

Growing role of nurse practitioners

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Nurse practitioners (NPs), long regarded as key players in the primary health care delivery system, are poised for expanded clinical practice opportunities. A shift to doctoral-level training, new board certification based on a physician exam, and growing demand in new practice settings such as retail health clinics point to an impending expansion of NP autonomy and scope of practice, inevitably raising concerns about its impacts on quality and safety of care. Reality has outpaced the debate over those issues, however, given the intensifying shortage of primary care providers and health care workforce demands that place a premium on collaboration between NPs and physicians.

By 2015, only Doctor of Nurse Practice (DNP) programs will be recognized by the accrediting body of the American Association of Colleges of Nursing (AACN) – which includes about 200 member schools that offer advanced degrees to nurse practitioners, nurse anesthetists, clinical nurse specialists and nurse midwives. By this fall, the National Board of Medical Examiners (NBME) will begin offering part of the United States Medical Licensing Examination (USMLE) – the physicians’ medical board exam – as certification of DNPs’ advanced training. Passing that exam is "intended to provide further evidence to the public that DNP certificants are qualified to provide comprehensive patient care," according to the Council for the Advancement of Comprehensive Care (CACC), a consortium of academic and health policy leaders promoting the clinical doctoral degree for primary care nurses.

In the past, such developments would signify that the nursing profession was spoiling for another turf war with physicians, using the DNP degree as a wedge to further expand nurses’ autonomy and scope of practice. Physician groups including the American Medical Association, the American Academy of Family Physicians (AAFP), and the American College of Physicians (ACP) continue to oppose any move to eliminate physician supervisory requirements for NP practice, maintaining that accurate diagnoses and effective care for complex patients with multiple problems demands a physician’s additional years of education and clinical training. NPs working outside a physician-led team, they say, could compromise patient safety.

For years, the curriculum of Masters-level programs in advanced practice nursing has grown in both length and complexity to keep pace with the growing complexity of evidence-based health care science and the systems for its delivery – to a level that would constitute a doctoral degree in most other professions. The new degree, NP leaders say, recognizes the expanded didactic and clinical requirements of existing programs, and seeks to solidify a level of public confidence that NPs have already earned.

According to a widely-cited assessment by the congressional Office of Technology Assessment, NPs can deliver as much as 80 percent of the health services provided by primary care physicians. But it is precisely a physician's advanced clinical education and training, groups like the AMA, AAFP and ACP counter, that is needed to identify that 20 percent of medically complex patients with multiple or difficult-to-diagnose problems, and to render services safely and effectively. "On a given day, a nurse practitioner *can* take care of about 80 percent of patients – based on *quantity*. But it's not 80 percent of the knowledge – to recognize life-threatening presentations and the more acutely sick patients," says AAFP President **James King, M.D.**

Quality Debate

Within the physician community, the policy debate of whether NPs practicing independently can render primary care as safely and effectively as physicians is not satisfactorily settled, despite decades of research, including a frequently-cited landmark study headed by Mary O. Mundinger, Dr.P.H., dean of Columbia University's School of Nursing, which was published in the *Journal of the American Medical Association* in 2000, and is one of the few involving the "gold standard" randomized clinical trial methodology. The ACP and AAFP cite methodological shortcomings of that and other NP quality research – e.g., study period too brief, patient population too narrow, sample of difficult diagnoses and episodes of severe illness inadequate – and they maintain that, until there is more conclusive evidence of outcome parity between physicians and NPs, NPs should practice only under the direction and supervision of a licensed physician. (The ACP is currently reviewing its eight-year-old policy statement to that effect.)

Mundinger counters that outcomes of primary care physicians are not necessarily the gold standard of quality against which to measure NPs' outcomes. "There are no national data that show how physicians impact quality of care, so half of the data haven't been collected," she says.

