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Staffing National Health Care Reform: A Role for Advanced Practice Nurses

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STAFFING NATIONAL HEALTH CARE REFORM: A ROLE FOR ADVANCED PRACTICE NURSES

by

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ACCOMPLISHING NATIONAL HEALTH REFORM

The four pillars of national health care reform are universal access, comprehensive coverage, high quality and reasonable cost. Our current health system does well on quality, acceptably on coverage, and poorly on access and cost. Relentlessly rising premiums and co-payments have made health insurance unaffordable to many families. Nearly 40 million Americans lack adequate coverage. Even insured Americans lack proper preventive and long-term care. Yet we spend nearly one trillion dollars on health care each year.

Expanding access and coverage while containing costs can only be accomplished by getting more health care value for our money. Two facts about our current system make this seem possible. First, the currently uninsured are not costless.[1] Providing stop-gap health care to those who lack health insurance is extremely expensive -- people without formal coverage cannot afford preventive services, delay treatment of illness and face substantial barriers to reaching appropriate providers. When they receive care, it is often degrading, usually complicated and costly,[2] and more than occasionally too late. The cost of this "uncompensated" care is borne by all of us in higher prices for our own health insurance, in taxes and in the federal deficit. Moreover, this cost is not distributed evenly, and reduces our ability to determine whether the price of our own health care is fair. In addition, the need for "last resort" care for the uninsured locks us into continued support of aging "public" health facilities that are often underequipped and inefficient.

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1 *See* John K. Iglehart, *The American Health Care System: Introduction*, 326 NEW ENG. J. MED. 962, 967 (1992).

2 A large percentage of uninsured receive all their care in the most expensive setting -- a hospital emergency department.

The second characteristic of our current system is that the utilization of health care services is tremendously wasteful.[3] Gaps in our knowledge as to what works and what doesn't, fee-for-service payment that creates incentives to do more rather than less, lack of coordination between providers, high patient expectations and fear of malpractice litigation all predispose to overutilization. We are fascinated by expensive technology, and use it uncritically.[4] Moreover, these influences have elevated the illness-based model of care over the health-based model. As a result, a disproportionate amount of our health care budget is devoted to the treatment of acute illness, often in institutional settings, rather than to primary, preventive and long-term community and home-based care.

These observations suggest a prescription for change. Improving the cost-effectiveness of health care delivery -- in particular by emphasizing preventive and primary care and adopting a more discriminating approach to the use of expensive, referral services -- can free up the resources needed to include all Americans in the health care system. This effort must be undertaken by health care providers, by communities and by government.

IS THE HEALTH CARE WORKFORCE ADEQUATE?

The most critical element of any service industry is its workforce. This is particularly true in health care -- a strong relationship between patient and practitioner is essential for successful health outcomes. Our health care workforce has many shortcomings that currently limit its ability to provide needed services. Because of the increased need for cost-effective primary and preventive care as universal access is achieved, these problems are likely to become magnified by national health care reform.

Physician Specialization

The United States has too many medical and surgical subspecialists and not enough primary care practitioners. Primary care practitioners are trained to diagnose and treat illness in a continuous and comprehensive fashion, to coordinate specialty and ancillary care, and to promote wellness and disease prevention. Family physicians, general internists, general pediatricians and, in some instances, obstetrician-gynecologists are considered primary care physicians. Most advanced practice nurses and physician assistants are also trained as primary care practitioners.

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[3] *See, e.g.*, HENRY J. AARON, SERIOUS AND UNSTABLE CONDITION: FINANCING AMERICA'S HEALTH CARE 12 (1991); Victor R. Fuchs, *No Pain, No Gain: Perspectives on Cost Containment*, 269 JAMA 631 (1993).

[4] David A. Grimes, *Technology Follies: The Uncritical Acceptance of Medical Innovation*, 269 JAMA 3030 (1993).

In 1960, half of the nation's physicians were primary care practitioners.[5] Currently, less than one in three physicians practices primary care, compared to fifty to seventy percent of physicians in other industrialized countries.[6] In 1992, only 14.6% of graduating medical students indicated a desire to enter primary care.[7] Higher compensation, greater prestige, more attractive practice environments and the proliferation of training opportunities have contributed to the trend toward specialization.

The high degree of physician specialization has implications for access and for cost. Physicians trained as subspecialists are unlikely to practice in underserved areas.[8] In addition, specialists exhibit more costly practice patterns than primary care physicians when treating similar conditions.[9] Organized systems of care that concentrate on disease prevention and cost-effective treatment, such as health maintenance organizations, generally utilize approximately fifty percent primary care physicians.[10]

Geographic Distribution of Practitioners

There are not enough health care practitioners in many parts of the country. Although there are 240 physicians for every 100,000 people in the United States as a whole, twenty-three percent of our population lives in rural areas with, on average, only 67 physicians per 100,000 people.[11] In 1988, 176 counties (with a total population of over 700,000) had no primary care MDs.[12] Similar shortages of health professionals exist in inner cities. For example, Harlem is considered a "high needs area" with less than one full-time equivalent practitioner for each 3,000 people. Clearly, the goal of universal access cannot be achieved unless primary care practitioners enter and remain in practice in currently underserved areas.

Many factors are responsible for these disparities. Large inequities affect practice in rural areas and inner cities. For example, rural practitioners are poorly compensated, resulting in part from geographic payment differentials under federal programs, as are providers in inner cities. More importantly, aspects of

5 COUNCIL ON GRADUATE MEDICAL EDUCATION, U.S. DEP'T OF HEALTH AND HUMAN SERVICES, COGME: THIRD REPORT 8 (1992).
6 *Id.* at 10.
7 Robert G. Petersdorf, *Commentary: Primary Care -- Medical Students' Unpopular Choice*, 83 AM. J. PUB. HEALTH 328, 330 (1993).
8 OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, HEALTH CARE IN RURAL AMERICA 242 (1990).
9 COUNCIL ON GRADUATE MEDICAL EDUCATION, *supra* note 5, at 3.
10 CONGRESSIONAL BUDGET OFFICE, U.S. CONGRESS, STAFF MEMORANDUM: THE EFFECTS OF MANAGED CARE ON USE AND COSTS OF HEALTH SERVICES 5 (1992).
11 BUREAU OF HEALTH PROFESSIONS, U.S. DEP'T OF HEALTH AND HUMAN SERVS., HEALTH PERSONNEL IN THE UNITED STATES, EIGHTH REPORT TO CONGRESS, 51 (1992).
12 COUNCIL ON GRADUATE MEDICAL EDUCATION, *supra* note 5, at 12.

the practice environment other than compensation -- such as equipment, facilities, staff support, telecommunications and ancillary services -- are generally lacking. This infrastructure is extremely important to reduce professional isolation and prevent burnout.

Lack of workforce diversity contributes to geographic imbalance. Health professions students from rural communities and inner cities are more likely than other students to return to practice in those areas, and minority students are more likely to serve minority populations. A paucity of training programs, particularly in rural areas, also discourages practitioners. Practitioners frequently remain close to the site of their training, whether in university and suburban settings or in rural communities and inner cities. Finally, the preponderance of specialty practice exacerbates geographic disparities because medical subspecialists require a large population base and access to expensive technology.

