vary greatly. Whether a CNM may act independently, or must work under the supervision of a physician is a matter of much debate, and current regulations vary from state to state (ACNM, 1995). Another topic of concern to CNM’s is the issue of prescriptive authority--the ability and freedom to make diagnosis, treatment, and therapeutic decisions independent of a physician. Again, regulations vary from state to state, and as of 1992, roughly three-quarters of state regulatory bodies permitted prescriptive authority in some form (Bidgood-Wilson, 1992). Much of the disagreement over scope of practice appears to be related to issues of control. The chair of the ACNM’s Political
and Economic Affairs Committee lamented that "each step that removes barriers for CNM\'s seems to be viewed by other professionals as a threat to their control of medical practice" (Bidgood-Wilson, 1992).

Several studies have concluded that the care of a CNM is comparable, if not in some respects superior to that of physicians. The argument that CNM\'s provide substandard care is simply not born out in the research. Bell and Mills (1989) surveyed 291 women at different stages of pregnancy and found that nearly all were satisfied with the care they received from their CNM. Further, the majority preferred delivery by a CNM or had no preference for a CNM or obstetrician. Utilization of CNM\'s had no negative affect on perinatal outcomes. In a similar study (Blanchette, 1995), the outcomes of eleven-hundred pregnancies were assessed for perinatal morbidity and mortality, as well as low birth weight and prematurity. Forty-five percent of the women were patients of a clinic that utilized CNM\'s supervised by an obstetrician. The remainder of the women were patients in a private clinic in the same area. The fetal outcomes in the CNM birth group were comparable to those of the private clinic group. A further significant finding was that the cesarean section rate in the private clinic was twice as high as in the CNM supported group. The health benefits of incorporating CNM\'s into obstetric practice, both to the mother and neonate, have been consistently demonstrated (Allen & Kamradt, 1991; Schramm, Barnes, & Bakewell, 1987).

In a recent major study, Rosenblatt, et al. (1997) compared the practice patterns between obstetricians, family physicians, and certified nurse-midwives. While the researchers found little difference in practice patterns between obstetricians and family physicians, they found significant differences between physicians and certified
nurse-midwives in the care provided to low-risk women. Specifically, they found that CNM’s used fewer obstetrical interventions, including electronic fetal monitoring, labor induction, epidural anesthesia and cesarean section. CNM’s, perhaps as a consequence, used fewer resources, which could translate into lower costs.

Ten years ago, the Congressional Office of Technology Assessment concluded that the care provided by a CNM is comparable to that provided by physicians (Boyer, 1990), yet the question of quality of care still divides many in the medical community. Furthermore, the OTA study concluded that utilization of nurse practitioners and CNM’s would be cost-effective (OTA, 1986; cited in Jacox, 1987). Jacox (1987) found that utilization of CNM’s, as well as nurse practitioners, could improve access to primary health care and reduce costs. However, these benefits are not without obstacles. In particular, the costs of providing health care, by physicians, affects location of practice issues. CNM’s are more likely to practice in areas not served by physicians (Jacox, 1987). Thus, utilization of CNM’s may result in a decrease in need in regions where previously the need was great. Second, although quality of care has been demonstrated to be comparable between physicians and CNM’s, differences in practice patterns has lead to discussions regarding the health care responsibilities of CNM’s versus physicians. Furthermore, when considering these differences in responsibilities and practice patterns, the relationship between CNM’s and physicians needs clarification. Legal issues associated with CNM/physician relationships as well as liability insurance and reimbursement for services must also be addressed. In the next several sections, we will examine the research on each of these pertinent issues.
Location of Practice Issues

A significant amount of literature has considered characteristics associated with location of practice issues. For example, research indicates that certain types of practitioners are more likely to locate in rural and underserved areas (Dunham, Kindig, & Libby, 1995; Fowkes, Gamel, Wilson, & Garcia, 1994; Garcia & Fowkes, 1987; Gessert, Blossom, Sommers, Canfield, & Jones, 1989; Gupta & Konrad, 1992; Li, Williams, & Scrammon, 1995; Rabinowitz, 1993; Shi, Samuels, Ricketts, & Konrad, 1994; Tippets & Westpheling, 1993). Several studies have found that older students, minorities, women, and individuals with previous experience in rural and underserved areas are more likely to locate in those areas (Fowkes, et al., 1994; Garcia & Fowkes, 1987; Tippets & Westpheling, 1993). Further, data suggest that the location of the practitioner's medical education is a significant determinant of eventual practice site selection (Gessert, et al., 1989; Gupta & Konrad, 1992; Pathman, Konrad, & Ricketts, 1994; Rabinowitz, 1993; Shi, et al., 1994). Rabinowitz (1993) found that graduates of a Physician Shortage Area Program (PSAP), where the students were trained in underserved areas, were four times more likely to eventually practice in underserved areas than non-PSAPs. Finally, studies indicate that even though demand is high for generalist physicians, simply increasing the supply may not help because additional generalists may not locate in areas of greatest need (Dunham, Kindig, & Libby, 1995; Williams, et al., 1994).

Like the empirical research, the descriptive literature offers several suggestions for increasing location of practice in rural and underserved areas such as preferentially recruiting students into the health care disciplines from rural areas (Schroeder &
Beachler, 1995). Weaver (1990) argues that the use of "non-physicians" can improve retention in rural areas. Further, the research suggests that financial support and assistance can provide incentives to practice in medically underserved areas (Barzanski & Jonas, 1992; Dettelbach, 1988; Politzer, Harris, Gaston, & Mullan, 1991). Finally, Riley, et al. (1991) suggested that providing firsthand experience in rural areas is one method for increasing practitioners' location of practice in those areas.

Researchers argue that significant health care reform is needed to improve location of practice issues (Kindig, 1990; Koska, 1989; Langford, 1990; Vanselow, 1990). Specifically, loan repayment programs for practicing in rural areas, improved reimbursement to rural hospitals and primary care physicians, and increased sensitivity to the needs of rural areas and practitioners are possible methods (Koska, 1989; Vanselow, 1990).

Physician vs. Certified Nurse-Midwife Responsibilities

A significant amount of research suggests that the quality of care provided by advanced practice nurses (i.e., nurse practitioners and certified nurse-midwives) is the same, if not better in some cases, as the care provided by physicians (Butler, Abrams, Parker, Roberts, & Laros, 1993, Carzoli, Martinez-Cruz, Cuevas, Murphy, & Chiu, 1994; Eakins, 1989; Mullen & Holcomb, 1990; Simborg, Starfield, & Horn, 1978; Sox, 1979; Spitzer, Sackette, Sibley, & Roberts, 1974; Wilcox, Strobino, Baruffi, & Dellinger, 1989). In fact, research indicates that the skills of physicians and advanced practice nurses are potentially complimentary (Simborg, et al., 1978). More specifically, Butler, et al. (1993) illustrated lower risks of cesarean section deliveries, abnormal labor, and diagnosis of fetal distress associated with CNM care. Finally, Wilcox, et al. (1989)
found that patients using a physician were twice as likely to have an episiotomy than patients using a CNM.

