Chapter 2

Quality of Care
Because health care encompasses both technical care and the art of care (146), the quality of both must be assessed in determining the quality of the care provided by nurse practitioners (NPs), physician assistants (PAs), and certified nurse-midwives (CNMs). Technical care comprises the diagnostic and therapeutic components of care; the art of care refers to the environment in which care is provided and the provider’s manner and behavior in caring for and communicating with the patient (146).

INDICATORS OF QUALITY

Current methods of evaluating the quality of care provided by NPs, PAs, and CNMs are inexact. Structure, process, and outcome of care are traditionally used to measure the quality of care provided by physicians (70). The quality of care provided by NPs, PAs, and CNMs is often evaluated by comparing the process and outcome of the care they provide with the process and outcome of the care physicians deliver. Other accepted indicators of the quality of care provided by NPs, PAs, and CNMs are patients’ satisfaction and, to a lesser extent, physicians’ acceptance.

Comparisons With Physicians

The quality of care provided by NPs, PAs, and CNMs can be compared to the quality of care provided by physicians with regard to only those functions that both physicians and NPs, PAs, and CNMs usually perform. Comparisons based on functions outside the scope of NPs’, PAs’, and CNMs’ training and practice, or on functions that physicians do not usually perform are unreasonable.

Comparison studies are biased against NPs, PAs, and CNMs because the studies assume the medical model as the standard—physician care is considered the standard for care. This standard may be appropriate for measuring the technical quality of the tasks that NPs, PAs, CNMs, and physicians perform. But the medical model may be less suitable for measuring the interpersonal quality or art of care, which is more characteristic of care provided by NPs, PAs, and CNMs than of that provided by physicians. Indeed, health promotion, teaching, and counseling are the essence of nursing education and are also stressed in the curricula for training NPs and CNMs. PAs also receive training in interpersonal skills, but to a lesser extent. Physicians can legally provide health education and counseling, but the training in these skills varies among medical specialties and medical schools. Among physicians, only family practitioners and psychiatrists receive extensive training in interpersonal skills, although some physicians in all specialties provide personal care.

Some other comparison studies are biased in favor of NPs, PAs, and CNMs. In studies where patients are not randomly assigned, patients assigned to NPs, PAs, and CNMs are, on the whole, healthier than patients who see physicians exclusively; and either the practitioners or patients can decide to consult physicians at any time. Of those patients who consult physicians, those who choose to remain exclusively under the physicians’ care
most likely are less healthy than those who re-
turn to the NPs, PAs, or CNMs.

Patients’ Satisfaction

Looking to patients’ satisfaction as an indica-
tion of quality of care reflects an increasing sen-
sitivity to patients’ interests and concerns and a
recognition that outcomes partly depend on pa-
tients’ attitudes. Little evidence, however, suggests
that patients’ satisfaction positively correlates with
favorable technical outcomes (70). Patients’ judg-
ments may be based less on the therapies’ success
than on the interpersonal aspects of care—for ex-
ample, on how courteously patients felt they were
treated, how they assessed the value of the ad-
vice they received, on how much time they spent
with the providers, and on how their emotional
states changed (267). Nonetheless, if patients are
dissatisfied with the services they receive, part of
the reason for their dissatisfaction may be that
their expectations have not been fulfilled.

Malpractice insurance premium rates and mal-
practice claims can also be used to judge patients’
satisfaction. The comparison between physicians
and NPs, PAs, and CNMs is crude because the
number and scope of services provided by phy-
sicians differ from those provided by NPs, PAs,
and CNMs. The interpersonal aspects of care ap-
pear to influence malpractice cases: physicians
who maintain good relations with their patients
tend to be sued less frequently than physicians
who lack rapport with their patients (185).