Racial, Ethnic and Cultural Diversity

Racial and ethnic minorities will comprise approximately thirty percent of the U.S. population in 2000 and forty percent in 2010.[13] In many areas, most of the population is or will be "minorities." For example, California will soon become the first state to have a majority of minorities; Hispanics already comprise twenty-six percent of its population.[14]

The health status of racial and ethnic minorities is poorer than that of the majority population -- in part because of the unavailability of effective health care.[15] Life expectancy is six years lower and infant mortality two times higher for African-Americans than for the majority population.[16] It is increasingly clear that health care costs will not be controlled unless the nation's health professionals are able to prevent or successfully manage the diseases that afflict minorities.

Unfortunately, the health care workforce is not racially, ethnically or culturally representative of the people it serves. Minorities currently constitute 22% of the population, but only 7% of physicians, 8% of nurses and less than 3% of medical school faculty.[17] Moreover, today's physicians reflect far different socioeconomic demographics than the general population. Because minority practitioners are more likely than other professionals to serve minority patients, a

13 COMMITTEE ON WAYS AND MEANS, U.S. CONGRESS, BACKGROUND MATERIAL AND DATA ON PROGRAMS WITHIN THE JURISDICTION OF THE COMMITTEE ON WAYS AND MEANS (1992) ("Green Book").
14 U.S. BUREAU OF THE CENSUS, STATISTICAL ABSTRACT OF THE UNITED STATES: 1992 at 22-23 (1992).
15 *See* HEALTHY PEOPLE, 2000 at 50-63 (Michael A. Stoto et al. eds., 1990).
16 U.S. BUREAU OF THE CENSUS, *supra* note 14, at 76, 81.
17 COUNCIL ON GRADUATE MEDICAL EDUCATION, *supra* note 5, at 13; BUREAU OF HEALTH PROFESSIONS, *supra* note 11, at 126.

more diverse workforce can improve the availability of services in underserved areas, overcome institutional prejudices that discriminate against minority patients and provide more culturally sensitive care.[18]

Training Environment

Current patterns in medical education relatively disfavor many of the skills that will be most needed in a reformed health care system.[19] Although practitioners are increasingly serving in ambulatory, community and managed care settings, graduate training still takes place primarily in public and university acute care hospitals. Life-long practice habits and organizational biases are often instilled during training. An educational process that emphasizes caring for hospitalized patients requiring intensive management of acute, often uncommon, illnesses is unlikely to facilitate the development of a health care workforce with an appropriate specialty and geographic distribution and with competency in the delivery of cooperative, cost-effective primary and preventive care.

The acute care focus of health care training is traceable not only to the rise of technology and the medical model of illness, but to a series of explicit federal funding policies. In 1992, the federal government paid residency training programs approximately $5.2 billion for graduate medical education (GME) with minimal regard to location, specialty or eventual practice of trainees.[20] Because only traditional teaching hospitals are eligible for funding, this has amounted to a blank check for the expansion of specialty programs emphasizing high-technology inpatient care.

IMPROVING THE PRIMARY CARE WORKFORCE

As the preceding discussion suggests, national health care reform is unlikely to succeed unless it improves the character and distribution of the health care workforce. What is needed most is a rapid and sustainable infusion of cost-effective primary care providers. Several policy strategies will need to be employed because career choices in the health professions are not determined by any one factor. Rather, they are influenced by background, interests, training opportunities, the educational process, and financial and non-financial practice incentives.[21]

18 COUNCIL ON GRADUATE MEDICAL EDUCATION, *supra* note 5, at 19-22.
19 *See id.* at 28-34; H. Jack Geiger, *Why Don't Medical Students Choose Primary Care?*, 83 AM. J. PUB. HEALTH 315, 316 (1993).
20 COUNCIL ON GRADUATE MEDICAL EDUCATION, *supra* note 5, at 49-54.
21 *See* Steven A. Schroeder, *The Making of a Medical Generalist*, HEALTH AFFAIRS Summer 1985, at 22.

Because the nation's overall supply of physicians is probably adequate,[22] the redistribution of current physicians into primary care, particularly in underserved areas, would be highly desirable. All medical subspecialists and certain other specialty physicians have been trained as general practitioners -- these physicians might, with proper incentives, return to primary care. The development of appropriate professional refresher and retraining programs may be extremely important to the reassimilation of these specialists into primary practice.

However, specialists will not choose to re-enter primary care unless major changes have occurred in the work environment. Because health professionals are not immune to the Willie Sutton principle,[23] changes in the financial reward structure will have a substantial short and long-term impact on the physician practice of primary care. Insofar as an increasing percentage of health care is delivered by managed care systems that bear financial risk for overutilization, primary care physicians should be in greater demand and the pressure to subspecialize that exists in the current fee-for service environment should be reduced. Within the residual fee-for-service sector, payment schedules such as the Medicare Part B Resource-Based Relative Value Scale (RBRVS)[24] that improve relative reimbursement for "cognitive" as opposed to "procedural" services should have a similar effect.

Overcoming geographic disparities, however, will require more than increasing compensation for primary care physicians. A long-term investment is also needed in professional infrastructure (and personal amenities) in order to induce physicians to relocate to underserved areas. Moreover, the effect of background and training on the decision to practice in rural areas and inner cities is considerable. Until diversity and training methods are improved, physicians are unlikely to enter practice in these areas in the short term, although augmentation of the National Health Service Corps[25] or other national service programs might create a temporary supply of physician providers.

Because of the need to improve medical education, considerable public attention has been devoted to using federal GME funding as a tool for changing the health care workforce.[26] GME policies should be revised, and will eventually yield major improvements in the character and distribution of the physician workforce. However, changes in medical education are necessarily long-term

[22] This has been the conclusion of many expert bodies that have studied the physician workforce. *See, e.g.*, COUNCIL ON GRADUATE MEDICAL EDUCATION, *supra* note 5, at 25-28.

[23] Willie Sutton supposedly robbed banks "because that's where the money is." One of the authors is acquainted with the saga of a Suttonesque character who told the sentencing judge that he robbed a post office "because the bank was closed."

[24] Omnibus Budget Reconciliation Act of 1989, 101 Pub. L. 101-239, § 6102, 103 Stat. 2265 (1989).

[25] 42 U.S.C.A. § 294*l* (West 1993).

[26] *See, e.g.*, JOSIAH MACY, JR. FOUNDATION, TAKING CHARGE OF GRADUATE MEDICAL EDUCATION: TO MEET THE NATION'S NEEDS IN THE 21ST CENTURY (Thomas Q. Morris & Coimbra M. Sirica eds., 1993).

interventions because only a small fraction of the physician workforce graduates each year. If, beginning in 1994, our medical education system produced 50% primary care physicians instead of 15% (the current percentage), the number of primary care physicians in practice would not equal the number of specialists until 2040.[27]

An often overlooked approach to meeting the primary care requirements of the American health care system is the increased utilization of advanced practice nurses and physician assistants.[28] One economist has estimated that the welfare loss resulting from inefficient use of nurses in advanced practice ranges from $6.4 billion to $8.75 billion annually.[29] These non-physician health professionals are trained to provide primary care, can be rapidly deployed and offer important long-term benefits in a system that will emphasize cost-effective, community-based health services.