Researchers have applied several models of patient care to determine the responsibilities of physicians and other health care providers. For example, Knickman, Lipkin, Finkler, Thompson, and Kiel (1992) discovered that under a traditional model of care (i.e., physician is primary), physicians were needed for fifty percent of the activities. Under an alternative model (i.e., advanced practice nurse is primary), however, physicians were needed for only twenty percent of the activities. Similarly, Kindig and Kaufman (1995) provided a model of "non-physician" substitution based on increasing physician practice productivity instead of visit substitution. The literature also suggests that differences exist between rural and urban health care responsibilities, for physicians and advanced practice nurses (Kriebel & Pitts, 1988; Li, et al., 1995). Based on a focus group of physicians and advanced practice nurses, Li, et al. (1995) suggest that practice in rural, underserved requires changes in personality style and work schedule.

Several articles report positive benefits associated with using advanced practice nurses (Jacox, 1987; Montague, 1994; Ouslander, 1989). For instance, general benefits associated with using advanced practice nurses include: increased access to health care, decreased cost, increased physician efficiency and effectiveness, and improved patient perceptions of health care (Jacox, 1987; Montague, 1994). Several authors argue for the use of advanced practice nurses in a variety of health care situations including managed care settings (Clanton, 1994; Pollack, 1994; Shapiro & Blyweiss, 1994).
Physician/"Non-Physician" Relationship

Empirical research indicates that relationships between physicians and advanced practice nurses are currently positive and productive (Baldwin, Hutchinson, & Rosenblatt, 1992; Bell & Mills, 1989; Simborg, et al., 1978; Weiner, Steinwach, & Williamson, 1986). Specifically, several articles report greater positive relationships between physicians and nurses with advanced training, than between physicians and nurses without advanced training (Baldwin, et al., 1992). Results from another article suggest that the skills of physicians and advanced practice nurses are potentially complementary, thereby improving relationships (Simborg, et al., 1978). Finally, one article reports that the limits of advanced practice nurses involvement are not a matter of acceptance, but relate more toward considerations of cost, availability, and increased competition for jobs (Weiner, et al., 1986).

Some authors reject claims that increased job competition will negatively affect health care. For example, several articles claim that increasing the use of advanced practice nurses will have positive effects on the health care system, including decreased shortage levels of health care providers and improved effectiveness of physicians (Ginzberg, 1990; Montague, 1994). Despite these potential advantages, Jacox (1987) claims that certain constraints exist which prevent increased use of advanced practice nurses, including physicians' interest in keeping advanced practice nurses under their authority.

Schnirring (1993) and Shapiro and Blyweiss (1994) claim that advanced practice nurses are important "extenders" of health care. However, Shapiro and Blyweiss (1994) argue that advanced practice nurses should not be given more autonomy or roles as
health care providers. The debate regarding how much autonomy advanced practice nurses should receive legislatively has been recently discussed in Illinois.

**Legal and Professional Climate**

A few articles report on the legal and professional climate of advanced practice nurses. Li, et al. (1995) and Pathman, et al. (1994) discuss job satisfaction of physicians and advanced practice nurses in underserved and rural areas; Pathman, et al. (1994) report on physicians' low morale and job satisfaction in rural HPSAs. Yet, Li, et al. (1995) reported that both physicians and advanced practice nurses found job satisfaction working with the medically underserved due to an increased opportunity for creativity and teamwork. In particular, both physicians and advanced practice nurses reported on the importance of support, nurturing and camaraderie afforded in a collaborative environment. Such a collaborative environment may be more likely to occur where health care providers have a common goal, such as providing care to the medically indigent in underserved areas.

Three articles provide an examination of legislation designed to increase access to rural health care (Donohoe, 1990a, 1990b; Pearson, 1996). Donohoe (1990a) reported that several states have been exploring new provider supply strategies which could affect distribution such as by placing advanced practice nurses in underserved areas. Donohoe (1990b) also reported that Indiana established a grant program for nurses working in underserved areas. Noticeably absent from the discussion of legislative activity designed to affect health care distribution in rural and underserved areas was the state of Illinois. According to Pearson (1996), Illinois is the only state where advanced practice nurses have no statutory prescriptive authority, whereas in
Indiana advanced practice nurses can prescribe (including controlled substances) with some degree of physician involvement or delegation of prescription writing. This past year in Illinois, new language in the Nurse Practice Act designed to give advanced practice nurses statutory authority failed to pass in the legislature.

**Liability Insurance Costs**

Several articles describe advanced practice nurses' relationships with liability insurance costs (Jacox, 1987; Lederman, 1991; Taylor, Rickets, Berman, & Kolimaga, 1992). Lederman (1991) claimed that an increased rise in liability claims have resulted in reduced care and increased costs for services. According to Taylor, et al., (1992), during the 1980's malpractice rates increased at a rapid rate, especially for obstetric care which negatively affected access. The problem of rising liability costs has been problematical for CNM's. Certified nurse-midwives liability costs were typically based on obstetricians liability costs despite differences in number of claims filed (lower for CNM's), and despite a sliding scale for physicians, which CNM's are not afforded, depending on their work schedule or number of deliveries performed (Lederman, 1991). Recently, however, review of the litigation rate has resulted a lowering of the liability insurance rates for CNM's. CNM's are now afforded a sliding scale for insurance premiums based upon the number of deliveries and scope of practice. Liability insurance remains unobtainable for coverage of home births. The researchers concluded that insurance subsidy programs for certified nurse-midwives can improve access to obstetric care, especially in rural and underserved areas (Taylor, et al., 1992; see also Lederman, 1991).
Payments of Non-Physicians

Several empirical articles report on payments of advanced practice nurses. For example, the literature suggests that state Medicaid programs have significantly expanded service and payment for advanced practice nurses in multiple ways by formulating less restrictive payment policies (Hoffman, 1994). In Illinois, by 1992 the payment differential for CNM’s was seventy percent. In Indiana, by 1992 the payment differential was seventy-five percent. Illinois and Indiana were both on the low end of the scale for reimbursement of CNM’s with as many as twenty-six states providing one-hundred percent reimbursement.