Meanwhile, NPs have been rendering a variety of primary care services for decades, which according to the AACN includes obtaining medical histories and conducting physical exams; diagnosing and treating common acute health problems such as infections and injuries; diagnosing and managing chronic problems such as high blood pressure and diabetes; ordering and interpreting X-

rays and lab tests; providing prenatal care and family planning services; providing well-child care, including screenings and immunizations; and counseling patients on disease prevention. NPs meet basic health care needs in underserved rural areas and inner cities, and they deliver primary care to underserved populations such as children in school settings and the elderly.

In acute care settings, the AACN notes, nurse practitioners perform a variety of invasive therapeutic procedures such as inserting and removing arterial lines and pulmonary artery catheters, ensuring continuity of care by following patients within the hospital and post-discharge, and carrying out roles once reserved for medical residents, such as treating acute health problems and managing chronic illnesses.

Autonomy Debate

To health care policy analysts, including some physician leaders, these practice realities have effectively moved the debate beyond whether or not NPs can or should practice independent of physician supervision, or whether the DNP degree will accelerate autonomous or expanded primary care practice for NPs. More important, they say, is discovering optimal models of collaboration between NPs and physicians to meet growing market demands for primary care.

The very concept of autonomous practice is a red herring, these analysts maintain, as even solo primary care physicians regularly consult with colleagues and refer patients to other practitioners as their judgment dictates. The physician community must trust the judgment of NPs to continue to seek appropriate consultation and referrals, according to **Michael E. Whitcomb, M.D.**, former senior vice president for medical education of the Association of American Medical Colleges, and former editor of *Academic Medicine*.

NPs themselves acknowledge that they thrive on the ability to consult with others, and that they occasionally encounter clinical circumstances outside of their comfort zone that call for the additional training of a physician. While they believe that DNP training and certification can only enhance patient care, they say those developments will not dilute the need for a readily available network of experienced clinicians with whom to collaborate.

In any case, there may not be enough troops to fight a turf war, as acute shortages of primary care practitioners are projected to intensify with an aging population and the rapidly growing need for chronic care management. New Jersey, for example, had only 16.8 family-practice physicians for every 100,000 persons in 2006, compared with the national average of 26.4 such physicians, according to a report last year by the Rutgers Center for State Health Policy. The most recent survey for the Medicare Payment Advisory Commission found that 29 percent of Medicare beneficiaries had problems finding a primary care physician, compared with 17 percent of younger patients who were privately

insured. The U.S. will need 40 percent more primary care physicians by 2020, according to ACP and AAFP projections.

The supply of NPs as well, let alone DNPs, is projected to fall far short of the demand for their services in the foreseeable future, which analysts say is especially strong in physician group practices, particularly specialty practices such as oncology, endocrinology, cardiology and transplant surgery – which have a growing need of NPs to manage their patients’ primary care and chronic health needs.

Given the growing shortage of primary care providers, it is inevitable that more patients will be seen by practitioners with less training than physicians, and it is virtually certain that DNP graduates will provide a number of services that have traditionally been viewed as being solely within the domain of physicians, often within fully integrated practice settings throughout the health care delivery system, according to Whitcomb. These changes require the medical and nursing communities to create appropriate collaborative relationships to ensure that DNPs can safely and effectively carry out the scope of practice they will be trained and authorized to conduct, he adds.

Doctoral Degree Implications

A more intensely-prepared NP workforce is already in the making, and the AACN’s rationale for an outright transition to the DNP degree was to accurately reflect the growing length and complexity of education that Masters-degree advanced practice nursing programs were already providing, paralleling the explosion in new scientific evidence, information and technology over the past two decades.

Those developments have been incorporated into the essential competencies expected of a DNP graduate, whose program includes an additional year of residency-type practicum training, and curriculum that reflects the growing importance of evidence-based practice and population-based chronic care management, according the AACN. Some of those competencies, for example, are:

- Using analytic methods to critically appraise existing literature and other evidence to determine and implement the best evidence for practice.
- Designing and implementing processes to evaluate outcomes of practice, practice patterns and systems of care against national benchmarks to determine variances in practice outcomes and population trends.
- Designing, directing and evaluating quality improvement methodologies.
- Using information technology and research methods appropriately to inform

and guide the design of databases, analyzing data from practice and designing evidence-based interventions.