Strategies promoting advanced practice nursing have the following advantages:[30]

1. The majority of advanced practice nurses (namely, nurse practitioners and certified nurse midwives) elect careers in primary care.

2. Advanced practice nurses locate in medically underserved areas in larger proportions than physicians.

3. Advanced practice nurses have less expensive treatment preferences than physicians.

4. Advanced practice nurses can be educated more quickly and at lower cost than primary care physicians.

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[27] Fitzhugh Mullan, et al., *Doctors, Dollars and Determination: Making Physician Work-Force Policy*, HEALTH AFFAIRS Supp. 1993, at 148.

[28] The most complete and persuasive case for the increased use of advanced practice nurses is made in Barbara J. Safriet, *Health Care Dollars and Regulatory Sense: The Role of Advanced Practice Nursing*, 9 YALE J. ON REG. 417 (1992). *See also* PEW HEALTH PROFESSIONS COMMISSION, PRIMARY CARE WORKFORCE 2000: FEDERAL HEALTH POLICY STRATEGIES (1993).

[29] Len M. Nichols, *Estimating Costs of Underusing Advanced Practice Nurses*, 10 NURSING ECON. 343, 350 (1992).

[30] Similar arguments can be advanced in favor of the use of physician assistants. Physician assistant training programs were developed in the 1960s to help relieve the projected shortage of physicians. Physician assistants work under the direct supervision of physicians, and well over half of the 25,000 physician assistants currently in practice provide primary care. In many states, physician assistants face barriers to effective practice similar to those confronting advanced practice nurses. However, a complete discussion of these issues is beyond the scope of this article. *See* OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, HEALTH TECHNOLOGY CASE STUDY 37, NURSE PRACTITIONERS, PHYSICIAN ASSISTANTS, AND CERTIFIED NURSE-MIDWIVES: A POLICY ANALYSIS (1986).

5. Advanced practice nurses can improve the racial, ethnic and cultural diversity of the health care workforce more rapidly than physicians.

6. Advanced practice nurses can facilitate the transition to integrated health care delivery systems that offer cost-effective, community-based services.

7. Advanced practice nurses can help the medical education system adapt to ambulatory and community training sites by substituting for residents in acute care settings.

WHO ARE ADVANCED PRACTICE NURSES?

There are more than two million licensed registered nurses in the U.S.[31] The U.S. has one of the highest nurse to population ratios in the world -- one nurse for every 135 Americans.[32] Approximately 100,000 of these are advanced practice nurses.[33] By comparison, there are approximately 600,000 practicing physicians.[34]

Advanced practice nurses include nurse practitioners, certified nurse midwives, certified registered nurse anesthetists and clinical nurse specialists. In 1988, approximately 21,000 nurses were in practice positions carrying the title of nurse practitioner and about 2,900 nurses were practicing as nurse midwives.[35] There were approximately 22,500 nurse anesthetists in the U.S. in 1986.[36] An additional 40,000 nurses were employed as clinical nurse specialists in 1988.[37]

Advanced practice nurses are registered nurses with additional preparation in their chosen fields (generally a master's degree). Nurse practitioners and nurse midwives are primary care providers capable of practicing in community and ambulatory settings as well as in hospitals. Nurse anesthetists and clinical nurse specialists are typically affiliated with acute care hospitals.

Nurse anesthetists are the oldest of the advanced nursing specialties, predating physician anesthesiologists by more than 100 years. Nurse anesthetists administer more than sixty-five percent of all anesthetics in the United States.[38] Nurse practitioners diagnose illness, prescribe medications and provide compre-

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31 OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 8, at 259-60.
32 Linda H. Aiken, *The Hospital Nursing Shortage -- A Paradox of Increasing Supply and Increasing Vacancy Rates*, 87 W.J. MED. 87, 87 (1989).
33 AMERICAN NURSES ASSOCIATION, NURSING FACTS, ADVANCED PRACTICE NURSES.
34 BUREAU OF HEALTH PROFESSIONS, *supra* note 11, at 16-17.
35 OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 8, at 250-52, 256-57.
36 *Id.* at 257-58.
37 *Anne Keane, Testimony of the American Nurses Association and American Association of Nurse Anesthetists Before the Physician Payment Review Commission* (Dec. 9, 1992).
38 OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 8, at 257.

hensive general health care in a variety of clinical settings. Nurse midwives provide prenatal and routine gynecologic care as well as delivery and post-partum services. Despite their small numbers compared with physician obstetricians, nurse midwives perform approximately 3.4% of deliveries.[39] Clinical nurse specialists provide general medical care as well as assisting with technologically sophisticated services such as neonatal or cardiac intensive care.

Advanced practice nurses are capable of providing care comparable in quality to that of physicians. Nurse practitioners and nurse midwives have been the focus of hundreds of effectiveness and outcome studies over the past two decades.[40] In 1988, the Office of Technology Assessment (OTA) conducted a comprehensive review of these studies in response to a request from the Senate Committee on Appropriations.[41] OTA concluded that nurse practitioners can satisfy the medical needs of 50% to 90% of patients receiving care in ambulatory settings, and that, "within their areas of competence, [nurse practitioners, physicians assistants and certified nurse midwives] provide care whose quality is equivalent to that of care provided by physicians."[42]

Birth centers where most care is provided by nurse midwives are considered a safe and acceptable alternative to hospital care for low-risk pregnancies.[43] In addition, international comparisons suggest that at least 75% of routine obstetrical care can be safely provided by nurse midwives.[44] Less than 8% of nurse midwives have ever been named in a malpractice suit compared to 85% of obstetricians.[45] Studies involving nurse anesthetists are similarly encouraging. Research suggests that the outcomes for patients are the same regardless of whether anesthesia is administered by a nurse anesthetist or a physician anesthesiologist.[46]

Focus on Primary Care

Nurse practitioners and nurse midwives are trained as primary care providers. According to OTA, about one-third of nurse practitioners are em-

39 Keane, *supra* note 37, at 2.
40 *See Sharon A. Brown & Deanna E. Grimes, Nurse Practitioners and Certified Nurse-Midwives: A Meta-Analysis of Studies on Nurses in Primary Care Roles* (1993).
41 OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 30, at iii.
42 *Id.* at 5, 39.
43 Judith P. Rooks et al., *Outcomes of Care in Birth Centers: The National Birth Center Study*, 321 NEW ENG. J. MED. 1804 (1989).
44 AMERICAN COLLEGE OF NURSE-MIDWIVES, NATIONAL COMMISSION ON NURSE-MIDWIFERY EDUCATION 1993, EDUCATING NURSE-MIDWIVES: A STRATEGY FOR AFFORDABLE, HIGH-QUALITY MATERNITY CARE 21 (1993).
45 AMERICAN COLLEGE OF NURSE-MIDWIVES, SURVEY OF MEMBERSHIP (1992); AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS, SURVEY (1992).
46 *E.g.*, William Forrest, Jr., *Outcome: The Effect of the Provider, in* HEALTH CARE DELIVERY IN ANESTHESIA 137 (Robert A. Hirsh et al. eds., 1980).

ployed in ambulatory care settings and another thirty percent work in community and public health settings.[47] Moreover, the philosophy of nursing education is based on a holistic approach to health and disease prevention. This is in contrast to physicians who are largely trained in academic centers that emphasize specialization and technology.