Physicians’ Acceptance

Some authorities reject the notion that physi-
cians’ acceptance of NPs, PAs, and CNMs indi-
cates that the care they provide is good. Other
authorities believe that physicians’ acceptance of
such providers indicates good care to the extent
that physicians evaluate the care given by the
providers against the standard of physicians’ care.
Physicians’ evaluations of the care provided by
NPs, PAs, and CNMs in their employ, however,
might be affected by the physicians’ fiscal inter-
est. Physicians pleased with the financial results
of employing NPs, PAs, or CNMs might view
these providers favorably, whereas physicians dis-
pleased with the financial results might show their
displeasure in negative assessments of the work
of these providers. Other subjective factors, such
as gender or personal acquaintance, might influ-
ence the degree to which physicians accept NPs,
PAs, and CNMs. Competition from NPs and CNMs
in independent practice, for example, certainly in-
fluences physicians’ acceptance of such practi-
tioners.

METHODOLOGICAL PROBLEMS OF STUDIES

One or more common methodological prob-
lems affect most studies of the quality of care pro-
vided by NPs, PAs, and CNMs. The problems
include using small samples, focusing on short-
term outcomes, using nonrandomized study pop-
ulations, applying single evaluation criteria, using
incomplete and unstandardized medical records
data, and choosing nonrepresentative samples or
sites. Some studies, because they were conducted
by educators and other proponents of NPs, PAs,
and CNMs, might be biased in favor of the care
given by these providers.1

Study designs contain other weaknesses. Some
studies compare the processes and outcomes of
care provided by NPs, PAs, and CNMs with the
processes and outcomes of care provided by house
staff rather than by experienced physicians. Study
designs that compare only medical tasks as per-
formed by physicians with tasks performed by
NPs and CNMs are incomplete because they ig-
nore the advanced nursing responsibilities that
NPs and CNMs also fulfill.

There are a few well-conducted, randomized,
controlled trials that are valid within their own
designs. The conclusions of these trials, as well
as other less rigorous studies, can be generalized—
applied to other populations and settings—but

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1No bias against NPs, PAs, and CNMs was apparent in the studies examined for this review.
only in a limited way. Many studies report on only a few NPs, PAs, or CNMs in only one setting, which limits the applicability of the findings for other providers and other settings.

Some of the studies of patients’ satisfaction and physicians’ acceptance are opinion surveys that, depending on the rigor of design and execution, are more or less flawed. Problems include misinterpretation of questions by respondents, investigators’ bias in framing questions, and reliance on the respondents’ memories. Little attention has been given to the systematic development of the questionnaires or measuring scales used by investigators.

QUALITY OF NURSE PRACTITIONERS’ CARE

Comparisons With Physicians

Reviews of comparison studies (230,242) and individual studies comparing NPs and physicians find that the quality of care provided by NPs functioning within their areas of training and expertise tends to be as good as or better than care provided by physicians (50,51,72,104,186,199,231).

In some cases, the quality of NP care is equivalent to physician care (see table 2-1). For example, NPs generally resolve patients’ acute problems as well as physicians (130,139), and the functional status of patients treated by NPs and physicians is equivalent (212). Spitzer (231) found no difference between NPs and physicians in the adequacy of their prescribing practices. Other researchers found that NPs prescribe and use medications less frequently than do physicians, and that NPs tend to prescribe only well-known and relatively simple drugs (29,204,225). The studies did not ascertain whether the differences in the prescribing habits of physicians and NPs stem from differences in patient mixes, prescribing philosophies, or other causes.

The quality of NPs’ care differs from that of physicians’ care in other instances (see table 2-2). NPs appear to have better communication, counseling, and interviewing skills than physicians have (84,104,178), a conclusion reinforced by one literature review citing a number of “variables for which nurse practitioners received higher scores than physicians.” These variables include:

- amount/depth of discussion regarding child health care, preventive health, and wellness; amount of advice, therapeutic listening, and support offered to patients; completeness of history, including the recording of previous problems and followup of problems and therapies; completeness of physical examinations and interviewing skills, and patient knowledge about the management plan given to them by the provider (187).

