

Advanced Practice Nurses

Should They Be Independent?

THE ARTICLE by Mundinger¹ in the January issue of the *New England Journal of Medicine* is representative of a recent flurry of articles. Mundinger, from Columbia University School of Nursing in New York, NY, espouses independent licensing for advanced practice nurses who, she purports, can see and manage 85% of primary care problems less expensively, with happier patients and with less medicolegal risk. In her model, nurses would practice independently and defer to the physician in certain circumstances, to be defined by them alone. In the same issue, Kassirer² addresses, in general terms, most of the questions that arise in many of us as we read these claims. However, it behooves us in primary care to examine this campaign in some detail.

The November 1992 issue of *American Journal of Nursing* featured, shortly after Election Day, a strident editorial by Mallison³ entitled, "Dear Mr. President," in which she espouses solving the problem of primary care by empowering nurses for complete independence. An example of the level of rhetoric she brings to the arguments is her statement that nurses have been dominated and "squashed by physicians' greed" early in the 20th century. She went on to say that physicians have been "spectacularly wrong—for eight hundred years in drawing anatomical and physiological analyses based on monkeys."³ Similar articles, if somewhat more subtle, have been found regularly in lay publications (*Wall Street Journal*. September 1, 1993:B1, and *Chicago Tribune*. February 20, 1994:1, section 8).

GROWING EMPOWERMENT OF NURSE PRACTITIONERS

According to Kassirer,² 25 states have legislation authorizing reimbursement of nurse practitioners (NPs) by private and commercial insurers; 21 states permit NPs to write prescriptions for drugs, and 15 of these give NPs the authority to write prescriptions for controlled substances. The latest state to pass such legislation was Wisconsin. This power does not necessarily equate legally to the ability to hold themselves out as independent practitioners. While independence is espoused by certain physician assistants, their official organizations do not, acknowledging that by definition, accreditation, and training process, physician assistants are trained to assist physicians.

THE STUDIES

The article by Mundinger¹ has gained the most respected forum and therefore deserves the most serious

evaluation. Her claims are based mostly on the data of the first eight studies in her bibliography, which compose most of the studies alluded to by other authors specializing in nursing. Since the majority of the studies that exist (and all of those cited by Mundinger) are based on NPs as opposed to other advanced practice nurses (nurse anesthetists and certified nurse midwives), this critique is confined to the comparison of NPs and physicians. The article by Sox⁴ (Mundinger's reference 1) was a review of some 40 studies in which he found eight that warranted conclusions in comparing physicians and NPs in random patient assignment. His report went to great lengths to be fair in evaluating the studies, but he pointed out the requirements of valid comparative research. Only five of the eight studies gave a description of the patients seen by each of the two groups. Only three of these studies gave reasons why patients withdrew from study participation. Only one study calculated the probability that a true difference in quality of care between physicians and NPs might be missed. The foregoing weaknesses notwithstanding, Sox noted that nurses and physician's assistants were generally seen to provide care comparable to that of physicians, *while working under physician supervision*. Nevertheless, physicians were present, available, and saw significant numbers of NPs' patients on a consultative basis in the course of patient care.

In the article by Spitzer et al⁵ (Mundinger's reference 2), also cited in the article by Sox, physicians' case-loads were twice those of the nurses, and one third of the nurses' patients were seen by physicians in the course of care. Allowing for this obvious difference and for the fact that the total study group were a team in a working relationship, care by NPs provided an end result comparable to care by physicians.

The study by Cintron et al⁶ (Mundinger's reference 3) was designed to compare costs in follow-up of patients with congestive heart failure, previously diagnosed in a cardiology clinic of a Veterans Administration hospital. Clinical protocols were established and observed. The planners set out to achieve more frequent follow-up for less cost by using NPs in lieu of less available physicians. The mean number of hospital days, the number of hospitalizations, and the total cost of care were less under more frequent and intense follow-up by nurses compared with that by physicians. Fifteen patients were studied. Seven of these patients died during the 7- to 48-month follow-up period in which NPs provided care. There was no basis among the data given for comparing this rate with the mortality rate under previous clinic care by physicians.