Service in Underserved Areas

Advanced practice nurses are frequently the only providers for poor or remote populations, often because many physicians find this work undesirable. Correspondingly, nurse practitioners and nurse midwives have tended to locate in medically underserved areas, although the number in rural practice has declined somewhat over the past ten years. A survey of University of Pennsylvania nurse practitioner and nurse midwife graduates between 1975 and 1984 indicated that 44% practice in inner cities, 8% practice in rural areas, 58% care for poverty populations and another 14% provide care to predominantly low-income patients.[48]

The ability of advanced practice nurses to serve inner cities is increasingly important to the health of vulnerable populations. Close to fifty percent of nurse practitioners and nurse midwives practice in the inner city, and approximately one in five nurse practitioners or nurse midwives practices in a rural area (approximately the same as the proportion of primary care physicians).[49] Nurse anesthetists are the sole anesthesia providers in 35% of the nation's hospitals; of these, 85% are in rural areas.[50] Advanced practice nurses are therefore important providers of primary care services and of referrals for specialty care in underserved settings.[51]

Cost-Effective Practice

Care delivered by advanced practice nurses is generally less costly than care delivered by physicians. This is the result not only of lower compensation for nurses than for physicians,[52] but of different practice patterns. Nurse practice emphasizes interpersonal skills, continuity of care, management of symptoms and maintenance of function. As a result, nurse practitioners and nurse midwives

47 OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 8, at 250-52.
48 University of Pennsylvania School of Nursing, Survey of Graduates of Advanced Practice Master's Programs (Dec. 21, 1992) (unpublished material).
49 OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 30, at 30; OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 8, at 282.
50 OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 8, at 257-59.
51 *See, e.g.*, OFFICE OF INSPECTOR GENERAL, DEPT OF HEALTH AND HUMAN SERVS., A SURVEY OF CERTIFIED NURSE-MIDWIVES (1992); OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 30, at 8, 35-60.
52 The average annual salary of a full-time nurse practitioner or nurse midwife is $43,600. Emelio et al., PA's, NP's, and CNM's: An Overview by the Bureau of Health Professions 13 (1993) (unpublished manuscript).

prescribe fewer drugs, use fewer tests, and select lower cost treatment options and settings than physicians.[53]

Inexpensive Training

Advanced practice nurses can be trained much more rapidly than primary care physicians. A family practice physician requires four years of college, four years of medical school and three years of residency training. Because of the length of the medical training pipeline, even an immediate and substantial commitment to the production of primary care physicians would be slow to yield results in practice.

By comparison, advanced practice nurses spend four years in college and one to two years in graduate school. An increase in educational capacity for advanced practice nurses would therefore have an almost immediate effect on the availability of primary care practitioners.

Because of the reduced educational period and other factors, advanced practice nurses can be trained at a fraction of the cost of primary care physicians.[54] Even in the most expensive private university nursing programs, advanced practice nurses can be trained for approximately $21,000 if the student already has a bachelor's degree in nursing and $42,000 if the student lacks bachelor's level training.[55] By contrast, Medicare alone paid teaching hospitals over $70,000 for each resident physician during 1992.[56]

Interestingly, the training process for American advanced practice nurses is roughly equivalent in length and similar in content to that for generalist physicians in much of Europe. Traditional European medical education takes place at the undergraduate level, and European generalist physicians frequently receive only one to two years of additional training.[57] There is no evidence that fewer years of training for primary care providers adversely affects outcomes -- in fact, health indicators in many European countries are better than those in the U.S. [58]

Greater Diversity

Because of the shorter training time, lower tuition investment and fewer prerequisites, nursing training is more accessible to disadvantaged individuals

53 BROWN & GRIMES, *supra* note 40, at xi-xvi.
54 *See* OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 30, at 44-46.
55 University of Pennsylvania School of Nursing (1993).
56 Mullan, *supra* note 27, at 143.
57 WORLD HEALTH ORGANIZATION, WORLD DIRECTORY OF MEDICAL SCHOOLS (1988).
58 COUNCIL ON GRADUATE MEDICAL EDUCATION, *supra* note 5, at 2-3.

than medical training. This is reflected in recent graduation statistics for advanced practice nurses, who are more often than medical graduates representatives of racial and ethnic minorities.[59] Unlike physicians, nurses' backgrounds reflect the socioeconomic distribution of the general population -- a significant proportion of advanced practice nurses are the first in their families to attend college. However, minority representation in advanced practice nursing, as in all other health professions, remains well below that of the general population.

Role in Organized Health Systems

Health care reform will increasingly rely on various methods of case management, both to conserve resources and to improve outcomes through better integration of services. The majority of insured Americans are currently in managed care programs, ranging from loose networks of providers subject to utilization review to tightly integrated health maintenance organizations. Managed care models are likely to extend to poor inner city and some rural Americans as well. The Health Care Financing Administration reports that the number of Medicaid recipients in managed care plans rose 35% during 1992, reaching 12% of all Medicaid recipients compared to 9.6% in 1991 and 2% in 1982.[60]

Because advanced practice nurses are relatively inexpensive, are amenable to cooperative practice models, and generally exhibit cost-effective patterns of practice, they are frequently sought out by health maintenance organizations and other organized health care system.[61] Patient satisfaction with advanced practice nurses, especially nurse midwives, as primary care providers in managed care settings is high.[62] Several managed care enterprises are also utilizing nurses in gatekeeping and case management roles. Because of the increased demand for their services, the shortage of advanced practice nurses is expected to worsen as a larger share of Americans receive health services in managed care arrangements.

Substitution for Medical Residents

Resident physicians provide most of the daily care to patients in many large hospitals, especially inner city public hospitals that care for the uninsured. Currently, federal GME funding makes it cheaper for hospitals to use residents to

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[59] *See* BUREAU OF HEALTH PROFESSIONS, *supra* note 11, at 73-79, 129 (of the 22,587 students in master's degree nursing programs in 1989, about 10% were from minority backgrounds, of whom 55% were Black/nonHispanic, 25% were Asian/Pacific Islander and 16.5% were Hispanic).

[60] MEDICAID BUREAU, U.S. DEP'T OF HEALTH AND HUMAN SERVS., MEDICAID COORDINATED CARE ENROLLMENT REPORT (June 30, 1992 and June 30, 1991).

[61] Examples are Harvard Community Health Plan and Portland (OR) Kaiser Permanente. *See* Emelio, et al., *supra* note 52.