Kindig (1990) argues that substantial reform of payment systems favoring rural and primary care areas is needed. According to Robyn and Hadley (1980), reimbursement for advanced practice nursing services in medically underserved areas may be one strategy for resolving health care provider maldistribution problems. However, they state that full licensure of advanced practice nurses may be necessary to increase reimbursement rates. Furthermore, they add that fractional reimbursement of advanced practice nursing services can lead to a two-class system of medical care which can erode any efforts to resolve health care provider maldistribution (Robyn & Hadley, 1980).

Several articles document the benefits of using advanced practice nurses in a variety of situations. For example, data indicate that increased contact with health care practitioners, including advanced practice nurses, greatly improves perinatal outcomes (Ellings, Newman, Hulsey, Bivins, & Keenan, 1993), subsequent outpatient contacts (Meyers, et al., 1988), and planned home births (Schramm, et al., 1987). These
outcomes can potentially reduce costs by increasing efficiency of services and consequently increase the number of patients. Further, according to Record, McCally, Schweitzer, Blomquist, and Berger (1980), the use of advanced practice nurses and greatly reduces costs of health care.

The Politics of Health Care

The above six issues require significant consideration among health care providers regarding the utilization of advanced practice nurses. The American College of Physicians have stated seven positions of policy regarding the use of “non-physician extenders” (ACP, 1994). These positions are: (a) roles of “non-physician extenders” may be expanded to provide supervision by a physician, (b) improved systems of communication between physicians and “non-physician extenders” must be created, (c) expanded roles for "extenders" must be evidenced based, (d) without evidence for quality, "extenders" should not practice independently or be paid directly, (e) expanded roles for "extenders" should be allowed in hospitals and ambulatory services as substitutes for physician housestaff, (f) "extenders" should be allowed to prescribe drugs given accountability to a physician, and (g) support should be given for joint continuing education programs for "extenders". The positions of the American College of Physicians demonstrate an attitude about the capabilities of advanced practice nurses and other “non-physician extenders," despite years of research and evidence suggesting comparable quality of care.

Opinions in the medical community vary on the utilization of advanced practice nurses. Several authors have suggested that: (a) there should be an increased use of CNM’s (Goldman, 1993a), (b) that NPs, and by extension CNM’s, should not be under
the supervision of a physician (Kneipp, 1994), and (c) that advanced practice nurses will have increasingly important roles in primary care (Levinsky, 1993). Other authors have commented that: (a) advanced practice nurses should be dependent on a physician (Schnirring, 1993; Shapiro & Blyweiss, 1994), and (b) that expanding the roles of nurses to be primary providers is problematical (McDonald, 1994).

**Research Questions and Hypotheses**

To examine these issues, the following research questions are posed:

- **RQ₁** In what ways do CNM’s and physicians practice characteristics differ?
- **RQ₂** What issues are most pertinent to physicians in relationship to the practice of CNM’s?
- **RQ₃** In what ways might demographic or practice characteristics influence attitudes toward the utilization of certified nurse-midwives.

To compare attitudes between physicians and CNM’s on CNM obstetric care, the following hypotheses are posed:

- **H₁** Certified nurse-midwives have a more positive attitude regarding CNM’s ability to provide quality obstetric care to low-risk women than physicians have about CNM’s ability.
- **H₂** CNM’s are more willing to employ other certified nurse-midwives in a practice than physicians.
- **H₃** CNM’s are more willing to attend deliveries outside of a hospital setting (i.e. licensed birthing center or home) than physicians.
Method

The development of the test instrument began with an interview of the office administrator of a certified nurse-midwifery program at a local hospital. The interview revealed issues parallel to the obstacles specified by Jacox (1987), namely: (a) location of practice, (b) physician versus certified nurse-midwife responsibilities, (c) professional climate between physicians and certified nurse-midwives, (d) legal climate, (e) liability insurance, and (f) reimbursement.

A review of the literature revealed two previous studies in which surveys investigating physician and certified nurse-midwife attitudes were utilized (see Baldwin, et al., 1992; Jacobson, Richter, Mahan, and Boisvert, 1994). The test instrument was developed by combining items and synthesizing the two instruments. The instrument was compared to the response of the interviewee and the six specified issues (see above). A draft questionnaire was then sent to two certified nurse-midwives. Following their suggestions, the questionnaire was finalized for pilot testing.

The test instrument was pilot tested on obstetrician/gynecologists in a neighboring state. A systematic random sample including every sixth physician was selected from among physicians residing in HPSA designated counties. The list of physicians was derived from the 1995 publication of the American Board of Medical Specialists (ABMS). A total of forty-nine surveys were mailed. Eight surveys were returned for a return rate of sixteen percent. Respondents to the pilot study were also requested to make comments about the structure of the questionnaire or content of the questions. Responses were used to revise the questionnaire. Following the pilot, revised versions
of the survey instruments were forwarded to two certified nurse-midwives for final revision and approval.

For the present study, physicians in Illinois and Indiana were selected from the 1995 ABMS publication. All physicians residing in counties having partial or full county federal health professional shortage area designation in 1995 were selected for the study. The exception to this rule was Cook County Illinois (Chicago). Cook County had HPSA designation for sections of the county at the census tract level. However, the number of physicians in Cook County alone outnumbered all the other physicians on our list. Determining which physicians practiced in HPSA designated areas within Cook County would have been too costly. Therefore we did a systematic random sample by selecting every ninth physician on the list.

The number of practicing certified nurse-midwives in Illinois and Indiana was considerably smaller than the number of physicians practicing only in HPSA designated counties. We selected all certified nurse-midwives in Illinois and Indiana. The local chapters and the national office of the American College of Nurse-Midwives provided the lists of certified nurse-midwives. Our final list of participants included 2160 physicians and 253 CNM’s.

The final version of the survey consisted of forms P (for the physicians) and forms M (for the certified nurse-midwives). In most cases, the questions on the two forms were identical but for the substitution of the titles (either certified nurse-midwife or physician). The survey contained 37 questions divided into three sections: practice characteristics (13 questions), experience with CNM’s or physicians (21 questions), and demographic characteristics. For the questions designed to gather simple
descriptive data (e.g., “How would you describe your practice arrangement”), multiple choice format questions were used. Check-all-that-apply and rank-order question formats were also used where appropriate. Unfortunately, most subjects treated rank-order questions as check-all-that-apply and therefore had to be treated as such in data analysis. Four attitude questions were included, and these were constructed as numerical (Likert) scales.