A 1986 report by the Office of Technical Assistance⁷ (Mundinger's reference 4) is a massive collection of papers and a few studies of the type reviewed here. The Office of Technical Assistance report drew several conclusions favorable to the main theme of the NPs. Notably, the advisory committee was composed of representatives of consumer groups, funding agencies, "health consultants," several government agencies, and organizations representing nursing and physician's assistants, together outnumbering physician organizations at a ratio of about 4 to 1. In egalitarian fashion, no members were identified by degree so that it was impossible to know for certain whether any physicians (or nurses) were on the committee by reading its published roster. I spoke to one representative of the American Medical Association (AMA) who implied that the composition of the panel influenced the conclusion that physician's assistants, NPs, and certified nurse midwives should be independently empowered.

Salkever et al⁸ (Mundinger's reference 5) compared equal numbers of physician full-time equivalents and NPs (four each) to study quality-of-care measures confined to two types of cases: sore throat and otitis media. In brief, the nurses saw about two thirds of the number of patients the physicians saw and thus, took 1.5 times as long with each patient. Nurse practitioners ordered twice as many laboratory studies as did physicians on cases of otitis media, while physicians ordered nearly twice as many follow-up visits on cases of sore throats. Physicians were consulted in 10% of cases handled by nurses. The cost of care was comparable in the two groups.

The study by Avorn et al⁹ (Mundinger's reference 6) was a randomized telephone survey in which physicians and NPs were presented a clinical vignette of epigastric pain and endoscopic findings of diffuse gastritis. The finding ostensibly favorable for NPs was that they sought more historical information than did the physicians before prescribing drugs, more frequently uncovering the hypothetical patient's aspirin, alcohol, and caffeine use, and emotional stress. Only 19% of NPs elected to prescribe drugs immediately compared with 39% of physicians. Of 501 physicians, 140 were general practitioners and 151 were family practitioners. General practitioners and older physicians were more likely to prescribe drugs without further history taking. It was not stated whether the NPs were randomly selected from around the country. If so, from data previously given, they would have less than a 50% chance of practicing in a prescribing situation. If not so empowered, would they not feel more comfortable treating patients without prescribing drugs?

The study by Bessman¹⁰ (Mundinger's reference 7) was a poor comparison between physicians and NPs in a follow-up care clinic for one chronic illness. Physicians were rotating house staff with no continuity between patient and physician, while NPs were full-time with continuous relationships. The NPs' caseloads were two per hour, while the physicians' caseloads were three per hour (interns) and four per hour (second-year post-doctorate internal medicine residents) in a diabetic clinic. Diabetic control and patient satisfaction outcomes were comparable.

The study by Mandelblatt et al¹¹ (Mundinger's reference 8) compared the rate of follow-through in poor elderly female patients to obtain screening mammograms and Papanicolaou smears when seen routinely by physicians (control) compared with their follow-through to obtain such screening after direct approaches by NPs. The physicians' stimuli for obtaining screening were notes flagging the patients' charts. The intervention group consisted of patients seen by NPs rotating for the purpose of the study who literally approached the patients repeatedly until they complied or refused screening as an effort *in addition* to a regular visit to a physician. Not surprisingly, the intervention group had a significantly higher screening rate (56.9% and 40% vs 18.2% and 11.8% for mammograms and Papanicolaou smears, respectively).¹¹ While it is obvious that the NPs were the object of the research, it was not stated whether physicians in the control group knew they were being studied.

DeAngelis,¹² in a recent editorial, rightly distinguishes between the belief that two thirds of primary care encounters could be managed by NPs and an inference that two thirds of patients could be managed by NPs over time. She alludes as well to the significant medicolegal implications inherent in separate and independent licensing of advanced practice nurses. Claims often made by the nursing establishment³ of lower risk of litigation in advanced practice nurses compared with physicians are meaningless unless malpractice rates compare independently licensed NPs, nurse anesthetists, and certified nurse midwives with primary care physicians, a group that has a low risk compared with the other specialties of medicine.