[62] *See, e.g.*, Virginia Z. Barham & Nancy J. Steiger, *Health Maintenance Organizations and Nurse Practitioners: The Kaiser Experience, in* NURSING IN THE 1980s: CRISES, OPPORTUNITIES, CHALLENGES 329-42 (Linda H. Aiken ed., 1982).

meet ongoing service needs than to employ any other kind of provider. National health care reform is likely to change the number and distribution of resident physicians, and may consequently alter the need for nursing services. For example, residency programs will utilize ambulatory settings to a greater extent in order to train a greater percentage of primary care physicians. This may leave many large teaching hospitals understaffed.

Teaching hospitals that lose medical residency positions should receive transitional financial support to develop alternative strategies for the provision of medical coverage for their inpatients. A promising approach would be to use a combination of full-time salaried physicians, advanced practice nurses and physician assistants. Recent studies have shown nurse practitioners and clinical nurse specialists to be efficient, safe substitutes for medical housestaff.[63] Substituting full-time advanced practice nurses for rotating medical housestaff would also improve continuity of care.

IMPEDIMENTS TO PRACTICE FOR ADVANCED PRACTICE NURSES

Approximately 100,000 advanced practice nurses have been trained and licensed to provide a wide range of health care, including primary care for adults and children, ongoing care for the chronically ill (including AIDS), maternity and general gynecological care, and geriatric care (including long-term management of elderly nursing home residents). Unfortunately, only about half are providing these services.[64]

As OTA recognized in its 1986 study, a number of impediments continue to prevent advanced practice nurses from being utilized to their full potential. These obstacles generally fall into three categories: (1) legal barriers resulting from state laws that impose restrictions on scope of practice such as requiring physician supervision or limiting prescriptive authority, (2) financial barriers that prevent public and private third-party payers from reimbursing services performed by advanced practice nurses, and (3) professional barriers that exclude advanced practice nurses from working in hospitals and managed care organizations and prevent them from purchasing malpractice insurance.

63 *See* James R. Knickman et al., *The Potential for Using Non-physicians to Compensate for the Reduced Availability of Residents*, 67 ACAD. MED. 429, 431-35 (1992); *see also* Keane, *supra* note 37, at 3-7.

64 According to preliminary estimates from the 1992 National Sample Survey of Registered Nurses, less than 24,000 of the approximately 49,500 trained nurse practitioners are currently in practice. Emelio, *supra* note 52, at 13.

Legal Barriers

All states have professional practice acts that define legal scope of practice for licensed physicians, nurses and other health professionals. Professional licensure exists primarily to promote quality and public safety, but serves as well to protect the economic interests of licensed individuals. As a result, state practice acts exist in a variety of political contexts, and competition between professions often gives rise to conflicts among state licensing bodies and to expensive private litigation that discourages appropriate practice by professionals, such as advanced practice nurses, who have less established positions and fewer financial resources.

Scope of practice has become a particularly important issue for advanced practice nurses (and for certain other health professionals such as physician assistants) because their competencies overlap those of physicians. For example, advanced practice nurses are trained specifically to perform acts of diagnosis and treatment of disease. These activities clearly constitute the "practice of medicine." As a result, physicians and state medical boards claiming a monopoly over that poorly defined entity may mount legal challenges to advanced nursing practice or attempt to circumscribe that practice more narrowly.[65]

All states currently recognize the expanded capabilities of advanced practice nurses, but do so through a patchwork of legislation, judicial interpretations and advisory opinions.[66] Moreover, the terminology used under state law to identify nurses that may engage in advanced practice is inconsistent. In addition, state law interpretations of the relationship between nursing practice acts and medical practice acts are unpredictable: decisions about nursing practice are therefore often made by multiple professional regulatory bodies, acting independently or with shared powers, rather than by state nursing boards alone. For these and other reasons, advanced practice nurses face uncertain and often arbitrary restrictions on their practice.

Two limitations commonly placed on advanced practice nurses relate to their authority to prescribe medication and their ability to practice without direct physician supervision. Only Alaska, Washington and Oregon permit nurses to prescribe medication for all conditions within their scope of practice, and even

[65] *E.g.*, Sermchief v. Gonzales, 660 S.W.2d 683 (Mo. 1983) (disciplinary action against nurse practitioners for "practicing medicine" by performing routine gynecologic services). Reversing a lower court, the Missouri Supreme Court in *Sermchief* refused to "define and draw that thin and elusive line that separates the practice of medicine and the practice of professional nursing in modern day delivery of health services." *Id.* at 688.

[66] *See* Linda Pearson, *1992-93 Update: How Each State Stands on Legislative Issues Affecting Advanced Nursing Practice*, 18 NURSE PRACTITIONER 23 (1993); Safriet, *supra* note 28, at 445-56.

Oregon subjects nurse prescribing to a limited formulary of drugs.[67] The remaining jurisdictions impose physician countersignature requirements, site limitations or other restrictions or prohibitions on nurses' prescriptive authority. Several states, such as North Carolina, empower the state medical examining board, rather than the nursing board, to determine prescriptive authority for advanced practice nurses.[68]

Many states prohibit advanced practice nurses from delivering care without some form of supervision by a physician. Supervision may take the form of on-site physician presence, a formal collaboration agreement between advanced practice nurse and physician, or written treatment protocols established by law or by the professionals involved.[69] Supervision requirements were instituted based on the traditional role of nurses as complementary providers to physicians, but make less sense in the case of nurse practitioners or nurse midwives trained specifically to substitute for physicians in certain situations. Many supervision requirements are ignored or imperfectly followed by physicians who employ nurses, but nonetheless prevent nurses from establishing and maintaining nurse-managed practices.

State limitations on advanced nurse practice prevent qualified practitioners from delivering beneficial, cost-effective health services. Physician supervision requirements currently prevent advanced practice nurses from providing care in health professional shortage areas because these locations lack physicians to function as supervisors. Prescribing restrictions lead to duplication of services and increase health care costs. For example, because of restrictions on prescriptive authority, a pediatric nurse practitioner in Pennsylvania may not treat urinary tract infections or iron deficiency anemia in children despite the fact that Medicaid reimburses her directly for screening for those conditions. Although Pennsylvania law allows her to prescribe oral contraceptives and treat sexually transmitted diseases in a family planning clinic, she must refer uncomplicated ear infections, requiring even milder antibiotic therapy, to a physician.[70]

State professional practice acts are in need of substantial revision. How this can best be accomplished, however, is less clear. Because of the political tensions that surround scope of practice legislation, it is unrealistic to expect that action at

67 ALASKA ADMIN. CODE tit. 12, § 44.440, 445 (1991); OR. REV. STAT. § 678.375(3) (1991); WASH. REV. CODE § 18.88.280(16) (1991). *See also* Margaret Grey & Suzanne Flint, *1988 NAPNAP Membership Survey: Characteristics of Members' Practice*, 3 J. PEDIATRIC HEALTH CARE 336, 340 (1989) (59.2% of pediatric nurse practitioners cannot legally write prescriptions, and only 7% have full authority to do so); Elizabeth H. Hadley, *Nurses and Prescriptive Authority: A Legal and Economic Analysis*, 15 AM. J.L. & MED. 245, 267 (1989); Safriet, *supra* note 28, at 456-65.