Table 2-2 also suggests that NPs are especially good at assisting ambulatory patients with chronic problems such as hypertension and obesity (189,211). After clinic visits for chronic problems, NPs’ patients are less likely than physicians’ patients to report that their activities are limited or that they experience anxiety about their problems (139). Whether NPs’ interpersonal skills contribute to their ability to care successfully for patients with chronic problems has not been determined. Physicians, however, appear to provide better care in managing problems that require technical solutions (104).

Patients’ Satisfaction

Overall, patients are satisfied with the care they receive from NPs (25,41,80,82,139,141,145,207,231,265). Moreover, patients appear to be more satisfied with the care they receive from NPs than with care from physicians, in regard to several factors: personal interest exhibited, reduction in the professional mystique of health-care delivery, amount of information conveyed, and cost of care (41,145,190).

A few studies, however, indicate patients’ dissatisfaction with one or more aspects of NPs’ care or show patient preference for physicians’ care. Patients are concerned about long waits to see NPs (145), about how well NPs communicate with pa-

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This finding was consistent across 10 settings, including solo practices, university student-health centers, public health-department clinics, private-hospital outpatient clinics, and a health maintenance organization.
Table 2-1—Equivalence in Quality of Care Provided by Nurse Practitioners (NPs) and Physicians (MDs)

<table>
<thead>
<tr>
<th>Activity or measure</th>
<th>Setting</th>
<th>Study type</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequacy of pediatric physical assessment</td>
<td>Health center, low-income neighborhood</td>
<td>Retrospective chart review</td>
<td>Duncan, et al., 1971</td>
</tr>
<tr>
<td>Adequacy of prescribing medication</td>
<td>Two MD family practice</td>
<td>Randomized controlled trial</td>
<td>Spitzer, et al., 1974</td>
</tr>
<tr>
<td>Adequacy of the management of episodes of care</td>
<td>HMO</td>
<td>Prospective; chart review, timing of segments of patient visits</td>
<td>Spitzer, et al., 1974; Salkever, et al., 1982</td>
</tr>
<tr>
<td>Management of hypertensive patients</td>
<td>Rural primary care center</td>
<td>Retrospective chart review</td>
<td>Watkins and Wagner, 1982</td>
</tr>
<tr>
<td>Similarity of treatment plans for pediatric patients</td>
<td>Military outpatient clinic</td>
<td>Retrospective evaluation of NPs' and MDs' treatment plans</td>
<td>DiGirol and Parry, 1983</td>
</tr>
<tr>
<td>Short- and long-term compliance by patients</td>
<td>Emergency room</td>
<td>Prospective study with data collection at emergency room visit, short-term followup, and long-term followup</td>
<td>Powers, et al., 1984</td>
</tr>
<tr>
<td>Outcome measures:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient's physical, emotional, and social functional status</td>
<td>Two MD family practice</td>
<td>Randomized controlled trial</td>
<td>Sackett, et al., 1974</td>
</tr>
<tr>
<td>Resolution of acute problems</td>
<td>Hospital ambulatory care clinics</td>
<td>Record review</td>
<td>Komaroff, et al., 1976</td>
</tr>
<tr>
<td>Resolution of acute problems</td>
<td>Prepaid group practice</td>
<td>Survey of providers and patients with telephone followup of patients at 1 week</td>
<td>Levine, et al., 1976</td>
</tr>
<tr>
<td>Reductions in pain or discomfort among pediatric patients</td>
<td>Prepaid group practice</td>
<td>Survey of providers and patients with telephone followup of patients at 1 week</td>
<td>Levine, et al., 1976</td>
</tr>
</tbody>
</table>


Additional research on patients’ satisfaction would be especially timely now, when the Nation’s supply of physicians is growing, and more physicians seem to be locating in small towns (36, 39, 68, 174, 264), where a relatively large proportion of NPs have been providing health services. Any factors that might contribute to patients’ dissatisfaction with NPs’ care are likely to limit the employment and use of NPs as the growing supply of physicians allows more consumers to choose between NPs and physicians.