The remainder of the references cited by Mundinger appeared to be various position papers, discussions of health care costs, and articles by nursing groups addressing the issue. A search of the literature going back to the 1970s for articles using the terms *nurse practitioner*, *nurse clinician*, *advanced practice nurses*, and *physicians* mentioned with primary care yielded only a few dozen articles. Aside from those cited by Sox,⁴ they have tended to be policy proposals, opinion-based progress reports, or polemics by the nursing establishment.

COLLABORATIVE PRACTICE AND EQUITABILITY

None of the investigators cited here studied nor recommended nurses practicing in a system without physicians. Most of the studies cited by Mundinger that addressed cost found that care by NPs was equal to or less expensive than care by physicians. However, the most recent of such studies cited by her were in 1982⁸ and 1983,⁶ while the others were published in the 1970s.^{4,5} These economics no longer apply. Articles on nursing in lay press and editorials cite physicians' putative average incomes of \$171 000 per year and contrast those with their own \$55 000 per year (not distinguishing whether that applies to advanced practice nurses or to all nurses). However, the AMA reported average incomes for the primary care specialties of family practice and pediatrics as \$111 500 per year and \$119 300 per year, respectively,

in 1991, more valid figures for comparison.¹³ A recent meta-analysis commissioned by the American Nursing Association and cited by DeAngelis¹² and Brown and Grimes¹⁴ found that NPs consistently take (or require) 50% more time with patients than do physicians. Independent practice by NPs would obviously lead to a significant rate of consultation with physicians, presumably at a different site and carrying a separate charge. If one extrapolates from the foregoing data, it is difficult to project a cost savings in primary care by empowering advanced practice nurses in full independence.

The AMA has spoken well on the subject.¹⁵ They have pointed out that advanced practice nurses, by their own description, not only have approximately half the combined education and training of family physicians but their definition of "advanced practice" is anything but clear and that the curriculum for training advanced practice nurses varies considerably. The advanced practice nurse has been defined vaguely as a registered nurse with a master's degree. The AMA points out that only 16.8% of nurse anesthetists and 5% of certified nurse midwives have masters' degrees. Almost all are employed. Only 64% of NPs are certified.

One issue that looms large in the debate is the nurses' desire for greater status and recognition within what has been a highly hierarchical system of medical care delivery. By itself, this claim has little bearing on the health of the public and on who best can provide primary care. The main question is, perhaps, whether medicine can be practiced at graduated levels of competence and education, starting at less than a professional degree and residency, without a hierarchy. Should a practitioner who does not possess a complete medical education be allowed to decide when she or he requires assistance? Relying on protocols and chances of predictable diagnoses based on common presenting symptoms may be successful in 85% of cases under controlled conditions, accepting that figure for the sake of argument. However, without the depth of understanding brought about by the study of the basic sciences and the supervised experience gained during postdoctorate training, the wrong 85% of patients may be the recipients of unreferral dispositions.

Articles and letters by nurse educators in the lay press often bitterly claim that physicians have dominated nurses and generally exploited them for generations. This is in sharp contrast to my experiences with nurses in practice and the glowing reports of relationships between physicians and NPs described to me by family physicians who have experienced collaborative practice. Most experiences were in the military or in family practice training programs. In these settings, physicians work alongside NPs who manage patients in consultation with physicians, an aliquot of charts being reviewed by the physicians regularly. Increased efficiency and productivity would likely result from wider application of NPs pre-

scribing drugs independently while working in trusting relationships with physicians who are ultimately responsible. To many physicians who have experienced such collaborative working relationships, what is being said by nursing's national leadership strikes a discordant note.

In summary, published research does not support independent practice by NPs but does appear to support collaborative working relationships between NPs and physicians. While it is doubtful that the cost of care could be reduced for the patients served, the increased numbers of patients cared for would greatly serve society, and secondary and tertiary care costs presumably would be reduced owing to earlier diagnosis and preventive care of a greater proportion of the population than is now possible.

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