68 N.C. GEN. STAT. § 90-18.2(b)(1)-(4) (1978).

69 *E.g.*, CONN. GEN. STAT. § 20-9 (1990). *See also* Safriet, *supra* note 28, at 450-54.

70 Ellen-Marie Whelan, "Real Life" Barriers for Nurse Practitioners (1993) (unpublished University of Pennsylvania School of Nursing manuscript).

the state level alone will lead to a full and prompt recognition of advanced nursing practice. However, a federal practice act for advanced practice nurses would force the federal government into an area -- professional licensure -- that has traditionally been the province of the states. Moreover, without a mechanism to adjust the legal scope of advanced nurse practice to the evolving character of the profession, a federal practice act would either need to be extremely broad -- diluting its ability to protect public safety appropriately -- or would quickly become outdated.

Alternatively, licensure decisions might remain subject to state law, but with important modifications. The debate over appropriate scope of practice will always be a political one. Unfortunately, political battles are currently fought in forums that favor physicians because of superior financial resources or established influence, and opportunities for collateral attack on nurses' scope of practice through private litigation have deterred nurses from providing clinically appropriate and cost-effective care.

One way around this would be for federal law to induce states, through appropriate incentives, to grant exclusive authority to their *boards of nursing* to define "advanced practice nurse" and to determine legal scope of practice. State law would also need to be amended or preempted to prohibit professional licensing boards other than boards of nursing from taking action with respect to nurse practice, and to limit private litigation to direct challenges to the nursing board rather than actions against private parties. These interventions would constitute an important "home court advantage" for nurses that could help overcome the unpredictability and traditional physician orientation currently affecting state regulation of advanced practice nurses.

Two other specific changes are clearly warranted, preferably through federal legislation. First, because authority to prescribe drugs and devices should be a natural concomitant of scope of practice, state boards of nursing should also be given exclusive authority with respect to prescriptive authority for advanced practice nurses. Second, because advanced practice nurses are fully trained primary care providers, requirements that advanced practice nurses be subject to physician supervision for activities within their legal scope of practice should be overturned. These two restrictions are related in that both have the effect of mandating that a physician serve as middleman between an advanced practice nurse and her or his patient -- especially because physicians frequently display only token participation in nurse decision-making. As a result, these restrictions tend to protect physicians' (and make nurses dependent on physicians for their own livelihoods) much more than they contribute to public safety.

Perhaps the best argument in favor of making these changes is the trend in health care delivery toward integrated, organized systems of care. It is well recognized that disciplinary action by state medical boards is relatively ineffective at weeding out unsafe physicians or promoting better quality care. By contrast, provider networks and health insurance plans competing for business can be held accountable for both cost and quality. An efficient provider network with good quality management will protect patients better than state professional licensing bodies. This will be especially true if current trends in malpractice litigation continue and health plans become subject to "enterprise liability."[71]

Financial Barriers

Advanced practice nurses are frequently unable to obtain compensation for their services.[72] Because health care is financed largely through third party insurers, reimbursement policies for the services of health care professionals may determine the viability of practice. These policies have four aspects: the services that are covered, the practitioners that are recognized as "qualified," the amount that is paid, and whether payment is made directly to the qualified practitioner or through a billing physician. Current reimbursement policies constitute at least as important a barrier to advanced nurse practice as restrictive state practice acts (although reimbursement is of course unavailable for services that are not permitted under state law).

Foremost among third-party payers is the federal government in the Medicare and Medicaid programs. Federal reimbursement policy has far reaching effects for two reasons. First, private payers tend to follow the federal lead.[73] Second, federal reimbursement for a service provided by an advanced practice nurse is a vote of confidence in the quality of that service, and sends an important signal to the public and to physicians. Current Medicare and Medicaid restrictions on provider reimbursement are thought by many to represent a *de facto* professional practice act for advanced practice nurses.

Federal reimbursement policy is also important because of its interaction with federal workforce training programs. Medicare and Medicaid regulations that underpay primary care physicians and deny payment to advanced practice nurses are inconsistent with the few federal educational programs targeted to

71 Enterprise liability would require health plans that select providers and manage care to assume malpractice risk for the actions of their affiliated practitioners. This creates strong incentives to ensure that professional practice (including advanced nursing practice) is safe. Courts are beginning to hold insurers liable for the consequences of their utilization review decisions. *See, e.g.,* Wickline v. State, 239 Cal. Rptr. 810, 819 (Cal. Ct. App. 1986) (dictum).

72 *See* OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 30, at 53-66; Safriet, *supra* note 28, at 465-78.

73 Private payers also tend to restrict payment to advanced practice nurses based on their interpretation of state practice acts -- generally by reimbursing nurses only through a supervising physician.

increase the supply of primary care providers. This greatly undermines the potential of educational investments to influence the character of the workforce.

A significant problem with federal reimbursement policies is that many of the services that advanced practice nurses provide are not covered under Medicare or required to be covered under Medicaid. Nursing emphasizes "cognitive" services rather than procedures -- particularly preventive, rehabilitative and long-term care. Many of these services are not identified by Medicare or Medicaid as reimbursable, despite their proven health benefit. This is one reason that HMOs, which (as the name implies) stress "health maintenance," increasingly utilize advanced practice nurses.

Even for covered services, many restrictions currently exist under federal law that deny payment to advanced practice nurses unless they provide care in certain sites and bill for their services in specific ways.[74] For example, current Medicare regulations generally reimburse nurse practitioners only when working in designated rural areas and in nursing homes, and then only if working "in collaboration with" a physician.[75] Only rural nurse practitioners are eligible for direct Medicare reimbursement. Current federal Medicaid regulations mandate reimbursement only to advanced practice nurses serving in rural health clinics (if paid through the clinic), nurse midwives and pediatric and family nurse practitioners.[76]

Additional practitioner-based distinctions in federal reimbursement policy affect nurse midwives. Medicare and Medicaid reimbursement is limited to the "maternity cycle," and does not include routine gynecological care, which is within nurse midwives' generally accepted scope of practice.[77] This exclusion is particularly important for Medicare, the beneficiaries of which seldom require obstetrical services.

Medicare also pays advanced practice nurses less than physicians for covered services. Medicare reimbursement for nurse practitioners is "capped" at 75% of physician fees for services provided in hospitals and 85% of physician fees for services in other settings.[78] Medicare pays nurse midwives only 65% of the physician fee schedule amount.[79] This policy is inconsistent with Medicare's

74 *See* Safriet, *supra* note 28, at 465-78.
75 42 U.S.C.A. § 1395x(s)(2)(A), 1395x(s)(2)(H)(i), 1395x(s)(2)(K)(ii), 1395x(s)(2)(K)(iii), 1395x(aa)(6) (West 1992).
76 42 U.S.C.A. §§ 1396d(a)(17), 1396d(a)(21), 1395x(gg)(2) (West 1992). Unlike Medicare, which is an exclusively federal program, Medicaid laws establish the minimum that states must provide to beneficiaries. States are free to cover additional practitioners and services.
77 42 C.F.R. § 440.165(c) (1991).
78 42 U.S.C.A. § 1395*l*(r)(2)(A) (West 1992).
79 42 U.S.C.A. § 1395*l*(a)(1)(K) (West 1992)

new RBRVS reimbursement structure, which is intended to pay practitioners for the value they provide rather than for their level of training and style of practice.