Malpractice insurance premiums and the incidence of malpractice claims indicate that patients are satisfied with NP care. Although insurance premiums for NPs are increasing, successful malpractice suits against them remain extremely rare. Not surprisingly, most of the estimated $1.4 billion in malpractice claims paid in the United States in 1984 (62) resulted from suits against physicians, particularly physicians in the surgical subspecialties. Physicians, however, far outnumber other types of providers, generally deal with the most complex cases, and have more financial resources than other providers.
Physicians’ Acceptance

A variety of factors affect physicians’ opinions of NPs. For example, physicians are more inclined to approve NPs’ performance of relatively simple tasks, such as history-taking, than to approve NPs’ performance of more challenging clinical tasks (84,108). Another major factor influencing physicians’ opinions of NPs is personal contact.

Physicians who work with NPs express more satisfaction with NPs’ performance and more willingness to delegate higher level tasks than do physicians whose contact is indirect or nonexistent (21,134,223). This finding might indicate quality, but it might also reflect physicians’ opinions about such non-quality-of-care factors as the relatively low cost of NP care or the freeing of time for physicians to see more patients or to spend in leisure.

Table 2-2.—Difference in Quality of Care Provided by Nurse Practitioners (NPs) and Physicians (MDs)

<table>
<thead>
<tr>
<th>Activity or measure</th>
<th>Relative quality of care by NPs and MDs</th>
<th>Setting</th>
<th>Study type</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process measures:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of diagnostic tests</td>
<td>NP &gt; MD</td>
<td>Hospital outpatient clinic</td>
<td>Random assignment of patients</td>
<td>Flynn 1974</td>
</tr>
<tr>
<td>Number of diagnostic tests</td>
<td>NP &gt; MD</td>
<td>HMO</td>
<td>Prospective, chart review timing of</td>
<td>Salkever et al 1982</td>
</tr>
<tr>
<td>Thoroughness of documentation of diagnostic and treatment information</td>
<td>NP &gt; MD</td>
<td>Preventive medicine department of a multispecialty clinic</td>
<td>Cross sectional Patient survey and chart review</td>
<td>Brown et al 1979</td>
</tr>
<tr>
<td>Adequacy of a telephone management of common pediatric problems</td>
<td>NP &gt; MD</td>
<td>University pediatric clinic</td>
<td>Programmed calls from a trained person about selected pediatric problems, calls recorded and analyzed</td>
<td>Perrin and Goodman 1978</td>
</tr>
<tr>
<td>Effectiveness of Interpersonal management skills (Interviewing, communicating)</td>
<td>NP &gt; MD</td>
<td>University pediatric clinic</td>
<td>Programmed calls from a trained person about selected pediatric problems calls recorded and content analyzed</td>
<td>Perrin and Goodman 1978</td>
</tr>
<tr>
<td>Management of problems requiring technical solutions</td>
<td>NP &lt; MD</td>
<td>Jail health service</td>
<td>Record review and audit</td>
<td>Hastings et al 1980</td>
</tr>
<tr>
<td>Outcome measures:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of patient return to employment</td>
<td>NP &gt; MD</td>
<td>University hospital medical clinic</td>
<td>Random patient assignment interviews, chart reviews</td>
<td>Lewis et al 1969</td>
</tr>
<tr>
<td>Reduction in number of symptoms in patients</td>
<td>NP &gt; MD</td>
<td>University hospital medical clinic</td>
<td>Random patient assignment interviews, chart reviews</td>
<td>Lewis et al 1969</td>
</tr>
<tr>
<td>Level of patient awareness of provider orders</td>
<td>NP &gt; MD</td>
<td>University hospital medical clinic</td>
<td>Random patient assignment interviews, chart reviews</td>
<td>Flynn 1974</td>
</tr>
<tr>
<td>Level of control of blood pressure in patients with hypertension</td>
<td>NP &gt; MD</td>
<td>City hospital and health department clinics</td>
<td>Record review</td>
<td>Runyon 1975</td>
</tr>
<tr>
<td>Level of control of blood pressure in patients with hypertension</td>
<td>NP &gt; MD</td>
<td>University hospital hypertension clinic</td>
<td>Prospective record review</td>
<td>Ramsay et al 1982</td>
</tr>
<tr>
<td>Level of activity limitation and anxiety in patients with chronic problems</td>
<td>NP &lt; MD</td>
<td>Prepaid group practice</td>
<td>Survey of providers and patients with telephone followup of patients at 1 week</td>
<td>Levine et al 1976</td>
</tr>
<tr>
<td>Amount of reduction in pain or discomfort in obese patients</td>
<td>NP &gt; MD</td>
<td>Prepaid group practice</td>
<td>Survey of providers and patients with telephone followup of patients at 1 week</td>
<td>Levine et al 1976</td>
</tr>
<tr>
<td>Amount of weight reduction in obese patients</td>
<td>NP &gt; MD</td>
<td>University hospital hypertension clinic</td>
<td>Prospective record review</td>
<td>Ramsay et al 1982</td>
</tr>
</tbody>
</table>

