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The New Generation Of Nurse Practitioners: Is More Enough?

A boom in nurse practitioner education has added significantly to the workforce of clinicians. Where can nurse practitioners’ expertise best be used?

by Doreen C. Harper and Jean Johnson

Health workforce planning for the twenty-first century has entered a new era with recent changes in the supply of and demand for clinicians. The emphasis on producing primary care clinicians has shifted from an assumption of undersupply in the early 1990s toward a possible surplus in today’s market. Policymakers and health care executives continue to be concerned with finding the appropriate mix and distribution of clinicians to maximize quality and minimize cost.

Nurse practitioners (NPs) have been part of the health professional workforce for more than three decades and have contributed substantially to providing primary and preventive care throughout the nation. Although NPs are prepared to provide up to 80 percent of the tasks performed by generalist physicians in primary care settings, they often are underused in these settings. Since NPs form a significant portion of the primary care workforce, it is important to examine changes in the production of NPs, such as educational preparation, that influence NP supply and overall health workforce policy. This paper explores three key policy questions related to the NP workforce: (1) How is the supply of NPs changing? (2) How does the NP workforce “fit” within the context of advanced practice and professional nursing? (3) What is the appropriate mix of primary care clinicians required for the future health workforce?

Policy Forces Influencing NP Preparation

Health policy recommendations and market trends converged to augment the role and preparation of NPs in the 1990s. In 1993 President Bill Clinton’s health care reform initiative provided policy support for NPs as primary care providers. During this period the Pew Health Professions Commission recommended expanding the use of NPs and called for a doubling of the NP workforce by 2005. The Institute of Medicine explicitly recognized NPs as an integral part of the primary care team. In addition, several national reports and literature reviews recognized NPs as affordable, accessible, high-quality care providers. The recent passage of direct Medicare reimbursement for NPs reflected public policymakers’ continuing support for NPs as primary care providers. These policy statements coincided with and likely contributed to a growth spurt in the NP workforce during the 1990s as graduate NP programs expanded within schools of nursing.

The financial support of the federal government also has been instrumental in developing...
The role of the NP. NP educational programs have received consistent appropriations since 1976 from the U.S. Department of Health and Human Services (HHS) Division of Nursing Programs through Title VIII under Section 822 of the Public Health Service Act. Appropriations have ranged from $3 million in 1976 to $16 million in 1996, with these awards supporting seventeen and sixty-five grants, respectively, and more than 1,500 programs (although growth in the number of programs led to a decrease in the percentage of total programs supported by the federal government).

From 1965 to 1977 NP programs offered traditional primary care clinical tracks (adult, family, women’s health, and pediatrics) for relatively small clusters of students in a variety of institutional settings. Initially, NPs were educated through continuing education programs located in schools of medicine, hospitals, and other private organizations, such as Planned Parenthood. From 1978 to 1990 these educational programs were incorporated into graduate schools of nursing. By 1990 the majority of NPs received educational preparation in master’s-level nursing programs. Graduate programs for NPs grew slowly but steadily during this time with federal support through Title VIII funding. At the same time, NP practice became firmly established in the regulatory environment, with nearly every state recognizing NP practice in respective nurse practice acts. In addition, the acquisition of reimbursement from third-party payers and prescriptive authority strengthened the practice potential.

The progressive growth between 1978 and 1990 established a substantial infrastructure for supporting NP education. Therefore, in the early 1990s, when policymakers called for increased numbers of primary care providers, graduate NP programs were positioned and eager to meet this demand. These programs continued to expand as increases occurred in the number of institutions initiating NP programs, the number and types of NP clinical tracks being offered, and the number of students and faculty in these programs. The NP educational enterprise became a significant part of the graduate nursing education program, and a new emphasis was placed on post-master’s NP programs designed for master’s-prepared clinical nurse specialists and nurse managers. As the health care system shifted hospital nursing resources toward community-based care, these master’s-level nurses sought additional NP preparation.

This expansion in graduate nursing programs has generated controversy regarding the number, distribution, and types of NPs needed in the future health workforce. The prevailing wisdom is that there is no need to increase the supply of NPs, but other literature highlights the cost savings associated with an increased supply of all types of NPs. The use of NPs in large group practices also has been cited as an alternative to expanding the primary care physician workforce.

**Describing the NP Educational Enterprise**

To assess the preparation and supply of nurse practitioners, the National Organization of Nurse Practitioner Faculties (NONPF) conducted three surveys of NP programs spanning the period from 1990 to 1995. Surveys were sent to institutions in the spring of 1991, 1993, and 1995. Each survey asked for information for the current year as well as previous years. The findings of these three surveys have allowed NONPF and NP educators to begin to assess changes in the NP workforce during a critical time of change. The results are intended to contribute to the discussion on workforce policy recognizing the need to integrate workforce information about nurses, physician assistants, and physicians to develop a rational, overall workforce policy at the national, state, and local levels.

