



Robert Wood Johnson Foundation

# Charting Nursing's Future

Reports on Policies That Can Transform Patient Care

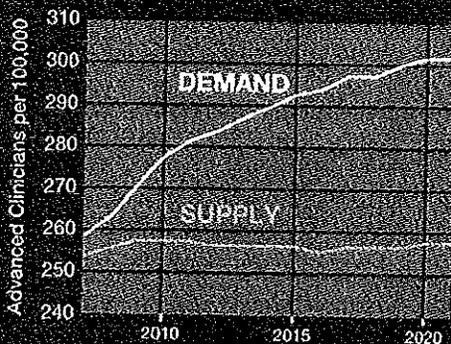
## Improving Patient Access to Quality Care: A Primer on Advanced Practice Registered Nurses and Models Fully Utilizing Their Education and Training

JAN 2013

**S** spurred by increased demand resulting from health care reform measures, looming workforce shortages (see Figure 1, below), and concerns about access and barriers to care, many leaders are focused on transforming the delivery of health care in ways that promote interprofessional collaboration, with everyone—including nurses—practicing to the full extent of their education and training. This brief, the 19th in the *Charting Nursing's Future* series, focuses

on advanced practice registered nurses (APRNs), describing the important roles they play, identifying some of the legal, institutional, and cultural barriers they face, and highlighting three models for leveraging their skills, knowledge, and experience in different settings. Obstacles for RNs, briefly touched upon in a sidebar, and promising developments in interprofessional education and practice are examined more closely in other issues.

Figure 1 Projected Shortage of Physicians, APRNs, and PAs, Combined



The supply of physicians, APRNs, and PAs— together comprising a workforce of "advanced clinicians" who provide direct patient care, often as the first contact—is expected to stay relatively flat while demand rises, resulting in the growing shortage depicted here, which could threaten access to care.

Source: Adapted and updated from "Gaps in the Supply of Physicians, Advance Practice Nurses, and Physician Assistants," Sargen M, Hooker RS and Cooper RA. *Journal of American College of Surgeons*, 2011; 212:991-999.

Notes: In this graph, APRNs include NPs and CNSs but not CNMs and CRNAs, and APRNs and PAs are represented at 70% full time equivalent effort of physicians.

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### The Value of Nursing

There are many different facets to the work performed by Julie Marcum, APRN-BC, CCRN, a critical care clinical nurse specialist at the Bolse VA Medical Center. With a panel of 102 Implantable cardioverter defibrillator (ICD) patients throughout Idaho and Eastern Oregon, she collaborates with Portland VA nurse practitioners and cardiologists in a telemedicine clinic, reviews remote transmissions from ICD devices, and manages daily patient contacts to troubleshoot issues and adjust medications. She also develops and assesses nursing competencies for personnel on her patient care units to ensure that the nurses are practicing in ways that promote quality and ensure safety.

"I do a lot of system analysis, problem solving, and quality improvement, and I practice fairly autonomously every day," Marcum says. She is a member of the VA's Advance Practice Nurse Advisory Group which has been involved in developing a new policy that will expand core privileges for APRNs system-wide. For more information, see page 6.