Physicians in group practices and in institutional settings are more supportive of NPs than are solo practitioners. The level of physicians’ satisfaction increases with the degree of their control over the activities of NPs (21).

Many physicians who approve of the concept of NPs have expressed only limited interest in actually employing them (134,223), although NPs and PAs were introduced and established in the United States largely because a minority of physicians chose to support, train, and hire them. About 65 percent of the NPs in the United States were employed as NPs in 1982, compared with 69 percent in 1974 (237). No documented reason is available for the decrease in the employment rate, although some observers have attributed the slight downward trend to lack of acceptance by physicians, restrictive State licensing, and unfavorable reimbursement practices (135). Furthermore, the validity of these statistics is questionable, because they are based on a very small number of NPs.

 QUALITY OF PHYSICIAN ASSISTANTS’ CARE

Comparisons With Physicians

Within the limits of their expertise, PAs provide care that is equivalent in quality to the care provided by physicians (73, 92, 129, 230, 242). What little evidence is available about how the quality of PAs’ care differs from the quality of physicians’ care indicates that PAs provide more counseling of obese patients than physicians provide (129), that PAs spend more time educating patients than physicians spend (159), and that PAs’ patients generally are better able to resume their usual level of functioning than are patients of physicians (226).

Patients’ Satisfaction

The few available studies that directly address patients’ satisfaction indicate that patients generally are as highly satisfied with the care they receive from PAs as with the care received from NPs (127, 173, 179, 207). One study found that patients’ satisfaction is tempered by the desire to see PAs perform routine functions rather than make independent diagnostic and treatment decisions (227).
Physicians' Acceptance

Physicians initiated and developed the concept of PAs and serve as instructors in PA training programs. PAs function as their name implies—as assistants to physicians. Thus, it is not surprising that many physicians accept PAs and are satisfied with their work (125, 129, 179, 208).

Physicians' confidence in PAs extends beyond routine care. One recent study found that although physicians generally delegate routine, uncomplicated cases to PAs, physicians also permit PAs to treat walk-in patients with urgent problems if the physicians cannot treat those patients and honor previously scheduled appointments (57). Perry and Breitner (182) found that supervising physicians rate PAs higher than NPs on tasks involving educating, counseling, or instructing patients.

The high level of physicians’ satisfaction with PAs may help account for their continued high employment rate. Employment rates provide the most consequential expression of physicians’ acceptance, and nearly 86 percent of the Nation’s PAs were employed as PAs in 1981 (45). By 1984, the employment rate had increased slightly to approximately 88 percent; only 8.4 percent had not been employed as PAs for more than a year (219).