An introductory postcard was mailed to all subjects one week prior to mailing the survey. Ten days after the survey was mailed out, a follow-up post-card was also sent. We began receiving completed surveys within three days, and we set a cutoff date of three months after the survey was mailed. Sixteen percent of the surveys were returned as undeliverable. This large number was due primarily to the lag time between publication date of our address source and the start of our study. Our gross return rate was 21.4%. Eleven percent of the surveys returned were unusable however. While this value may seem high, our decision to include in the study physicians listed in the ABMS directory resulted in the large number of unusable returns. We understood at the onset that many of these physicians would not be engaged in obstetric practice, yet it was necessary to consider this possibility and so include them in our sample. Our net return rate then was 19.0%. When considered separately, the net return rate was 15.0% for physicians (N = 267) and 49.6% for CNM’s (N = 118).

Results

Average age of the physicians was 46.1 years (SD = 11.7). They had been in practice for an average of 16.2 years (SD = 10.5). Sixty percent of the respondents identified their medical specialty as Ob/Gyn, and another 37% as family practitioner.
Three-fourths of the respondents were from Illinois; however, this corresponds directly with the state to state proportions originally mailed out. That is, three-fourths of the surveys were mailed to physicians in Illinois, and the remainder were mailed to physicians in Indiana. This difference was due largely to the densely populated metropolitan region surrounding Chicago and Cook County, which accounted for forty-four percent of the respondents. Nearly half of the physicians (44%) said they worked as part of a group of physicians, 24% were in solo practice, 13% worked in academic settings, 10% worked in a hospital, 5% worked in a group of physicians and CNM’s, and the remainder were employed in a variety of other settings. Thirty-five of the physicians did identify themselves as currently working with CNM’s through consultation or referral of patients. Seventy-two percent of the physicians provided complete obstetric and gynecological services in their practice, however 19% reported not providing any maternity services.

Mean age of the CNM’s was 42.1 years ($SD = 9.3$): four years less than the physicians. Average time in practice was 9.7 years ($SD = 7.5$). This is six years less than the physicians, but can be attributed in part to the lower mean age. When asked about their practice arrangement, forty-four percent stated that they were employed by a hospital or physician, and another 20% worked within a group of CNM’s and physicians. The remaining worked in a variety of settings including academic setting (10%), solo practice (5%), group of CNM’s (5%), or government agency (5%). Similar to the physicians, most CNM’s (81%) identified themselves as providing complete obstetric and gynecological services. The majority of the remainder of the CNM’s provided
antepartum, postpartum, and family planning services (14%). Ninety-two percent of the CNM’s responding to the survey were practicing in Illinois, 51% in Cook County.

Few of the physicians who responded to our survey seemed to have any direct experience with CNM’s. Only 12.5% made referrals to CNM’s, and 6.8% held consultation with CNM’s. Given that thirteen (N = 267) of the physicians (4.9%) stated they had ongoing practice relationships with CNM’s, the remaining number of physicians that had occasional professional contact with CNM’s is small indeed. In cases where physicians did make referrals, it was most often at the patient’s request. When asked whether they would be willing to consult or refer to a CNM, 37.1% of the physicians said they would (N=267). Thus, the low existing rates for referral and consultation may have more to do with access than attitude. However, among those who said they would not be willing to consult or refer to a CNM, there are some interesting findings. Given a list of reasons for not consulting or referring, the item most often checked was being uncomfortable with the skill of CNM’s (25.5%). Nearly twenty-five percent of the physicians thought that their income or patient load would be reduced. Nearly as high (23.9%) was the number of physicians that were concerned that working with a CNM increases the risk of being named in a malpractice suit (see Table 1).

While most physicians appear to have little contact with CNM’s, many more CNM’s have contact with physicians. Of the 95 CNM’s in the study who provide full obstetric services, 86.3% had consulted with physicians and 84.2% had made referrals to physicians in the last year. Many CNM’s, while able to report that they do have regular contact with physicians, did have difficulty reporting on the nature and extent of their contacts. Many of the CNM’s work in collaboration with physicians, and in many
cases patients were seen by both the physician and the CNM as a matter of protocol. In these cases, questions about referral and consultation were difficult to answer.

Table 1

<table>
<thead>
<tr>
<th>Reasons it is believed physicians would not consult or refer to a CNM</th>
<th>MD’s</th>
<th>N</th>
<th>%</th>
<th>CNM’s</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Physicians are not comfortable with the skill level of CNM’s.</td>
<td>49</td>
<td>25.5</td>
<td>20</td>
<td>21.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Physicians are concerned that working with CNM’s would have an adverse effect on professional relationships with other physicians.</td>
<td>21</td>
<td>10.9</td>
<td>23</td>
<td>24.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Physicians are concerned that working with CNM’s increases the risk of being named in a malpractice suit.</td>
<td>46</td>
<td>23.9</td>
<td>21</td>
<td>22.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Physicians are concerned insurance premiums will be increased if they establish a working relationship with a CNM.</td>
<td>23</td>
<td>12</td>
<td>17</td>
<td>17.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Insurance companies require that physicians supervise all births attended by the CNM.</td>
<td>22</td>
<td>11.5</td>
<td>18</td>
<td>18.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Physicians are concerned their practice partners do not want such contact otherwise they would be willing.</td>
<td>18</td>
<td>9.4</td>
<td>14</td>
<td>14.7</td>
<td></td>
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</tr>
<tr>
<td>7. Physicians income and/or patient load would be reduced.</td>
<td>47</td>
<td>24.5</td>
<td>12</td>
<td>12.6</td>
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*Note: Statistics include only those personnel who provide full obstetric services (MD’s: N = 192; CNM’s: N = 95).

When CNM’s were asked whether they believed physicians would be willing to consult or refer to a CNM, 50% said yes. As reported, many of the CNM’s in this study
were currently in established working relationships with physicians; this accounts in part for this moderately high percentage. Among the reasons CNM’s thought physicians would not be willing to consult or receive referrals, the results were fairly evenly divided among the reasons with the perception that physicians are concerned that working with CNM’s would have an adverse effect on professional relationship with other physicians (24.6%) receiving the highest ranking. Interestingly, physicians ranked the importance of the affect of consultation with a CNM on their relationships with other physicians much lower than the CNM’s. Physicians were also less concerned about insurance premiums, insurance policy requirements, and the desires of their practice partners than CNM’s believed they would be. However, physicians were more concerned about the skill level of CNM’s and the loss of income than CNM’s believed physicians would be.