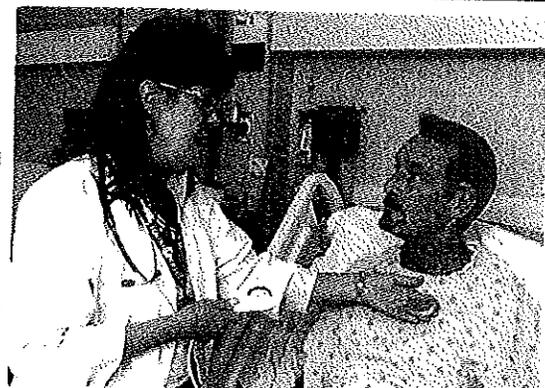


Photo: Michael Shipman

## **The Role of Advanced Practice Registered Nurses In Expanding Access to Care**

Almost 50 years have passed since the idea of educating nurses for advanced clinical practice was first conceived by Dr. Loretta C. Ford, EdD, RN, PNP, professor and dean emeritus, University of Rochester School of Nursing. At that time, Ford was a public health nurse assigned to Colorado's remote mountain communities. As she made the rounds immunizing infants and tracking communicable diseases, she was struck by the fact that she was the only contact many of her patients had with a health care provider. She surmised that investments in additional education and training for practitioners like herself—uniquely positioned to bring prevention and health maintenance efforts into communities—could have huge returns, in terms of access to quality care.

She put this hypothesis to the test several years later, after joining the faculty at the University of Colorado. In 1965, Ford and her colleague, pediatrician Henry K. Silver, MD, launched a pilot program to give practicing public health nurses who were already educated at the baccalaureate level the additional skills they would need to effectively provide well-baby and well-child care. In the process, a new health care provider was born: the pediatric nurse practitioner (PNP).

### **Types of Advanced Practice Registered Nurses**

**Nurse practitioners (NPs)** take health histories and conduct physical examinations, diagnose and treat acute and chronic problems, interpret laboratory results, prescribe and manage medications and other therapies, plan and run disease prevention and health maintenance programs, and make appropriate referrals to other healthcare professionals. Practice settings include primary and specialty care practices, retail health clinics, hospitals, school-based health centers, long-term care facilities, and patients' homes. (Refer to *Charting Nursing's Future #9* for more information about the NP workforce.)

**Clinical nurse specialists (CNSs)** provide case management services, conduct research, design and implement quality improvement programs, mentor other nurses, and serve as educators and consultants. Focusing on a specific population (e.g., children), disease (e.g., diabetes) or type of care (e.g., wound care), CNSs are employed in hospitals, rehabilitation facilities, nursing homes, and other settings.

**Certified registered nurse anesthetists (CRNAs)** administer anesthesia before, during, and after surgical, therapeutic, diagnostic and obstetrical procedures, and also provide pain management and emergency services, including airway management. They work in hospital operating rooms, dental offices, and outpatient surgical centers.

**Certified nurse midwives (CNMs)** provide primary care to women, including gynecological exams, family planning advice, prenatal care, management of low risk labor and delivery, and neonatal care. Practice settings include hospitals, birthing centers, community clinics, and patients' homes.

Source: Adapted from AARP 2010 Policy Supplement: Scope of Practice for Advanced Practice Registered Nurses

"The Robert Wood Johnson Foundation is committed to supporting health care leaders striving to bridge professional divides. These leaders are increasingly united in a belief that regulation and licensure should be driven by the required competencies used for accreditation and certification of each profession."

Risa Lavizzo-Mourey, MD, President and CEO of the Robert Wood Johnson Foundation



"It created quite a stir for the nurse to move the stethoscope from the arm for the blood pressure to the chest to listen to the heart," says Ford, but she recalls that right from the beginning, nurses who acquired these basic diagnostic skills and expanded knowledge of treatment were well received by their patients.

Since those early days, NP practice has expanded to include adults, and three other types of advanced practice registered nurses (APRNs) have emerged (see box, left). Unfortunately, even though research suggests that APRNs are equipped to deliver safe, effective care (see page 8), legal, regulatory, institutional, and cultural barriers prevent many from practicing to the full extent of their education and training (see pages 4-5). Health policy experts concerned about workforce shortages believe that overcoming these barriers must become a priority.

"The increased need for physician services can be met by better use of the physicians we have now...and by the increased use of nurse practitioners and physicians assistants in primary care and specialty care settings," says Fitzhugh Mullan, MD, the Murdock Head Professor of Medicine and Health Policy at the George Washington University School of Public Health. He is among those who advocate rethinking how we make use of health care's human capital. "The important principle underlying this latter strategy is that all clinicians should work to the maximum of their training and licensure," he says. (For a comparison of qualifications of APRNs, PAs and physicians, see Figure 2, p. 3.)