- Analyzing epidemiological, biostatistical, environmental and other appropriate scientific data related to individual, aggregate and population health.
- Evaluating care delivery models and strategies using concepts related to community, environmental and occupational health, and cultural and socioeconomic dimensions of health.

"We are not reconceptualizing the role of advanced practice nurses. We are reconceptualizing the educational requirements to stay current with a complex health care environment. It is clear that changing demands of practice require taking more coursework to stay safe and current," according to Polly Bednash, Ph.D., RN, FAAN, executive director of the AACN. Because of their expanding clinical knowledge base, NP Masters programs had already grown to 70 credits of coursework, compared to a 36-credit load of a typical Masters program, she notes. Masters-level NPs can continue to practice until retirement, or can take 12 months of full-time post-Masters study to acquire the additional doctoral-level competencies. "The most common DNP student is one with a Masters degree wanting the additional skills, adds Bednash.

Four years of graduate education also broadens NP training beyond a site-specific focus on ambulatory settings, and prepares them for comprehensive oversight of primary care services, including management of chronic illness and care in hospitals, ERs and other settings, according to Mundinger, who is also the chief organizer of the CACC, which is promoting the DNP degree.

Mundinger believes that the DNP degree itself is not a reliable indicator of the clinical competency level of an advanced practice nurse, noting that some programs focus heavily on administration, and she says the public doesn't know what the DNP degree signifies. To establish a consistent standard of competence and public confidence, Mundinger says the CACC has created a DNP board certification for state-licensed RNs who hold a national certification in advanced practice nursing, hold a DNP degree, and pass a certification exam to be administered by the NBME, under contract by the CACC. The NBME was chosen, says Mundinger, because it is a "proven source" of exam development, and the exam will test the additional clinical knowledge base that the DNP with a clinical focus is intended to achieve.

The exam will use retired items from Step 3 of the physician USMLE, which assesses whether the examinee can apply medical knowledge and understanding of biomedical and clinical science essential for the unsupervised practice of medicine, with emphasis on patient management in ambulatory settings, according to **Richard E. Hawkins, M.D.**, the NBME's vice president of assessment programs. The exam will provide some assurances that graduates

from multiple DNP programs meet the same standards, offer an additional measure of competence, and potentially enhance a certificant's opportunities for employment, and hospital credentialing and admitting, says Hawkins, who expects the exam to be administered by the fall.

The exam is not without controversy. The AANP believes that the use of a medical profession's exam is inappropriate, noting that there are a number of psychometrically sound national certification examinations for NPs. "The nursing profession already has in place a strong and well-respected system of nationally-recognized certifying bodies with rigorously-tested exams," says Bednash, adding that the AACN is joining the CACC to examine the significance of using part of the USMLE as a certification for DNPs, and whether its questions represent relevant and valid measures of DNP competence. "The exam's supporters believe that if they can show that DNPs can pass that exam, it will somehow validate their comparability to the knowledge of physicians," which Bednash says might inappropriately invite the perception that nurses are "trying to be a mini doctor."

From a physician's standpoint, the exam does not necessarily test a DNP's ability to take care of patients, and is not equivalent to a physician's seven years of training – which includes three years of residency training, says King.

Competitive Threat Unlikely

Because of a significant shortage of NPs and DNPs relative to the demand for them by employers in the marketplace, it appears unlikely that NPs or DNPs will be setting up private practice shingles that pose a competitive threat to primary care physicians, at least in the near-term.

Only 6,000 NPs graduate each year in the U.S., according to Mary Jo Goolsby, Ed.D., MSN, NP-C, FAANP, director of research and education for the American Academy of Nurse Practitioners. Most are trained as primary care providers in various settings: family practice (47.3 percent), adult medicine (19.7 percent), women's health (9.4 percent), pediatric (8.8 percent), gerontological (3.6 percent); while other settings include acute care (5.6 percent), psychiatric/mental health (2.9 percent), neonatal (1.8 percent), and oncology (1.1 percent). Of the 125,000 NPs currently recognized for practice in the U.S., approximately two percent had a DNP degree in 2004, the most recent figure available, Goolsby adds.