Federal reimbursement policies have also had unintended, adverse consequences for nurse anesthetists. Billing restrictions on physician anesthesiologists imposed by the Tax Equity and Fiscal Responsibility Act of 1982 are frequently misinterpreted by hospitals as imposing supervision requirements on nurse anesthetists.[80]

Medicare and Medicaid restrictions discourage nurse providers from locating in the most underserved areas where there are no physicians or employing organizations. Because banks and other lenders require evidence of assured cash flow, limitations on reimbursement also make it extremely difficult for advance practice nurses to establish or expand nurse-managed practice arrangements.

Medicare and Medicaid should therefore be amended to provide direct reimbursement to advanced practice nurses for covered services within their permitted scope of practice under state law. In addition, the value of reimbursed services should be the same regardless of the identity of the provider. Finally, health professionals -- both physicians and advanced practice nurses -- should be given reimbursement "bonuses" to provide care to Medicaid recipients in rural and urban shortage areas. Inner city bonuses may become particularly important because the AIDS epidemic is centered in areas with long-standing health professional shortages.

One concern about extending reimbursement to advanced practice nurses is that the volume of services delivered will increase more than the price of each service will fall, leading to a rise in total health care spending.[81] However, services performed by nurses tend to be health maintaining and seldom involve expensive technology. To the extent that nursing care reduces the need for more expensive acute care services, any volume-related cost increase will be mitigated. In addition, advanced practice nurses are already providing these services in physician-owned enterprises, often without the supervision required by law. Moreover, because of the reimbursement restrictions, doctors often bill improperly for nurse practitioner services at higher physician rates. Current restrictive reimbursement policies therefore waste money rather than save it.

[80] Tax Equity and Fiscal Responsibility Act of 1982, Pub. L. No. 97-248, 96 Stat. 324 (1982); 42 C.F.R. § 405.552(a) (1992).

[81] *See* OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 30, at 8, 54-57. Reimbursement is only an issue in fee-for-service environments that have imperfect utilization controls; capitated systems such as HMOs employ cost-effective providers regardless of reimbursement arrangements.

Professional Barriers

Not all impediments to advanced nurse practice are the result of laws or government regulations. Barriers to the practice of nurse practitioners and nurse midwives have for some time included the high cost and limited availability of malpractice insurance as well as discrimination with regard to hospital privileges and participation in managed care arrangements.

Uncertainty over the cost and availability of malpractice insurance for nurse midwives -- given their relatively modest incomes and high-risk practice -- has long constituted a major impediment to the growth of nurse midwifery. Several studies have shown that obstetrical care by nurse midwives is of high quality, and insurance loss profiles for nurse midwives are more favorable than for obstetricians.[82] Nonetheless, the only commercial carrier willing to underwrite insurance for nurse midwives limited coverage to an amount well below that required by most hospitals for granting of practice privileges.[83] At the same time, other carriers -- predominantly companies owned or influenced by physicians -- refused to insure nurse midwives unless they were employed by physicians and, at the same time, imposed actuarially insupportable surcharges on physicians who employed them.[84]

State insurance authorities need to examine insurance practices carefully to ensure that the cost and availability of liability insurance reflect the actuarial risk of covering advanced practice nurses rather than anticompetitive behavior by physicians. Surcharges on physicians employing nurse midwives should also be subject to scrutiny. Additional benefit might be derived from the adoption of enterprise liability -- making health plans solely responsible for maintaining malpractice coverage offers advanced practice nurses and other health professionals an opportunity to overcome the restrictive practices of many physician-owned liability carriers. Enterprise liability would also level the liability-related financial incentives of hospitals and other organizations that currently choose between contracting with independent physicians and employing advanced practice nurses.

Hospitals frequently deny advanced practice nurses the right to admit patients except under the auspices of a staff physician.[85] This is particularly bur-

82 Mark D. Wood, *Monitoring Equipment and Loss Reduction: An Insurer's View, in* SAFETY AND COST CONTAINMENT IN ANESTHESIA 47 (J. S. Gravenstein & James F. Holzer eds., 1988).

83 *See* Cohn, *Professional Liability Insurance and Nurse-Midwifery Practice, in* 2 MEDICAL PROFESSIONAL LIABILITY AND THE DELIVERY OF OBSTETRICAL CARE 104, 107 (Rostow & Bulger eds., 1989).

84 *Id.* at 109-10.

85 *See, e.g.*, Helen V. Burst, *Hospital Practice Privileges, in* NURSE MIDWIFERY IN AMERICA 60 (Judith Rooks & J. Eugene Haas eds., 1986); Grey & Flint, *supra* note 67, at 341 (only 42.7% of surveyed pediatric nurse practitioners hold hospital privileges, and most hold only ancillary privileges).

densome for nurse midwives, whose patients often require inpatient care. In addition, practice privileges for nurse midwives often are subject to arbitrary and onerous requirements, such as an employment relationship between the nurse midwife and a physician, a physician's physical presence at the delivery, an agreement that the nurse midwife not participate in out-of-hospital births or physician countersignature of all nurse entries in the medical record.[86] Hospital privileges may also be important for advanced practice nurses taking care of psychiatric patients who may require hospital admission for side-effects of medication.

A professional barrier to advanced nurse practice that is taking on increased importance might be called the "IPA problem." Closed-panel group and staff model HMOs have considerable financial resources, are centered around well-defined institutional facilities and are accustomed to employing a variety of health professionals. However, most parts of the United States lack the concentration of patients, the capital to invest in the construction of facilities and the time required to establish this type of health care delivery system.

Increasingly, capitated health insurance plans are built around looser networks of providers in preferred provider organizations (PPOs), independent practice associations (IPAs) and point-of-service (POS) plans. These networks are generally composed of individual physicians and small group practices linked by contractual arrangements that include utilization review and other care management features. Small physician-oriented practices are less likely than large HMOs to employ advanced practice nurses or other non-physician primary care providers, and are more likely to exclude such providers based on competitive fears or professional biases.

Solving the IPA problem requires increased vigilance by health care purchasers and by state and federal antitrust authorities. For example, physicians who collectively refuse to establish contractual relationships with advanced practice nurses in order to maintain their competitive advantage, or who persuade hospitals or insurance plans to boycott nurses, may be in violation of the antitrust laws.[87] Health care purchasers -- such as large employers and the collective purchasing bodies called "health alliances" that have been proposed by the Clinton Administration -- will pay more for health care if anticompetitive practices occur, and may be able to exert influence over health plans to resist such maneuvers.