This principle is at work in three innovative models that leverage APRN skills, knowledge and experience, profiled in this brief (see pages 6 and 7). They include a small, rural practice, a specialty practice within a university health system, and the nation's largest integrated health care system, the Veteran's Health Administration. The diversity of these models suggests that this principle is widely applicable.

These models also embrace the new paradigm of interprofessional collaborative care (see *Charting Nursing's Future #17*). The growing adoption of this patient-centered, team-based approach may create additional incentives to eliminate barriers that are preventing all practitioners from maximizing access to care.

"I don't perceive that any one profession—whether it's a

**The Role of Advanced Practice Registered Nurses in Expanding Access to Care (cont.)**

physician, a pharmacist, a social worker, or a nurse—can be totally independent,” says Ford, who encouraged her first NP students to see themselves as full professionals prepared to engage in collegial relationships with physicians. “We have to move to interdependence, which is the highest level of functioning, in the interest of public good.”

What will it take to achieve this vision? In Ford’s view, “Statesmanship on the part of both medicine and nursing and other professions that see the big picture and have a vision of what could be—in prevention and health promotion and serving people who are really in need.”

**The Value of Nursing**

Amy Rowe, P/FNP, a pediatric and family nurse practitioner, examines a student with an earache at the Dewitt Clinton High School school-based health center (SBHC). The center provides comprehensive primary care to 27,000 New York City students living in the Bronx.

An estimated 2,000 plus SBHCs provide care for at least 1.7 million students nationwide. SBHCs are typically staffed by an NP or physician assistant (PA), often in partnership with a mental health professional, and situated in poor communities where residents have limited access to care. NPs and PAs are also more likely than physicians to practice in underserved remote and rural areas, and constitute a significant portion of the nation’s safety net providers.



Photo: Montefiore Medical Center

**Figure 2. Education, Training and Licensure for APRNs, PAs, and Physicians: A Comparison**

|                                | <i>Advanced Practice Registered Nurse</i>   | <i>Physician Assistant</i>  | <i>Physician</i>   |
|--------------------------------|---|---|--|
| <b>Undergraduate Education</b> | Bachelor’s degree in nursing from an accredited program   | Bachelor’s degree in any field plus healthcare experience (e.g., as military medics)  | Bachelor’s degree in any field; pre-med coursework completed   |
| <b>Graduate Education</b>      | Master’s degree from an accredited program, generally in nursing with advanced coursework in pathophysiology; health and physical assessment; pharmacotherapeutics; diagnostics; and management of family practice, acute, women’s health, pediatric, anesthesia, or psychiatric care<br><i>Note: a doctorate is becoming the standard terminal degree for APRNs.</i> | 2-4 year certificate, master’s or doctoral degree from an accredited program that incorporates classroom and laboratory instruction in the medical and behavioral sciences                        | Doctorate in medicine from an accredited program that emphasizes the scientific underpinnings of health and disease, with course work in anatomy, physiology, histology, advanced diagnostics, and advanced assessment.  |
| <b>Clinical Training</b>       | For a master’s level APRN: minimum of 1000 hours of supervised practice over a 3-year period<br><br>For a doctoral level APRN: Minimum of 1000 hours of supervised practice per year for an additional 3 years  | Rotations in internal medicine, family medicine, surgery, pediatrics, obstetrics and gynecology, emergency medicine and geriatric medicine Varies by state  | 10-week clinical rotations in pediatrics, internal medicine, obstetrics-gynecology, surgery, and psychiatry; and a residency in a specific area of practice (e.g., pediatrics, internal medicine, family practice, women’s health, anesthesia); approximately 1850 hours of supervised practice per year for 3 years |
| <b>Licensure</b>               | APRNs must maintain a current RN license granted by their state board of nursing; advanced licensure varies by state, with some states offering additional licenses that allow APRNs to prescribe medications, practice independently, etc.<br><br>APRNs practice under their own licenses, even if they maintain a collaborative agreement with a physician          | PAs must maintain a current PA license granted by their state board of medicine<br><br>Although required to work with a collaborative physician supervisor, PAs practice under their own licenses | Physicians must maintain a current medical license granted by their state board of medicine  |
| <b>Continuing Education</b>    | Varies by state   | 100 hours every two years   | 100 hours every two years  |