Physicians and CNM’s were asked about the conditions that must be met in order to maintain consultation/referral privileges (see Table 2). CNM’s and physicians differed in their rankings of the conditions, although the percentages of individuals listing the condition were similar. For example, physicians considered good communication between themselves and CNM’s to be most important, followed by the requirement to practice by protocol and assumed responsibility for patients with complications. CNM’s, however, ranked the importance of protocol first, followed by referral of patients and good communication with the physician. More physicians (by percentage) believed the patient should be seen by the physician during pregnancy, that CNM’s should not request assistance for home deliveries, and that the CNM should meet the physician’s requirements for care when compared to the CNM’s responses.
Table 2

**Conditions that must be met to maintain working relationships between CNM’s and MD’s**

<table>
<thead>
<tr>
<th></th>
<th>MD’s</th>
<th></th>
<th>CNM’s</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>1. Must meet the MD’s requirements for care.</td>
<td>11</td>
<td>40.7</td>
<td>11</td>
<td>12.5</td>
</tr>
<tr>
<td>2. Must practice by protocol (e.g., clinical practice agreements).</td>
<td>16</td>
<td>59.3</td>
<td>61</td>
<td>69.3</td>
</tr>
<tr>
<td>3. Patient must be seen by the MD during pregnancy.</td>
<td>6</td>
<td>22.2</td>
<td>13</td>
<td>14.8</td>
</tr>
<tr>
<td>4. Good communication between CNM and the physician.</td>
<td>17</td>
<td>63</td>
<td>44</td>
<td>50</td>
</tr>
<tr>
<td>5. Cannot request assistance of the physician in home deliveries.</td>
<td>8</td>
<td>29.6</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>6. MD assumes care of patients with complications.</td>
<td>13</td>
<td>48.1</td>
<td>49</td>
<td>55.7</td>
</tr>
</tbody>
</table>

*Note: Statistics include only those MD’s and CNM’s who maintain working consultation/referral relationships with the other (MD’s: N = 27; CNM’s: N = 88).*

A set of four attitudinal questions were asked of each of the groups: (a) do you believe CNM’s provide an acceptable alternative to physician care for women with low risk pregnancies, (b) do you believe CNM’s have the skills necessary to differentiate between low and high risk pregnancies, (c) do you believe CNM’s can increase access to obstetric care for women who have no physician in their area, and (d) do you believe CNM’s can increase access to obstetric care for women who cannot afford physician and/or hospital fees. As might be expected, CNM’s and physicians varied significantly
in their overall attitude. Simply by inspection, one can see that the CNM’s felt more positive about their ability and potential contribution to improving access (economic and geographic) to obstetric care (see Table 3).

### Table 3

Means, standard deviations and F values for attitude questions

<table>
<thead>
<tr>
<th>Question</th>
<th>MD’s</th>
<th>CNM’s</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>1. Do you believe CNM’s provide an acceptable alternative to physician care for women?</td>
<td>3.19</td>
<td>1.27</td>
</tr>
<tr>
<td>2. Do you believe CNM’s have the skills necessary to differentiate between low &amp; high risk pregnancies?</td>
<td>3.26</td>
<td>1.18</td>
</tr>
<tr>
<td>3. Do you believe CNM’s can increase access to obstetric care for women who have no physician in their area?</td>
<td>3.56</td>
<td>1.25</td>
</tr>
<tr>
<td>4. Do you believe CNM’s can increase access to obstetric care for women who cannot afford physician and/or hospital fees?</td>
<td>3.05</td>
<td>1.33</td>
</tr>
<tr>
<td>Combined Attitude Score</td>
<td>3.27</td>
<td>1.09</td>
</tr>
</tbody>
</table>

*Note: Questionnaire range 1 - 5; significance level: $p < .001$; df = 1, 383; (MD’s: $N = 267$; CNM’s: $N = 118$).

Each of the four attitude questions were tested for difference between the two groups, and each were found to demonstrate significant variation. An ANOVA to compare the two groups for a combined attitudinal score also resulted in a significant difference. It was suspected that there may be a relationship between state of practice Professional Climate...
and attitude among the physicians, and an ANOVA was run to assess this. The results demonstrate that physicians from Illinois ($M = 3.36$, $SD = 1.08$) have more positive attitudes towards CNM’s than physicians from Indiana ($M = 3.00$, $SD = 1.05$) ($F (2, 264) = 4.05$, $p < .019$, $N = 266$). This finding seems to contradict the reality of a lack of statutory authority for advanced practice nurses in Illinois when compared to Indiana in which CNM’s have limited prescriptive and diagnostic authority.

CNM’s are more likely to collaborate with CNM’s in a practice than physicians. A majority of CNM’s (108 of 118) stated they would be willing to employ other CNM’s, whereas only 86 of 267 physicians are willing to employ CNM’s. CNM’s are also more likely to be willing to perform deliveries in the woman’s home than physicians. A Pearson Chi-Square test was utilized to test significance of difference for both willingness to employ CNM’s ($x^2 (3, N = 385) = 118.94$, $p < .001$) and willingness to perform deliveries outside of the hospital ($x^2 (4, N = 385) = 76.36$, $p < .001$). Results indicate a significant difference of attitudes between physicians and CNM’s for both issues.

Overall, CNM’s and physicians’ practice characteristics differed dramatically. While most CNM’s had ongoing working relationships with physicians, very few physicians had ever worked with a CNM ($RQ_1$). Physicians consistently stated concerns regarding CNM’s ability and the quality of CNM care, as well as concerns about being named in a malpractice suit ($RQ_2$). The results suggest that the physician’s experience of working with CNM’s greatly influenced their attitudes toward CNM’s ($RQ_3$).

Certified nurse-midwives, on the other hand, were much more positive regarding their own abilities for providing care ($H_1$). More significant, however, were their attitudes about improved access to obstetric care. This finding suggests that CNM’s may be
more willing to work among medically underserved populations compared to physicians (H₂). Finally, CNM’s also appeared much more willing to collaborate with physicians and other CNM’s than physicians were (H₃). Although many physicians stated that they would be willing to employ CNM’s, few actually did so.

Discussion and Conclusions

As our results indicate, several issues are very pertinent to the professional climate which exists between physicians and certified nurse-midwives in Illinois and Indiana. Despite considerable research demonstrating comparable quality care, physicians still report an unease with the skill of certified nurse-midwives. Although we did not study it directly, our literature review implies that physicians attitudes might be similar toward nurse practitioners. For nurse practitioners and certified nurse-midwives, the trend toward working independent of the predominant medical model weighs heavily on the minds of physicians. As Rosenblatt, et al. (1997) indicated, certified nurse-midwives, and other advanced practice nurses, have a different ideological orientation towards the health of the individual. Without direct experience of the methods by which these health care providers provide care, physicians may be reluctant to accept the quality of care, and ultimately the viability of nursing practice outside the direct supervision of physicians.

One method for improving the professional climate between physicians and certified nurse-midwives could be to train them together. The direct experience of physicians with certified nurse-midwives, our results indicate, is positively related to physicians’ attitudes towards CNM’s. However, training is a long-term goal when considering the number of physicians currently in practice who have not worked with
CNM’s. Training may occur not only in medical and nursing schools but also through continuing medical education. Increasing interdisciplinary CMEs may positively affect professional climate.