QUALITY OF CERTIFIED NURSE-MIDWIVES’ CARE

Comparisons With Physicians

CNMs can manage normal pregnancies safely and can manage them as well as, if not better than, physicians (65, 148, 190, 193, 226). Studies show that, in accordance with their training, CNMs recognize deviations from the norm and seek medical consultation promptly (65, 210). The fact that CNMs provide standard care has been documented in a variety of settings, including hospital inpatient services, hospital clinics, migrant health centers, neighborhood health centers, and private practices (67).

As measured by such short-term indicators as Apgar scores (a numerical expression of the condition of a newborn infant) and birthweight, comparable outcomes of normal, low-risk pregnancies result from care by CNMs and care by physicians (65, 196, 226). CNMs’ care and physicians’ care also compare with regard to birth outcomes measured by fetal, perinatal, neonatal, and maternal mortality (65, 181). A randomized clinical trial of uncomplicated deliveries showed no significant difference in the outcome of care whether provided by CNMs or by the obstetric house staff, except that CNMs kept more appointments and performed fewer forceps deliveries (226).

Data on birth outcomes reveal that proportionately fewer low-birth-weight infants result from deliveries managed by CNMs than from those managed by physicians (253). Although this might seem to indicate that CNMs provide better care than physicians, it might reflect CNMs’ referral of high-risk pregnancies to physicians. In one recent study, the low-birth-weight rate for CNM-managed deliveries was 28 percent less than the control group’s rate; the CNMs had also provided prenatal care, whereas the control group received prenatal care from State-supported maternal and child-care clinics (184).

CNMs appear to differ from obstetricians in some processes of care. CNMs order medications less frequently than do obstetricians (65), low-risk patients of CNMs have shorter inpatient stays for labor and delivery than do low-risk patients of obstetricians (65), more obstetrical patients of CNMs are tested for urinary tract infections and diabetes than are patients of house staff physicians (226), and CNMs communicate and interact more with their clients than do physicians (66, 181, 190, 265). The care given by CNMs differs from the usual care given by the physicians in the personal attention patients receive throughout labor and delivery. Most physicians’ care is episodic, which may contribute to the fact that they rely more heavily than CNMs do on technology, such as fetal monitoring (265).

Although CNMs are trained to provide normal, low-risk maternity services, some of them collaborate with physicians to participate in the care
of high-risk women during labor and delivery. These CNMs perform such tasks as:

... applying internal uterine pressure monitoring devices or fetal scalp electrodes, obtaining fetal scalp blood samples, managing breech or multiple gestation deliveries, utilizing low or outlet forceps, or utilizing vacuum extractors (10).

Little evidence exists about CNMs’ effectiveness in performing these tasks, although one researcher concluded that CNMs “can render safe, effective services to about one-third of the high-risk obstetric population” (210). Rooks and Fischman (203) found that most CNMs working in collaboration with physicians manage the care “of prenatal patients with some complications.”

**Patients’ Satisfaction**

Women served by CNMs are satisfied with the care they receive (65,181,190,209). Although obstetric patients from all socioeconomic strata are satisfied with CNMs’ care, favorable feelings toward CNMs increase with patients’ age, educational background, and number of births (59). Patients’ satisfaction has been recorded for a wide range of family planning services and normal maternity care provided by CNMs in a variety of ambulatory care and hospital settings (209). CNMs also appear to be readily accepted by new patients—90 percent of the patients seeking obstetric services from a group practice of obstetricians accepted services from a CNM the practice had recently employed (190).

When comparing their satisfaction with services provided by CNMs and obstetricians, patients of CNMs express preferences for the greater ease of communicating with CNMs and the chance CNMs allow them to exercise more control during delivery (209). Perry found that none of the patients whose babies had been delivered by CNMs would have preferred to have had them delivered by obstetricians, although some of the physicians’ patients said that in retrospect they would rather have been cared for by CNMs (181). Patients in a large health maintenance organization expressed satisfaction with the care they received from both obstetricians and CNMs, but the CNMs’ patients were significantly more likely to express great satisfaction with, and great confidence in, their providers (65). This study also found that patients of CNMs were more satisfied than those of physicians with the promptness with which they could obtain their first prenatal care visit and with the relatively short time they spent waiting in reception rooms (65).