## Barriers to Patient-Centered Care

"When I changed jobs I had to find a new collaborating physician because the one I was working with didn't have medical staff privileges at the hospital. This wasn't easy, as a new employee, but one of the MDs agreed to do it. Shortly thereafter he left and I had to search all over again."

Benjamin Evans, DNP



"I run a not-for-profit nurse-led clinic, providing primary, women's health, and behavioral health services in a rural, underserved area

in Indiana. Medicaid doesn't acknowledge NPs as primary care providers so I'm not listed in their directory and my collaborating physician's name appears on my patients' insurance cards. In addition to being confusing, it makes it hard for them to actually find me."

Bambi McQuade-Jones, MSN, DNP, FNP-C

"I am a certified registered nurse anesthetist, providing anesthesia services for office-based surgery on a fee-for-service basis. Even though surgeons often request me, some of the commercial health insurance carriers won't make me a participating provider. This effectively prohibits enrolled patients from receiving my services."

Brian Kasson, CRNA, MHS



"Most insurance plans will pay me to insert an IUD in a patient but reimbursement for the actual device is tricky because, as a certified nurse midwife, I don't have prescriptive authority. As a result, I often have to refer my patients out simply due to payment issues, even though I am capable of doing the procedure myself. It's a similar problem with Depo-Provera. I can manage my patients' contraceptive needs and administer their injections but they have to get the birth control medication from someone else."

Katie Lavery, CNM, MS



Despite evidence that APRNs have the skills, knowledge and experience to provide good patient-centered care (see "APRN Safety and Quality," page 8), many face legal, regulatory, institutional and cultural barriers that restrict the range of services they may provide, the settings in which they may work, the kinds of interactions they may have with professional colleagues, and the level of reimbursement they may receive from public or private insurers.

### Legal/Regulatory Barriers

- The majority of states (see map on page 5) require APRNs to have a joint protocol with a collaborating physician in order to diagnose, treat and/or prescribe. While the purpose is to ensure quality and safety, there is no evidence that these requirements result in better outcomes, according to the Institute of Medicine's 2010 report, *The Future of Nursing: Leading Change, Advancing Health*. Meanwhile, the risk of delays in care is high when collaborating physicians are not readily available.

- Under Medicare, APRNs are not allowed to admit patients, serve as PCPs, or sign orders for long term care services. For patients who have already established a good relationship with an APRN, this restriction can compromise continuity of care.

- In some states, Medicaid won't reimburse APRNs for certain codes or pharmacy supplies, so their patients have to pay out of pocket or find a different provider.

- Health care insurance companies are not required to recognize APRNs as PCPs or reimburse them directly, in some parts of the country, limiting the supply of available clinicians at a time when demand is growing.



"For reasons ranging from natural disaster relief to living and working in communities that straddle state borders,

nurses need to be able to cross state lines easily to deliver care. They can't do that now because practice acts vary."

Catherine Dower, JD, associate director, Center for the Health Professions at the University of California, San Francisco, and a member of committee that helped draft the IOM's 2010 report, *"Future of Nursing: Leading Change, Advancing Health"*

### Institutional Barriers

- In states with joint protocol mandates for APRNs (see *Legal/Regulatory Barriers*, left), hospital policies that restrict the eligible pool of collaborating physicians—by requiring them to have full medical staff privileges, for example—can further reduce access to care and limit mobility for APRNs and their patients.