There are currently 53 DNP programs, with 63 more being planned, while the number of DNP graduates in 2007 was 122, and the number of current DNP students enrolled is 1,874, according to AACN's report titled *2007-2008 Enrollment and Graduations in Baccalaureate and Graduate Programs in Nursing*. The AACN's latest survey data on employment plans for current DNP students indicates that most (37 percent) plan to take a faculty position at a

school or college of nursing, while 16 percent plan to take a hospital administrative or executive position, and only seven percent plan to take an ambulatory clinical position. Nineteen percent had not declared specific employment plans.

Even if all new NPs practiced in primary care, whether independently or not, the services they could deliver would be equivalent to approximately 25,000 primary care physicians, while the projected deficit of primary care physicians in 2015 will be twice that number, according to **Richard A. Cooper, M.D.**, professor of medicine at the University of Pennsylvania, and senior fellow at the Leonard David Institute of Health Economics. The 80-hour per week workload cap on residents has greatly intensified demand for NPs in hospital settings to fill the workforce gap, while a shortage of specialty physicians – such as urologists – has created a huge demand for NPs in physician specialty practices, Cooper adds.

"The definition of primary care has expanded," says Cooper, noting that chronic disease management can occur in a specialty practice, for example, an NP providing non-acute care to patients in a cardiologist's office, or following patients of a transplant surgeon who are under the umbrella of an immunosuppressant drug. "That's one reason this doctoral-level program is so important: ratcheting up the training level of nurse practitioners so they can work with more complex patients, not to be independent in a community clinic handling the common cold or checking blood pressure," says Cooper. "Who is going to take care of 10 million cancer survivors with very special follow-up care needs? *That's* the new world of medicine: 'post-cure' management," he adds.

Bednash agrees. "The employer market is soaking up NPs, and the supply can't meet the demand," she says. Specialty physician group practices "want NPs as fast as they can get them to oversee the primary care needs of complex patients," and becoming a practice partner within a physician group or a primary care clinic is the most common employment pattern for NPs, Bednash adds.

Mundinger also discounts the concern that DNPs will push for autonomy: "Nurse practitioners are not so focused on setting up solo practices. A lot are attracted to group practices, such as being the lead primary care provider in an oncology, neurology or transplant surgical practice," she says, noting that most of her program's graduates have gone on to be the "the new comprehensive care provider" in such specialty practices. The biggest opportunities for DNPs to apply their advanced clinical skills, Mundinger believes, are in practice settings that provide comprehensive care for patients with multiple chronic illnesses, which she says are pulling more primary care providers of all kinds out of generalist settings. "The best model of collaborative care," says Mundinger, "is a partnership between specialist physicians and DNP nurses."

Mundinger believes that NPs' *authority* in the health care delivery system is growing, given their more sophisticated training, as well as a vote of confidence by the Medicare and Medicaid programs, both of which have directly reimbursed NPs for over a decade, joined by some private insurers. Medicare reimburses NPs at 85 percent of the physician fee (95 percent in underserved areas), she notes.

"I've been told that the DNP movement is not a way for them to come in and replace physicians, or even increase the number of NPs in primary care, as a large number are going into administration and research instead of patient care," says King. "We've moved beyond the either/or. Both groups are needed. We need to see both working appropriately, and 95 percent of NPs who go into patient care want to work with physicians," he adds.

Even if DNPs eventually migrated toward more autonomous care, a proper response by physicians to the projected primary care shortage demands a willingness to acknowledge the need for other health care practitioners to deliver services traditionally delivered by physicians, according to Whitcomb. "I don't think the medical community's position against autonomous NP practice is justified," he says, noting that, in the absence of a sufficient supply of primary care physicians, "it is not responsible to say that patients can get no care."