Several articles illustrated specific programs intended to increase the recruitment and retention of rural health care providers (Mayer, 1990; Politzer, et al., 1991; Rourke, 1993; Schroeder & Beachler, 1995; Wartman, Wilson, & Kahn, 1994). Specifically, the studies suggest that programs reconsider their admissions policies, improve financing for primary care, and increase providers’ experiences in rural areas prior to graduation (Politzer, et al., 1991). Researchers also argue for an increase in generalist care, with one method being the conversion of specialist physicians to generalists (Wartman, et al., 1994).

Beyond increasing the supply of health care providers including certified nurse-midwives, research also provides several alternate methods for improving access in rural, underserved areas. For example, using tele-medicine appears a potential solution for increasing access (McGee & Tangalos, 1994). Further, health service districts (HSD) are another possible method for financing and improving health care services in underserved areas (Nichols & Silverstein, 1987). Similarly, a Community Health Aide (CHA) program in Alaska has received positive feedback (Sherer, 1994). Finally, research indicates that providing malpractice insurance subsidies, specifically for CNM’s, has increased access to care in rural North Carolina (Taylor, et al., 1992).

Several authors have suggested methods for improving the quality of rural health care. Specifically, while research agrees that health care in rural areas needs reform and improvement (Johnsson, 1990; Kindig, 1990; Koska, 1989; Langford, 1990;
Vanselow, 1990), there exist a variety of opinions on how to accomplish the task. For example, several articles indicate that recruiting and utilizing nurse practitioners and certified nurse midwives could improve rural health care access (Goldman, 1993b; Koska, 1989; Langford, 1990). In the case of obstetric care for rural and underserved women, an increase in the number of certified nurse-midwives would seem to improve access in a way that increases in the supply of obstetricians could not, due to economic factors.

However, simply increasing the supply of providers will not immediately solve the problem of access to primary care in rural and underserved areas. To improve access, the climate for practice must be improved. For example, Kindig (1990) suggests restructuring payment methods to favor rural and primary care. Yet rate reductions to benefit the underserved are not without peril (Johnsson, 1990). Such restructuring may require subsidizing rural and underserved care. Many rural areas do not have the economic base or population to support improved access to primary care, let alone obstetric care. It may be more economically feasible for regional hospitals to support remote clinics.

LeBlanc, et al. (1996) found that many rural women in Illinois and Indiana migrate from their home counties to neighboring counties to give birth. Although it may not be possible and is highly unlikely that each county will support its own hospital, remote clinics in those counties may be able to serve low risk women. Such an option could also improve enrollment in first trimester prenatal care to meet the Healthy People 2000 goal.
Finally, serious consideration must be given to the legal climate for advanced practice nurses, including CNM’s, particularly in the state of Illinois. As mentioned above, Illinois is the only state where advanced practice nurses have no statutory prescribing authority. This distinction demonstrates dramatically the level of improvement required for professional relationships between physicians and CNM’s. It would seem the medical community wishes to hold on to the notion that quality of care is less among non-physicians, despite considerable and long-term evidence to the contrary. Given the responses of the CNM’s in this study, a more plausible interpretation may be that the legal climate has more to do with economic and professional "turf" than quality of care. To be sure, much work has to be done to improve the professional climate between physicians and CNM’s.

There are several limitations to this study. First, the choice to select physicians from the ABMS publication could have potentially affected the outcome of the study. Not all Ob/Gyn physicians practicing in Illinois and Indiana may be board certified or listed in the publication. The addresses for physicians listed may also be outdated. We had a significant number of questionnaires returned by the US Postal Service for inaccurate addressing. Furthermore, we only had access to specialists through this publication. General practitioners serving in rural areas, many of who may provide obstetric services or work with CNM’s, were not included. The state of Illinois does not differentiate by specialty for certain types of physicians licensed in the state. Therefore, the ABMS publication was the only consistent source of information for both states. As well, the information for certified nurse-midwives practicing in Illinois and Indiana was also problematical. For example, it was not clear whether the address
listed was for home or work, although we did control for that by requesting information regarding location of practice and home on the questionnaire. Because of the small numbers of CNM’s practicing in both states we included all CNM’s, whereas we did not include all physicians. However, given the lack of knowledge before hand about the actual location of practice for physicians, as being in HPSA designated counties, the selection of physicians based on the address we obtained may have affected the results.

Second, the decision to sample physicians from HPSA designated counties may also have affected the results. The choice to do so was influenced by our goal: to increase access to obstetric care in underserved areas throughout Illinois and Indiana. However, as we pointed out in our earlier study, HPSA designation is not an effective indicator of need. Future studies might compare the selection of participants to counties in need. By virtue of the fact that these counties are HPSA designated, the physician count was perhaps low, particularly relative to the number of physicians in Cook and surrounding counties in Illinois.

The low number of CNM’s relative to physicians, as well as the low number of physicians who have worked with CNM’s relative to other physicians, may have influenced the outcome. Given the response rate of CNM’s compared to physicians may demonstrate that CNM’s are considerably more motivated to improve climate. Yet, assessing whether that is the case, compared to physicians may be difficult given the low number of physicians who have worked with CNM’s, or the low return rate of physicians in general. Future studies might remedy these limitations with a larger sampling size and more robust sampling procedure.
Future research may consider the economic impact of the increase of certified nurse-midwives in general and in underserved communities. These studies should consider impact to communities as well as to other health care professionals. Furthermore, future studies should also investigate the characteristics of a viable remote site clinic to provide obstetric care. Finally, future investigations should consider new and innovative educational models for increasing the amount of interdisciplinary training among various health care providers. It is hoped that through these efforts access to obstetric care will be increased.
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Rabinowitz, H. K. (1993). Recruitment, retention, and follow-up of graduates of a program to increase the number of family physicians in rural and underserved areas. *New England Journal of Medicine, 328*, 934-939.


tal), S67-69.


Author Notes

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The authors wish to acknowledge the assistance and support of Paul Sarvela of the Center for Rural Health and Social Service Development at Southern Illinois University at Carbondale.
Thank you for assisting us. The purpose of this survey is to assess the feasibility for initiating programs for the recruitment, training and placement of Certified Nurse-Midwives in the underserved areas of Illinois and Indiana. The information you provide is anonymous. DO NOT write your name on the survey.

Instructions: Please answer each of the following questions by either supplying the appropriate information in the blank provided or by circling the appropriate letter. Please answer ALL questions.