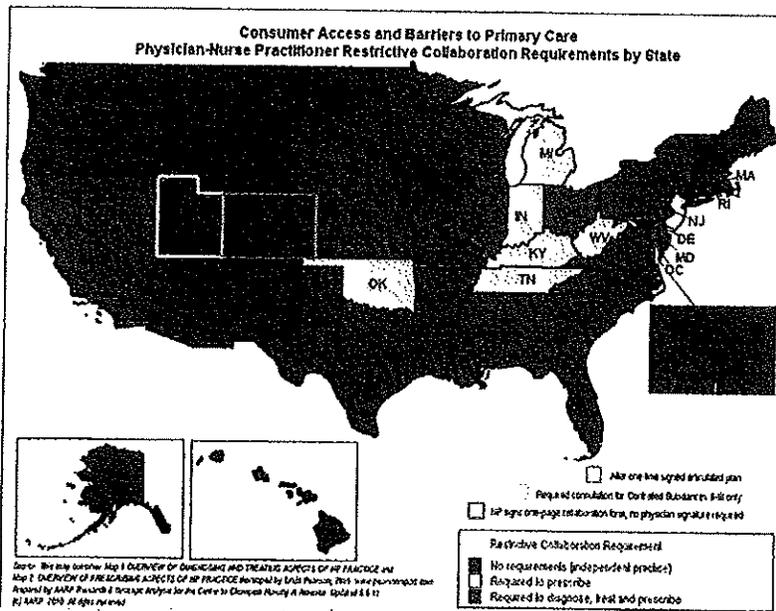
- At some hospitals, medical staff bylaws restrict who can admit patients or perform certain procedures (e.g., only anesthesiologists can do invasive monitor placements). As a result, patients might have to wait for treatment even if a qualified APRN is available.

### Cultural Barriers

- While the benefits of team-based, interprofessional collaboration are well documented, implementation remains a challenge, especially in environments where old concepts of authoritarian leadership persist. Achieving a cultural shift to allow full utilization of APRNs as full partners in care requires a high level of trust, mutual respect and self-confidence, says Allison Dimsdale, DNP, RN, NP, who is helping to change the way services are delivered to cardiology patients at Duke University Health System (see "Team-Based Care," page 7).

**Barriers to Patient-Centered Care, continued**

**Figure 3. Collaborative Agreements: A State by State Comparison of Requirements for APRNs**



The majority of states require APRNs to enter into collaborative agreements (or joint protocols) with physicians to do things they have already been trained and educated to do, such as prescribing controlled substances, diagnosing diseases, and treating patients. Finding a physician willing to collaborate is not always easy, however, and waiting for a doctor to sign off on orders can delay treatment and undermine continuity of care.

North Dakota eliminated its collaborative agreement requirement for prescriptive authority in 2011. "It wasn't helping us provide safe, timely, patient-centered care... [so] we capitalized on our positive relationships with physicians and other providers to mobilize widespread support for getting rid of this regulatory barrier," explains Billie Madler, DNP, APRN, FNP, director of Graduate Nursing Programs at the University of Mary and president of the ND Nurse Practitioner Association which organized a grassroots campaign to educate state legislators about factors jeopardizing access to care. Coalitions are working on similar reforms in other states, many with support from the Center to Champion Nursing in America, an initiative of AARP, the AARP Foundation, and the Robert Wood Johnson Foundation.

**For More Information**

• [www.thefutureofnursing.org](http://www.thefutureofnursing.org)

"As the number of general practitioners declines, the demand for highly trained professional nurses will continue to grow. That's why it's so important to allow them to practice to the full extent of their education and training, to provide more affordable and accessible healthcare to our citizens."

Ed Rendell, former Governor of Pennsylvania, whose "Prescription for PA" program extended prescription authority to certified nurse midwives, established reimbursement rates based on services provided rather than professional credentials, and recognized nurse managed health care facilities as primary care providers.