NP programs were identified using multiple strategies, including the 1992 and 1994 NONPF National NP Education Program Directory for the year of the survey, self-referral, referral by other program directors, and advertising in NONPF and other NP organizational newsletters. Surveys were distributed to NP program directors and/or coordinators. Multiple
attempts were made to include all NP programs in each survey. Data collection extended from April through October for each of the surveys, with repeated mailings and telephone follow-up to nonresponders.

Although other sources of data on graduate nursing programs have provided summaries of NP program changes, the NONPF surveys collect information and track trends about NP preparation at all levels, including master’s, post-master’s, and certificate or post-basic registered nurse (RN) programs. Master’s and post-master’s programs are offered as graduate course work and award graduate degrees or credit in schools of nursing, whereas post-basic RN programs most often award continuing education credits. Prerequisites for the graduate NP programs include RN license, a bachelor’s degree in nursing for master’s preparation or an RN license, and a master’s degree in nursing for post-master’s preparation. NP educational programs are defined as the educational structure in which one or more NP clinical tracks are offered. NP clinical tracks, in turn, offer curriculum and supervised clinical experiences that match standards in specific practice areas such as family (FNP), adult (ANP), geriatrics (GNP), pediatrics (PNP), women’s health (WHNP), neonatal (NNP), and acute care (ACNP).

The first survey (1988–1990) was sent in 1991 to 101 institutions representing 210 clinical tracks; 147 tracks responded for a response rate of 70 percent. The second survey (1991–1992) was sent in 1993 to 119 institutions representing 253 tracks; 173 tracks responded for a response rate of 68.5 percent. The third survey (1993–1995) was sent in 1995 to 391 programs at 202 institutions representing 527 tracks; 423 tracks responded for a response rate of 80 percent. The unit of analysis is the clinical track (family, adult, women’s health, and pediatrics). Respondents for each of these three surveys constituted the sample for the known universe of NP programs.

The results of these surveys show a striking increase in the number of institutions that offer NP programs and in the number of clinical tracks offered. The number of academic institutions with NP tracks increased from 101 in 1990 to 119 in 1992 to 202 in 1995. The number of clinical tracks more than doubled between 1992 and 1995, increasing from 210 in 1990 to 253 in 1992 to 527 in 1995. The preparation of NPs occurs predominantly in master’s and post-master’s programs, and there were huge increases between 1992 and 1995 in the number of programs at each of these levels. In 1992 there were nineteen certificate programs, eighty-eight master’s programs, and thirty-seven post-master’s programs. By 1995 these numbers had increased to twenty-nine certificate programs, 383 master’s programs, and 252 post-master’s programs.

The largest growth in actual numbers of tracks occurred in the family and adult NP primary care tracks (Exhibit 1). However, the greatest increase occurred in specialty tracks. Specialty tracks represented 18.2 percent of all NP tracks in 1992 and 23.2 percent in 1995. Within the specialty tracks, the acute care, other, and psychiatric NP tracks increased at the highest rates.

We found moderate increases in the numbers of NP program applicants, enrollees, and graduates between 1990 and 1992, followed by slight decreases in 1993 and substantial increases after 1993 (Exhibit 2). The decrease in 1993 might be spurious because of the rapid increase in new programs and the variability in item response rates among new program directors who were not familiar with the NONPF survey. Approximately 50 percent of enrollees in master’s and post-master’s tracks in 1995 were part-time students. The total number of graduates increased from 1,537 in
1992 to 3,105 in 1995; however, the increase in graduations lagged behind the increase in enrollees because of the large number of part-time students. In 1995, 80.9 percent of enrollees (6,414) sought master’s-level preparation, while 13.3 percent (1,057) were in post-master’s programs and 5.7 percent (455) were in post-basic RN certificate tracks.

**Policy Issues and Implications**

**Change in Supply.** In the early 1990s, when the policy community gave a green light to educational institutions to increase nurse practitioner production, some institutions saw an opportunity to prepare a cadre of NPs who could provide services to specific constituents, particularly underserved populations. Others saw an opportunity to alleviate budgetary pressures by expanding tuition revenue and gaining access to federal support (albeit limited) for NP programs. Our findings show a dramatic increase in the number of NP students and graduates throughout this period as well as an increase in the number of programs and tracks offered.

At the same time that support for primary care and NP practice increased, a decline in hospital bed days resulted in less need for hospital-based nurses. In response to potential job loss and a perceived positive climate for primary care, many nurses who were already prepared at the master’s level as clinical nurse specialists opted to pursue retraining as NPs in post-master’s programs. Our survey findings reflect this changed health care environment, showing notable program growth in master’s and post-master’s programs. There also were indications that NP practice was expanding into new clinical areas as evidenced by new types of tracks, particularly in acute care and psychiatry. The increase in acute care NP students likely reflects the increased demand from hospitals and other acute care settings as the resident pool recedes and the retraining of nurses already in acute care settings.