More importantly, the financial independence that will result from direct reimbursement will allow wholly or partially nurse-owned clinics or group

86 Burst, *supra* note 85, at 61-62.

87 *See* Bahn v. NME Hospitals, Inc., 772 F.2d 1467 (9th Cir. 1985) (nurse anesthetists have standing to sue under federal antitrust laws).

practices to join the universe of provider organizations that contract with managed care plans. Access to capital is arguably the most important barrier to advanced nurse practice in a health care environment characterized by integration and consolidation of existing enterprises. An improved financial position might also allow nurses or nursing organizations to pursue private antitrust litigation in appropriate instances.

A more difficult question is whether broad antidiscrimination legislation to protect advanced practice nurses would be sound public policy. Such legislation might prohibit hospitals from making credentialing decisions based on status as a nurse rather than as a physician, or might require physicians to include nurses in IPAs or other managed care contracting units. On the one hand, there is a long history of discrimination against advanced practice nurses by hospitals and physician-dominated organizations. On the other hand, selectivity is the essence of efficiency in the managed care setting.

For example, one of the greatest obstacles to the development of integrated health care delivery systems is the existence of state "anti-managed care" laws, some of which require that health insurers contract with, or allow patients to use, "any willing provider." Anti-managed care laws exist in approximately ten states, and were generally enacted either at the behest of physicians who feared that selective health plans would exclude physicians with expensive practice patterns and drive down fees or at the urging of ancillary health professionals such as chiropractors, podiatrists, pharmacists or dentists.[88] These laws, which make it extremely difficult for managed care organizations to control cost and quality, will probably not survive national health reform.

The enactment of similar legislation to benefit advanced practice nurses could ultimately breed litigation and chill the development of managed care systems that will be the best utilizers of nursing services. A compromise position might be to require hospitals and other institutional providers to establish a procedure to grant admitting privileges to advanced practice nurses as a condition of participation in Medicare and Medicaid. Among other things, this requirement would need to be accompanied by the liability insurance reforms discussed above.

BARRIERS TO TRAINING OF ADVANCED PRACTICE NURSES

Public investment in the health care workforce is essential to promoting diversity and to guaranteeing access to high quality care. Without public support,

[88] A full discussion of these laws is beyond the scope of this article. An overview may be found in DOUGLAS A. HASTINGS ET AL., THE INSIDER'S GUIDE TO MANAGED CARE: A LEGAL AND OPERATIONAL ROADMAP 49-51 (1990).

only the privileged would be able to afford health education -- especially medical school -- and practitioners would be forced to enter only the most lucrative specialties. However, the great majority of federal health educational subsidies are not targeted to achieve specific national policy goals, such as increasing the availability of primary care services. Support for advanced practice nursing offers an effective vehicle for increasing the number of primary care providers.

Despite the many barriers to practice that continue to confront advanced practice nurses, demand for their services currently exceeds supply. OTA commented in 1990 that four to seven jobs were reportedly available for each advanced practice nurse graduate.[89]

However, there are comparatively few training programs for advanced practice nurses, and funding for these institutions is scarce. As of October 1991, 92 schools offered 217 nurse practitioner programs; only fifteen programs were in midwifery.[90] These programs graduated 1,180 nurse practitioners, ten percent of whom were nurse midwives.[91] Several problems related to the education of advanced practice nurses have limited the growth of the profession.[92] First, advanced practice nurse training programs are expensive for schools to maintain. Because tuition does not cover costs, schools are unable to expand, and may not be able to maintain, enrollment levels without program grant support. Second, the present and anticipated incomes of advanced practice nursing students are inadequate to support the educational debt they currently assume. An increase in direct student aid is therefore needed. Third, there are not enough faculty members with the clinical expertise necessary to prepare advanced nurse practitioners. Fourth, the educational system for basic nursing lacks standardization, reducing the pool of qualified applicants for advanced programs.

The federal government has been instrumental in the development of advanced practice nursing through direct student subsidies and grants to schools of nursing to develop strong educational programs. Federal investment in nurse practitioner and nurse midwifery programs peaked in 1978, with 80 grants supporting 111 programs.[93] In 1992, however, 65 grants totalling only $14 million were made to 52 nurse practitioner programs and 29 nurse midwife programs.[94] National Health Service Corps support has also declined -- in 1991,

89 OFFICE OF TECHNOLOGY ASSESSMENT, *supra* note 8, at 251.
90 National League for Nursing, *Leaders in the Making: Graduate Education in Nursing, in* 3 NURSING DATASOURCE 16 (1992).
91 *Id.* at 33.
92 *See* Claire M. Fagin & Joan E. Lynaugh, *Reaping the Rewards of Radical Change: A New Agenda for Nursing Education*, 40 NURSING OUTLOOK 213 (1992).
93 *See* Denise H. Geolot, *Nurse Practitioner Education: Observations From a National Perspective*, 35 NURSING OUTLOOK 132, 133 (1987).
94 BUREAU OF HEALTH PROFESSIONS, U.S. DEP'T OF HEALTH AND HUMAN SERVS., ANNUAL REPORT, ADVANCED NURSE EDUCATION PROGRAM (1992).

only 31 nurse practitioner students and 17 nurse midwifery students received scholarships.[95] Funding for nurse practitioner and nurse midwife programs is scheduled to be sharply reduced over the next two fiscal years.

Medicare GME policies need to be restructured to reflect the contributions that advanced practice nurses can make to national health reform. One possibility would be to develop a policy of federal "graduate health education" support for *all* practitioners -- physicians, advanced practice nurses and physician assistants -- who are capable of providing primary or specialty care. Receipt of public funds might be conditioned on producing sufficient numbers of primary care providers, placing practitioners in underserved areas, encouraging diversity and implementing interdisciplinary training in a variety of practice settings. Until such a major restructuring of federal workforce subsidies is undertaken, however, funding must be increased to existing programs that support the training of advanced practice nurses.

CONCLUSION: A BUSINESS PLAN FOR THE HEALTH CARE WORKFORCE

Current federal and state policies with respect to advanced practice nurses pull the market for training and the market for practice in opposite directions. While policymakers decry the shortage of primary care practitioners and urge support for targeted health education, restrictions on scope of practice and right to reimbursement limit employment opportunities and discourage potential applicants. In addition, long-standing professional biases, coupled with financial self-interest in an increasingly price-competitive environment, continue to lead physicians to regard advanced practice nurses as rivals rather than colleagues.

Demand for advanced practice nurses is expected to rise significantly as managed care plans grow and as national health care reform is implemented. To meet this need, the actions outlined in this article must be initiated and the markets for training and practice made congruent. Critical interventions with respect to advanced nursing education include funding for educational programs, faculty support and student aid, preferably as part of a wholesale revision of public investment in training health care professionals. Complementary interventions with respect to the practice of advanced nursing include breaking down existing legal, financial and professional barriers -- particularly those that inappropriately bind advanced practice nurses to physicians.

Advanced practice nurses are capable of delivering high-quality, cost-effective primary care. They and other primary care providers can play an important role in staffing national health care reform. This will only happen, however,

[95] HEALTH RESOURCES AND SERVICES ADMINISTRATION, U.S. DEPT OF HEALTH AND HUMAN SERVS., NATIONAL HEALTH SERVICE CORPS REPORT (1991).

if government, health care purchasers, providers and educators work together to craft a meaningful business plan.