**Barriers Faced by RNs**

"We have documented vast untapped capacity for RNs in nursing homes where their ability to conduct initial assessments, develop care plans, supervise, and delegate isn't fully recognized."



Kirsten Corazzini, PhD, associate professor of nursing at Duke University and principal investigator of a research project about RNs and LPNs, funded by the National Council of State Boards of Nursing

APRNs are not the only nurses facing significant barriers to providing safe, effective patient-centered care. Poorly aligned institutional policies and procedures, ineffective work processes, and unhealthy work cultures that resist change can limit the ability of RNs to practice to the full extent of their education and training.

Previous issues of the *Charting Nursing's Future* series have documented a number of these barriers and featured models designed to eliminate them. For more, consult:

- #3 and #5 for impacts of nurse staffing policy and institutional work climates on RNs and their patients in acute care settings.
- #10 for effects of dysfunctional nursing work processes and authoritarian work cultures on RN performance in acute care settings.
- #11 for technological challenges facing RNs in a variety of settings.
- #14 for communication and practice barriers confronting RNs who work in schools.
- #15 for the impact of the physical environment on RNs who work in hospitals, long term care facilities, and patients' homes.
- #17 and #18 for obstacles to interdisciplinary, team-based education, training and practice for RNs in primary and acute care settings.

A complete archive of the *Charting Nursing's Future* series issues is available online at [www.rwjf.org/goto/chn](http://www.rwjf.org/goto/chn)

## Visionary Nurse Leads Nation's Largest Integrated Health System



### Charting Nursing's Future salutes Cathy E. Rick, RN, FACHE, FAAN, Chief Officer, Office of Nursing Services, US Department of Veterans Affairs (VA)

With 80,000 nurses in her charge, Cathy Rick is keenly aware of their value to patient-centered care and highly motivated to ensure that the nation's largest integrated health care system can fully utilize their diverse capabilities. She has been instrumental in creating a program to develop nursing leaders within the VA, fostering the role of the nursing care manager within primary care, and developing a training academy for new hires that has markedly increased the VA's ability to retain nurses.

"She advocates on behalf of the nursing staff which, in general, is advocating on behalf of patients," says Robert L. Jesse, MD, PhD, principal deputy undersecretary for health at the VA. He describes her as a "major driver of the VA's efforts to transform the currency of health care from encounters to relationships," a shift he says involves significant investments in the nursing workforce.

One of her signature accomplishments is the creation of the Advanced Practice Nurse Advisory Group (APNAG), which facilitates communication, policy development, and continuing education among the VA's 5,000 plus APRNs. Recent APNAG chair, Mary E. Falls, RN, MSN, APNP-BC, praises Rick's leadership in this area.

"She has the ability to look into the future, see what changes are coming for healthcare, and place nursing in the forefront," Falls says. "To have that vision and support from the top—it's phenomenal."

## Innovative Models That Leverage APRNs' Skills And Experience

### Expanded Core Privileges: The US Department of Veterans Affairs

The US Department of Veterans Affairs (VA) employs more than 5,000 APRNs to deliver primary, specialty, acute, ambulatory, telehealth, and home health care services across the nation. While a single unrestricted license allows these APRNs to work at any VA facility—traveling between a medical center and a community clinic, for example—rules concerning prescriptive authority, admissions, physician supervision, etc. vary. This means that APRNs have to change the way they practice when they change their location, even when they are treating the same patients.

To eliminate confusion and standardize care, the VA has developed a new policy, slated for system-wide implementation in 2013, that allows all APRNs who meet certain criteria to practice to the full extent of their education and training without direct supervision from a physician, even in states that do not recognize APRNs as independent practitioners. The linchpin is federal supremacy which gives the VA the authority to supersede state laws. Along with this new policy, the VA will issue guidance concerning APRN core privileges (see box, below).