Practice Characteristics

1. How long have you been in nurse-midwifery practice? _____ Year(s) _____ Month(s)
2. How long have you practiced in your present community? _____ Year(s) _____ Month(s)
3. In which county and state do you practice? ________________ IL IN
4. In which county and state do you live? ________________ IL IN
5. How would you best describe your practice arrangement?
   a. Solo practice (self-employed)
   b. Group of certified nurse-midwives practice
   c. Group of certified nurse-midwives and physicians
   d. Employed by a hospital/physician
   e. Work exclusively for an HMO
   f. Work in an academic or teaching setting
   g. Work in a Federal, State or Local agency
   h. Other __________________________

6. What is the scope of your practice (related to maternity)?
   a. Complete obstetric and gynecological services, including deliveries
   b. Antepartum, postpartum, and family planning services
   c. Other limited services, including education and training
   d. Not currently in practice

7. During 1996, approximately how many deliveries did you attend? _____

8. Where do you attend your deliveries? (Please specify percentages for all that apply)
   _____ % In the patient's home
   _____ % In a birthing center
   _____ % In a hospital
   _____ % Other __________________________

9. What is the average charge for your delivery services (labor, parturition)? $____

10. What is the average reimbursement for your delivery expenses, as a percentage of cost? ____%

11. What percent of your patients are on:
    Medicaid? _____%
    third party insurance? _____%
    self pay? _____%
12. Are you accepting new patients into your practice who are on Medicaid?
   a. No ➔ What is your primary reason for not accepting or limiting the number of patients in your practice who are on Medicaid?
   b. Yes, but a limited number ➔
   c. Yes

13. Do you have professional liability insurance?
   a. Yes ➔ Who pays for your liability insurance? ________________
   b. No

**Experience with Physicians**

*When answering the remaining questions, please use the following definitions:
Consultation - obtaining advice on a patient's care, while maintaining primary responsibility
Referral - transferring primary responsibility for a patient's care to another care provider*

14. During 1996, approximately how many patients did you see for obstetric/gynecological care? _____

15. During 1996, approximately how many patients did you refer to a physician for obstetric care? _____

16. During 1996, for approximately how many patients did you seek consultation from a physician for obstetric care? _____

*(if you answered 0 or none for both 15 and 16, please skip to question 24)*

17. How was contact first established with this physician(s)?
   a. I approached the physician(s)
   b. Hospital/Clinic where I practice initiated the contact
   c. The physician approached me
   d. Other __________________________________________________________________________

18. What type of agreement do you have for consultant/referral with this physician(s)?
   a. Written contract
   b. Oral agreement
   c. Other __________________________________________________________________________

19. How do you maintain contact with this physician(s)? (please circle all that apply)
   a. Regularly scheduled meetings
   b. Regularly scheduled telephone calls
   c. On an "as needed" basis by telephone or in person
   d. Other __________________________________________________________________________

20. What are your reasons for consulting or referring patients to this physician(s)? (please circle all that apply)
   a. The hospital where I practice requires this contact
   b. It increases referrals of patients to my practice
   c. Other __________________________________________________________________________

21. How long have you consulted or referred patients to this physician(s)? _____ Year(s) _____ Month(s)
22. Are there any conditions that you must meet in order to maintain the ability to consult or send referrals to this physician(s)?
   a. Yes ➡️ Which of these conditions apply? (please circle all that apply)
      b. Must meet the physician’s requirements for care?
      c. Must practice by protocol (i.e., clinical practice agreements)?
      d. Patient must be seen by the physician during pregnancy?
      e. Good communication must exist between myself and physician
      f. Cannot request assistance of the physician in home deliveries
      g. I must refer patients with complications to the physician
      h. Other ________________________________
   i. No

23. What would you like to change about your relationship with this physician(s)? (please circle all that apply)
   a. No change needed
   b. More physician consultation and referral
   c. Insurance coverage for consultation
   d. The physician should not require back-up arrangements for home deliveries
   e. I need formal referral and consultation arrangements
   f. Other ________________________________

24. Have you ever been named in an obstetric malpractice suit for your role as a certified nurse-midwife?
   a. Yes
   b. No

25. Has a physician with whom you have consulted ever been named in an obstetric malpractice suit in which you collaborated?
   a. Yes
   b. No

26. Do you believe physicians would be willing to consult or refer to a certified nurse-midwife for obstetric care?
   a. No ➡️ What are the reasons that you believe physicians may not be willing to consult with or receive referrals from a nurse-midwife? (please rank all that apply, using 1 to indicate most important, 2 to indicate next, etc.)
      b. Physicians are not comfortable with the skill of certified nurse-midwives.
      c. Physicians are concerned that working with certified nurse-midwives would have an adverse effect on professional relationships with other physicians.
      d. Physicians are concerned that working with certified nurse-midwives increases the risk of being named in a malpractice suit.
      e. Physicians are concerned insurance premiums will be increased if they establish a relationship with a certified nurse-midwife.
      f. Insurance companies require that physicians supervise all births attended by the certified nurse-midwife.
      g. Physicians are concerned their practice partners do not want such contact; otherwise they would be willing.
      h. Other ________________________________
   i. Yes
27. Are you willing to attend a delivery in a licensed birthing center?
   a. Yes
   b. No

28. Are you willing to attend a delivery in a home?
   a. Yes
   b. No

For questions 29 through 32, please circle the number which most closely identifies your opinion.

29. Do you believe certified nurse-midwives provide an acceptable alternative to physician care for women with low risk pregnancies?
   1  2  3  4  5
   never sometimes neutral often always

30. Do you believe certified nurse-midwives have the skills necessary to differentiate between low and high risk pregnancies?
   1  2  3  4  5
   never sometimes neutral often always

31. Do you believe certified nurse-midwives can increase access to obstetric care for women who have no physician in their area?
   1  2  3  4  5
   never sometimes neutral often always

32. Do you believe certified nurse-midwives can increase access to obstetric care for women who cannot afford physician and/or hospital fees?
   1  2  3  4  5
   never sometimes neutral often always

33. Would you be willing to work in a practice with physicians?
   a. Yes
   b. No
   c. Not sure

34. Do you have any additional comments?

Demographic Characteristics

35. What is your age? ______

36. What is your sex?
   a. Female
   b. Male

37. What is your level of nurse-midwifery education?
   a. Associate level certification
   b. Bachelors level certification
   c. Masters level certification
   d. Post-masters certification
   e. Ph.D. or equivalent

Thank you for your participation.
Please place your completed questionnaire in the enclosed envelop and mail it at your earliest convenience.
Professional Relationships Between Physicians and Certified Nurse-Midwives
Illinois / Indiana NP, CNM and PA Training Consortium
Research grant funded by:
The Robert Wood Johnson Foundation

Thank you for assisting us. The purpose of this survey is to assess the feasibility for initiating programs for the recruitment, training and placement of Certified Nurse-Midwives in the undeserved areas of Illinois and Indiana. The information you provide is anonymous. DO NOT write your name on the survey.