CNMs differ markedly from obstetricians with respect to frequency of malpractice suits, a crude gauge of patients’ acceptance. The number of CNMs who obtained malpractice insurance under the auspices of the American College of Nurse-Midwives (ACNM) grew from 625 in 1976 to 1,400 in 1983. Between 1977 and 1982, 20 claims (not all successful) were made against ACNM group policyholders (55). A 1982 national survey of CNMs found that 5.2 percent (55 of 1,065 respondents) had been named in malpractice suits during their careers (55). By contrast, of the 1,915 members of the American College of Obstetricians and Gynecologists responding to a recent survey, 31 percent said they had been sued once, 16 percent had been sued twice, and 20 percent had been sued at least three times (55). Interpreting these figures, however, is difficult, partly because they do not reflect case-mix differences. CNMs send patients with complicated or high-risk problems to physicians, especially in emergencies. That relatively more obstetricians than CNMs are sued may not reflect performance as much as the fact that obstetricians deliver many more babies than do CNMs and have higher incomes than CNMs.

**Physicians’ Acceptance**

CNMs may practice administratively and physically apart from obstetricians and gynecologists, but by functioning “interdependently with” these physicians, the CNMs retain the formal support of the American College of Obstetricians and Gynecologists. The American College of Obstetri-

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1. Perhaps the main problem with most studies of CNMs is the possible bias resulting from nonrandom assignment of patients to different types of providers. Self-selection suggests that those women who accept care from CNMs are inclined to be satisfied with CNMs’ care (just as it suggests that those women who choose care from an obstetrician are inclined to be more satisfied with physicians’ services). Nevertheless, studies consistently find patient acceptance of CNMs and some studies find that patients express relatively greater satisfaction with CNMs’ care than with obstetrician’s care.
cians and Gynecologists has agreed with the American College of Nurse-Midwives that:

... the appropriate practice of the certified nurse-midwife includes the participation and involvement of the obstetrician/gynecologist as mutually agreed upon in written medical guideline/protocols (13).

The two colleges further agree that:

Quality of care is enhanced by the interdependent practice of the obstetrician/gynecologist and the certified nurse-midwife working in a relationship of mutual respect, trust and professional responsibility. This does not necessarily imply the physical presence of the physician when care is being delivered by the certified nurse-midwife (13).

Nonetheless, CNMs have had difficulty in obtaining acceptance by practicing physicians, medical societies, hospital departments of obstetrics and pediatrics, companies that provide malpractice insurance, State boards of health, and—not infrequently—nurses, themselves (196). Obstetricians and gynecologists are thought to find competition from CNMs threatening to physicians’ position as the sole providers of a special type of medical care (43,190). Opposition may also reflect the tightening market conditions facing obstetricians and gynecologists in urban areas (196). In addition, other physicians, particularly general and family practitioners, have resisted CNMs (258).

Despite the reservations of many physicians as to whether CNMs are needed, their employment rate has been increasing in recent years. In 1976 and 1977, only about half of the Nation’s CNMs were employed in clinical midwifery practice (9), but by 1982, approximately two-thirds (67.2 percent) of the CNMs in the United States were employed in nurse-midwifery practice (10). The CNMs’ employment settings may better reflect the extent of physicians’ acceptance. Although the percentage of CNMs employed in private practice with physicians increased from 13 percent in 1976 and 1977 to 20 percent in 1982, most CNMs in 1982 were employed in organizational settings or in private nurse-midwifery practice (see table 2-3).