"The 'autonomy' issue is no longer relevant," Whitcomb maintains, as many state requirements that NPs collaborate with physicians are "more collaborative in name than in reality," and NPs are the primary, or only, contact a patient has until they require specialty care.

At the same time, Whitcomb acknowledges that DNPs "don't come close to the level of clinical training of internal medicine or family physicians," and that "there has to be an understanding of that within the nursing profession." He believes that the medical board exam's use for DNP certification will come under criticism, perhaps eventually being used politically by the nursing profession to push for scope of practice expansion. "Passing the USMLE Step 3 is *not* equivalent to clinical experience, and is typically passed by the first year of a physician's residency before two additional years of clinical training," says Whitcomb.

That additional training, however, is hard to translate into a specific list of "physician-only" services, and as long as nurse practitioners understand the limits of their own experience and training, Whitcomb believes, the 'doctor' title in DNP is an acceptable way of instilling confidence in patients and physicians.

Collaboration Prized

NPs say they thrive on consultations with experienced clinicians, and they seek

physicians for clinical circumstances outside of their comfort zone.

At facilities with on-site physicians, NPs seek consultation for complex health care issues such as intractable CHF, UTIs accompanied by bleeding and other complications, making specific diagnoses from a CAT scan, and chemical compounding of medications, says Betsy Dalton, MSN, CRNP, one of seven NPs who practices at the University of Pennsylvania School of Nursing's Penn LIFE Program, a freestanding elder care center in Philadelphia that includes on-site physicians and an interdisciplinary team of therapists who provide "one-stop health care shopping" for about 340 nursing home-eligible members. NPs at the facility oversee and manage health care issues including diabetes, dementia, osteoarthritis, urinary tract infections, respiratory infections; and order tests and drugs such as X-rays and antibiotics, says Dalton.

"Our patients average four to five comorbidities. If they are stable, we can manage them. If one system fails, or if acute symptoms of a chronic illness are not responding to treatment, that is beyond the scope of handling independently," she notes. "We also use our physicians' expertise for updates and brainstorming. We can make an independent decision to send a patient to the ER, but a physician is usually on-site, and we will have them evaluate such a patient with us," says Dalton. "I never see what we do as competitive with physicians. Our collaboration and collegiality are very rewarding, and our main goal is to keep our patients well and their families informed," she adds.

When no physicians are on-site, NP consultation patterns are shaped by the level of experience of on-site colleagues. At the three sites of the Family Practice and Counseling Network, a Federally Qualified Health Center in Philadelphia serving a primarily poor and African American population of about 10,000, NPs do physicals, administer immunizations, manage chronic and acute illnesses, provide prenatal care and family planning, order diagnostic tests, do lab work, provide health maintenance education and refer patients to specialists, according to Donna L. Torrisi, MSN, the network's executive director.

Three to four NPs are on-site at each location, and communication with an off-site primary care physician is done by phone or fax, she says. NPs consulted with a physician once or twice a week before her center hired an NP with 20 years of clinical experience three years ago, after which Torrisi says she has consulted with a physician only a few times. "We can suture wounds, drain abscesses, remove objects from skin, insert IUDs," she says. "We'll refer patients to specialists, just as a primary care physician would," she adds – for example, a patient with renal failure to a nephrologist.

Many of Torrisi's patients have multiple comorbidities, including a 64-year-old chronic smoker with a history of substance abuse and coronary artery disease; advanced arthritis, COPD and gout; and who is taking ten medications. "In an independent practice, you learn how to do it. We even have an NP who injects

joints with steroids," says Torrisi. "We'll consult with a physician about pain management, and ongoing narcotics prescribing," she adds, noting that state regulations permit her to prescribe only a three-day supply.

Battles Continue

While collaboration between physicians and NPs with increasingly advanced levels of training represents the "new world of medicine," old-school scope of practice battles continue to be waged.