Instructions: Please answer each of the following questions by either supplying the appropriate information in the blank provided or by circling the appropriate letter. Please answer ALL questions.

Practice Characteristics
1. How long have you been in practice (not including residency)? ______ Year(s) ______ Month(s)
2. How long have you practiced in your present community? ______ Year(s) ______ Month(s)
3. In which county and state do you practice? ____________________ IL IN
4. In which county and state do you live? ____________________ IL IN
5. How would you best describe your practice arrangement?
   a. Solo practice (self-employed)
   b. Group of physicians practice
   c. Group of physicians and certified nurse-midwives
   d. Employed by a hospital/physician
   e. Work exclusively for an HMO
   f. Work in an academic or teaching setting
   g. Work in a Federal, State or Local agency
   h. Other ____________________
6. What is the scope of your practice?
   a. Complete obstetric and gynecological services, including deliveries
   b. Antepartum, postpartum, and family planning services
   c. Other limited services, including education and training
   d. Not currently in practice
7. During 1996, approximately how many deliveries did you attend? ______
8. Where do you attend your deliveries? (Please specify percentages for all that apply)
   _____ % In the patient's home
   _____ % In a birthing center
   _____ % In a hospital
   _____ % Other ____________________
9. What is the average charge for your delivery services (labor, parturition)? $_____
10. What is the average reimbursement for your delivery expenses, as a percentage of cost? _____%
11. What percentage of your patients are on:
   Medicaid? _____%
   third party insurance? _____%
   self pay? _____%
12. Are you accepting new patients into your practice who are on Medicaid?
   a. No  What is your primary reason for not accepting or limiting the
   number of patients in your practice who are on Medicaid?
   b. Yes, but a limited number  
   c. Yes

13. Do you have professional liability insurance?
   a. Yes  Who pays for your liability insurance? _________________
   b. No

Experience with Physicians

When answering the remaining questions, please use the following definitions:
Consultation - obtaining advice on a patient's care, while maintaining primary responsibility
Referral - transferring primary responsibility for a patient's care to another care provider

14. During 1996, approximately how many patients did you see for obstetric/gynecological care? _____

15. During 1996, approximately how many patients did you refer to a certified nurse-midwife for obstetric care? _____

16. During 1996, for approximately how many patients did a certified nurse-midwife seek consultation from you for obstetric care? _____

*(if you answered 0 or none for both 15 and 16, please skip to question 24)*

17. How was contact first established with this certified nurse-midwife?
   a. I approached the certified nurse-midwife
   b. Hospital/Clinic where I practice initiated the contact
   c. The certified nurse-midwife approached me
   d. Other __________________________________________

18. What type of agreement do you have for consultant/referral with this physician(s)?
   a. Written contract
   b. Oral agreement
   c. Other __________________________________________

19. How do you maintain contact with this physician(s)? (please circle all that apply)
   a. Regularly scheduled meetings
   b. Regularly scheduled telephone calls
   c. On an "as needed" basis by telephone or in person
   d. Other __________________________________________

20. What are your reasons for consulting or referring patients to this certified nurse-midwife?
   (please circle all that apply)
   a. The hospital where I practice requires this contact
   b. It increases referrals of patients to my practice
   c. Other __________________________________________
21. How long have you consulted or referred patients to this nurse-midwife? _____ Year(s) _____ Month(s)

22. Are there any conditions that must be met by this certified nurse-midwife in order to maintain the ability to consult or send referrals to you?
   a. Yes → Which of these conditions apply? (please circle all that apply)
      b. Must meet the my requirements for care?
      c. Must practice by protocol (i.e., clinical practice agreements)?
      d. Patient must be seen by me during pregnancy?
      e. Good communication must exist between the certified nurse-midwife and myself
      f. I am not required to perform or assist in home deliveries
      g. I assume care of patients with complications
      h. Other ..................................................
   i. No

23. What would you like to change about your relationship with this physician(s)? (please circle all that apply)
   a. No change needed
   b. More physician consultation and referral
   c. Insurance coverage for consultation
   d. The certified nurse-midwife should not request consultation or referral for home deliveries
   e. Other ..................................................

24. Have you ever had an obstetric malpractice suit brought against you in a case involving collaboration with a certified nurse-midwife?
   a. Yes
   b. No

25. Does your professional liability insurance cover your consultations and referrals with this certified nurse-midwife?
   Referrals: d. Yes   e. No   f. Not sure

26. Would you be willing to consult or refer to a certified nurse-midwife for obstetric care?
   a. No → What are the reasons that you are not willing to consult with or receive referrals from a certified nurse-midwife? (please rank all that apply, using 1 to indicate most important, 2 to indicate next, etc.)
      b. I am not comfortable with the skill of certified nurse-midwives.
      c. I am concerned that working with certified nurse-midwives would have an adverse effect on professional relationships with other physicians.
      d. I am concerned that working with certified nurse-midwives increases the risk of being named in a malpractice suit.
      e. My insurance premiums will be increased if I establish a relationship with a certified nurse-midwife.
      f. My insurance company requires that I supervise all births attended by the certified nurse-midwife.
      g. My practice partners do not want such contact; otherwise I would be willing.
      h. Other ..................................................
   i. Yes
27. Are you willing to attend a delivery in a licensed birthing center?
   a. Yes
   b. No

28. Are you willing to attend a delivery in a home?
   a. Yes
   b. No

For questions 29 through 32, please circle the number which most closely identifies your opinion.

29. Do you believe certified nurse-midwives provide an acceptable alternative to physician care for women with low risk pregnancies?
   1 never 2 sometimes 3 neutral 4 often 5 always

30. Do you believe certified nurse-midwives have the skills necessary to differentiate between low and high risk pregnancies?
   1 never 2 sometimes 3 neutral 4 often 5 always

31. Do you believe certified nurse-midwives can increase access to obstetric care for women who have no physician in their area?
   1 never 2 sometimes 3 neutral 4 often 5 always

32. Do you believe certified nurse-midwives can increase access to obstetric care for women who cannot afford physician and/or hospital fees?
   1 never 2 sometimes 3 neutral 4 often 5 always

33. Would you be willing to employ a certified nurse-midwife in your practice?
   a. Yes
   b. No
   c. Not sure

34. Do you have any additional comments?

Demographic Characteristics

35. What is your age? ________

36. What is your sex?
   a. Female
   b. Male

37. What is your medical specialty?
   a. Obstetrician
   b. Gynecologist
   c. Ob/Gyn
   d. Family Practitioner
   e. Other

Thank you for your participation.

Please place your completed questionnaire in the enclosed envelop and mail it at your earliest convenience.