### Table 2-3.—Percentage of U.S. Resident Certified Nurse-Midwives by Type of Organization, 1976-77 and 1982

<table>
<thead>
<tr>
<th>Type of organization</th>
<th>1976-77</th>
<th>1982</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>45.6%</td>
<td>35.8%</td>
</tr>
<tr>
<td>Private practice with physicians</td>
<td>12.9</td>
<td>19.8</td>
</tr>
<tr>
<td>Private nurse-midwifery practice</td>
<td>2.4</td>
<td>14.4</td>
</tr>
<tr>
<td>Public health agency</td>
<td>13.8</td>
<td>8.6</td>
</tr>
<tr>
<td>Maternity service operated</td>
<td></td>
<td></td>
</tr>
<tr>
<td>predominately by nurse-midwives</td>
<td>7.6</td>
<td>7.7</td>
</tr>
<tr>
<td>Branch of the U.S. military</td>
<td>8.2</td>
<td>6.2</td>
</tr>
<tr>
<td>Prepaid health plan</td>
<td>3.4</td>
<td>6.0</td>
</tr>
<tr>
<td>University health service</td>
<td>5.0</td>
<td>1.8</td>
</tr>
</tbody>
</table>


**SUMMARY**

Within their defined areas of competence, NPs, PAs, and CNMs generally provide care that is equivalent in quality to the care provided by physicians for similar problems. Considerable evidence exists, particularly for NPs and CNMs, that they are more adept than many physicians at communicating effectively with patients and managing patients who require long-term and continuous care. Such patients include chronically ill patients and patients undergoing labor and delivery. Although the evidence is less voluminous concerning PAs’ supportive-care and health-promoting activities, data indicate they overlap with NPs’ activities of that nature.

The findings for NPs and PAs apply primarily to care provided in ambulatory settings, and the activities of CNMs have been documented in a variety of settings with favorable results. Although the findings are qualified by the methodological limitations of the techniques used to indicate quality, the weight of the evidence seems to show that the health-care services provided by these practitioners are equivalent in quality to comparable services provided by physicians.

Although patients are generally very accepting of care provided by NPs, PAs, and CNMs, patients are most satisfied with the services that re-
quire interpersonal skills. Patients seem to require what might be called technical reassurance for serious conditions and to prefer that NPs, PAs, and CNMs consult with physicians when technical care is required.

Patients’ satisfaction with NP, PA, and CNM care is affected by factors external to the actual care provided. Satisfying a particular patient depends partly on the physician’s conveying to the patient a sense of approval of the NP, PA, or CNM (113). Patients’ judgments may also reflect their past experiences with medical care and their socioeconomic status. One study, for example, found that an upper-middle-class population accustomed to receiving care from fee-for-service physicians evaluated providers mainly on the basis of technical competence (35). Patients’ age, sex, and race also affect their opinions. Middle-aged people, males, and blacks are more accepting of NPs (80); whites are more accepting of CNMs than are blacks, who are more likely to associate the word midwife with untrained lay midwives (201). The American Nurses’ Association (21) concluded that trust in NPs and PAs varies with the options available to patients, and that satisfaction with NPs and PAs tends to be highest when access to other sources of care, particularly physicians, is limited. Patients’ satisfaction with CNMs, however, appears to be independent of access to other sources of obstetrical care (201).

Based on historical data, physicians accept the concept of NPs and PAs but remain concerned about their practicing independently. Physicians have been reluctant to accept CNMs, especially those practicing independently. Physicians’ willingness to delegate tasks depends on the particular tasks. Most physicians who hire NPs, PAs, or CNMs are satisfied with their performance. Employment status, the most relevant indicator of whether physicians accept NPs, PAs, and CNMs, is satisfactory; PAs, in particular, apparently enjoy a high level of appreciation by physicians. Increasingly, CNMs’ employment is independent of physicians. A growing supply of physicians and potentially heightened competition may decrease physicians’ acceptance of these health practitioners. Indeed, the American Medical Association resolved in 1985 to “oppose new legislation extending medical practice to non-physician providers” (136).