Sometime this year, regulations are expected to be promulgated for a New Jersey law passed in 2004 that allows unlimited prescribing of Schedule II controlled substances by NPs, according to Carolyn Torre, RN, MA, APN, C., director of practice for the New Jersey State Nurses Association. NPs who prescribe or dispense drugs must have a supervisory agreement with a physician outlining protocols for care and channels of communication, while the number of NPs supervised at any given time by one physician is not capped, says Torre. No other NP scope of practice legislation is pending or anticipated in New Jersey, she adds.

In Pa., a physician may oversee a maximum of four full-time NPs at any given time, while NPs are limited to prescribing up to a three-day supply of Schedule II controlled substances. The Pa. Board of Nursing would remove those limitations, under draft changes to NP regulations that will accompany last year's law expanding what an NP is permitted to do. Once the draft changes are published in the form of proposed regulations in the *Pennsylvania Bulletin*, there will be 30 days for public comment.

Pa.'s new law allows NPs to: order home health and hospice care; order durable medical equipment, issue oral orders within a hospital setting; make referrals for dietitian services and for physical, respiratory and occupational therapy; perform and sign initial methadone treatment evaluations; perform disability assessments for Temporary Assistance to Needy Families; and issue home-bound schooling certifications.

The Pa. nursing board's draft regulations would, among other things, lift NPs' current three-day limit on Schedule II controlled substance prescribing and allow NPs to write a prescription for up to a 30-day dose, and expand NPs' ability to prescribe a Schedule III or IV controlled substance to a 90-day supply, up from a 30-day supply under current regulations. Refills of either are currently prohibited except with a collaborating physician's permission, while the draft regulations would lift the refill restrictions. The draft regulations would also eliminate a cap on the number of NPs permitted at a given time under a physician collaboration agreement.

The Pennsylvania Medical Society (PMS) opposes many of the board's draft

changes, saying that they fail to protect quality patient care and safety, particularly in unsupervised settings such as retail health clinics, which it says are currently unregulated. In comments submitted late last year to the Pa. Bureau of Professional and Occupational Affairs, the PMS objected to the absence of a required NP-to-physician ratio for collaboration agreements – which it said ensures that a physician can provide assistance or consultation when needed, to the weakening of physician oversight of NP narcotics prescribing, to the removal of any requirement to notify a patient that the health care professional treating them is an NP, and to the removal of the requirement that a DNP be required to inform patients that they are not a doctor of medicine or osteopathy. A failure to clarify the difference between having a doctorate in nursing and a medical degree should be considered fraud on the part of the DNP, the PMS wrote.

A sizable proportion of the public is reluctant to be treated by anyone other than a physician at a retail clinic, even for the sorts of minor complaints handled by the clinics, such as sore throats and flu shots, according to a national survey by Deloitte's Center for Health Solutions cited recently in the *Wall Street Journal*. The center also said that survey respondents were more comfortable with retail clinics staffed by NPs if they were told that the nurses were affiliated with a local physician's office, while it noted that the number of people who are comfortable going to a retail clinic is likely to grow as the clinics figure out how to make the business work.

Take Care Health, which plans to open over 400 retail health clinics by the end of the year, currently operates in Pittsburgh, and plans sites in Philadelphia and southern New Jersey, says that it is very important to articulate the provider's qualifications, the clinic's scope of service, and its quality control processes – including its affiliation with collaborating physicians, local hospitals and physician referral network.

"We've heard from patients that they'd like us to expand our services because they can't always get timely access to primary care physicians," says Sandra Ryan, RN, MSN, CPNP, Take Care Health's chief nurse practitioner officer. "About 15 to 20 percent of our patients are referred to us by other medical providers. Once we're in an established market, it works out well for primary care physicians," Ryan notes. While Take Care clinics focus exclusively on diagnosis, treatment, screenings and vaccinations for common illnesses, Ryan says possible areas of expansion include health promotion, disease prevention and chronic disease management, facilitated by Take Care clinics' electronic medical record tracking system.