The implications of the increase in the number of NPs are not yet known. Some have expressed concern about a potential oversupply of NPs. Others believe that the demand for NP services will continue to grow because managed care organizations find NPs to be

<table>
<thead>
<tr>
<th>EXHIBIT 1</th>
<th>Growth In Primary Care And Specialty Tracks For Nurse Practitioners, 1992 And 1995</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1992</td>
</tr>
<tr>
<td>Primary care tracks</td>
<td></td>
</tr>
<tr>
<td>Family practice</td>
<td>71</td>
</tr>
<tr>
<td>Women’s health and OB/GYN</td>
<td>31</td>
</tr>
<tr>
<td>Adult health</td>
<td>30</td>
</tr>
<tr>
<td>School health</td>
<td>3</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>37</td>
</tr>
<tr>
<td>Gerontology</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>207</td>
</tr>
<tr>
<td>Specialty tracks</td>
<td></td>
</tr>
<tr>
<td>Neonatal care</td>
<td>27</td>
</tr>
<tr>
<td>Acute care</td>
<td>1</td>
</tr>
<tr>
<td>Occupational therapy</td>
<td>3</td>
</tr>
<tr>
<td>Psychiatric care</td>
<td>3</td>
</tr>
<tr>
<td>Other</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>46</td>
</tr>
</tbody>
</table>

**Source:** National Organization of Nurse Practitioner Faculties, 1992 and 1995.

**Notes:** OB/GYN is obstetrics and gynecology. “Other” includes acute care subspecialties such as pediatric critical care, neurosurgical cardiology, and tertiary care.
cost-effective providers. The original calls to double the NP workforce have abated with recommendations that the rapid expansion of programs stabilize.

THE NURSING PROFESSION. Discussions of the NP workforce have centered on the numbers needed in primary care to balance the supply and demand of physicians and physician assistants. Although these are important discussions, they tend to overlook the roles and potential roles that NPs play as part of the nursing profession. NPs increasingly serve as the clinical decision-making experts within nursing because of their diagnostic, management, and prescriptive skills and training. This definition of NPs’ role goes beyond the settings in which they work or the populations they serve and focuses on their clinical expertise.

If we look at NPs as clinical nursing experts, the supply issue takes on a different perspective. Based on the HHS Division of Nursing’s National Sample Survey of Registered Nurses data for 1996, an estimated 2.5 million nurses are currently licensed, of whom about 71,000 are prepared as NPs. NPs therefore represent approximately 2.8 percent of the total nursing workforce. They represent 44 percent of all advanced practice nurses, who represent about 6.3 percent of the total RN population. By these estimates, NPs are a very small percentage of all nurses. From a professional perspective, nursing practice would be enhanced if a greater portion of nurses were NPs. Allowing NP production to grow until NPs represent a substantial portion of the total nursing workforce would enhance the clinical decision-making capacity of nurses in all settings.

FUTURE WORKFORCE NEEDS. The spiraling changes in the NP supply are paralleled in the supply of physician assistants. When combined with the existing physician supply, these increases in the numbers of NPs and physician assistants are likely to contribute to a clinician surplus. Absent a national health policy, interactive factors such as market forces, provider preference, and federal and state support will continue to determine the size, composition, and distribution of the clinician workforce. Specific policy-making bodies, foundations, and organizations have recommended a reduction and/or stabilization within specific disciplines to balance supply and demand.
providers, we assume some division of labor among persons with complementary skills. However, we know very little about what team composition will provide the most effective care at the least cost. The increased older population and its attendant chronic disease burden will expand the need for clinical services across settings, and the optimal use of NPs could help to improve this population’s access to health care and preventive services. Likewise, managed care organizations that seek to deliver cost-effective care to their enrollees could expand their use of NPs and physician assistants in interdisciplinary teams based on scope of practice.

Models of interdisciplinary team practice should be factored into the development and planning of the health workforce. Innovative models of interdisciplinary team practice, particularly for delivering services to the chronically ill and other populations in managed care, would provide opportunities for matching the mix of clinicians with populations’ needs. Steps for the creation of a coherent workforce model might include (1) establishing a dialogue among these disciplines and policymakers by forming a consortium of representatives from educational and professional organizations; (2) establishing national and state policy for health workforce needs; and (3) conducting research to determine how interdisciplinary teams can best be used in population-based care and chronic care to improve cost-effectiveness and clinical outcomes.

Nurse Practitioner workforce production has expanded rapidly. The data on NP education in this paper can be used to inform policymakers and others interested in primary care workforce issues. The phenomenal growth of the NP educational enterprise in graduate nursing programs represents a transition that should be monitored to assess whether the current level of NP production will result in a surplus, a deficit, or an appropriate number of NPs in the twenty-first century. Purposeful workforce planning for the health professions should consider all disciplines, including physicians, physician assistants, NPs, and nurses. Such planning calls for national and statewide policy to guide the production and distribution of all clinicians.

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NOTES
2. Pew Health Professions Commission, Critical Challenges Revitalizing the Health Professions for the Twenty-first Century (San Francisco: UCSF Center for the Health Professions, 1995); Pew Health Professions Commission, Nurse Practitioners: Doubling the Number of Graduates by the Year 2000 (San Francisco: UCSF Center for the Health Professions, 1994).
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