"We see this as a way to align our system to fully utilize the talent we have," says Cathy E. Rick, RN, FACHE, FAAN, chief officer in the VA's Office of Nursing Services. "The timing is right, thanks to the good work the

Robert Wood Johnson Foundation did in conjunction with the IOM [Future of Nursing] report."

Rick's team has solicited input from APRNs, physicians, and regional quality management officers to develop an internal communication plan that addresses questions and concerns about patient care, license protection, etc. They have also worked with the NCSBN and Joint Commission to try to anticipate potential issues and challenges.

"My hope and expectation is we will provide a new model for healthcare reform," says Rick. "Rather than restricting practice, we should be supporting nursing and holding nurses accountable for what they are able to do."

### Full Partnership: Platte Valley Women's Healthcare

When Michael Trierweiler, MD, was setting up a new women's healthcare practice in Platte, NE, he reached out to Kelley Hasenauer, DNP, who had worked for him for 10 years as an NP before getting her doctorate. He offered her a job and she responded with a counteroffer: make her a partner, rather than an employee, so she could share in the ownership of the practice. He was hesitant at first, having just left a group practice with other partners, but after they spoke he agreed it could work out well. They formed a professional corporation and opened Platte Valley Women's Healthcare in June 2012. They are not aware of any other practices run by

### VA Proposed Sample APRN Core Privileges:

- Taking patient histories and conducting physical examinations
- Assessing, diagnosing and managing common health problems
- Ordering and interpreting diagnostic studies including radiology and laboratory studies
- Prescribing medications
- Making referrals and providing consultation to other health care professionals
- Delivering basic primary and emergency care
- Developing comprehensive plans of care
- Signing admission and discharge orders, making patient rounds, and preparing progress notes and discharge summaries

**Innovative Models That Leverage APRNs' Skills And Experience, continued**

a physician and NP operating as full partners.

"For years, I had wanted to open a women's primary care practice, but Nebraska's integrated practice agreement requirement meant I had to find a physician business partner," says Hasenauer. "The requirement is a barrier to NPs becoming business owners and creating new avenues for health care delivery."

Both Hasenauer and Trierweiler describe their approach to patient care as collaborative. They share an office with desks that face each other, making it very easy to talk about what's going on. "There are times when Dr. Trierweiler says, 'I really need you to see this patient because she's got this issue that you're better at dealing with,'" says Hasenauer. "And there are times when I say, 'This patient is for you.' It's neat how we go back and forth."

According to Trierweiler, a physician-NP partnership is very workable —with the right person. "If I had [been approached by] a new grad coming out of school, we wouldn't have set things up this way. But I already knew Dr. Hasenauer well and have a lot of confidence in her ability to treat patients." Hasenauer notes that lower reimbursement rates from Medicare, Medicaid and some private insurers limit the income generated by NPs but says this is more than offset by lower malpractice insurance rates. "NPs can



Photo: Javed Luzzani

At Duke Health Center at Southpoint, physicians, NPs, and RNs work together on interdisciplinary teams to provide comprehensive care to cardiology patients. Pictured here are Douglas Schocken, MD, Allison Dimsdale, NP, and Jennifer Hervey, RN.

use this to show their worth to potential partners."

**Team-Based Care: Duke Heart Center**

A new "parallel practice" model developed by Duke University Health System's Department of Cardiovascular Medicine leverages interprofessional teams to increase access to care and improve patient satisfaction.

Unlike the former tandem-style model—where clinics were run by MDs who handed off specific tasks to NPs and PAs—the new model allows everyone to work to the top of

their competency and licensure. MDs focus on developing plans of care for new patients, while NPs and PAs see returning or acutely ill patients. RNs, meanwhile, coordinate follow-up care, schedule procedures, and respond to triage calls. Team members consult each other as necessary and appropriate. For example, an RN might turn to an NP for help when lab results are abnormal or a patient calls to report unusual symptoms.

"A model like this requires a cultural shift" says Allison Dimsdale, DNP, RN, NP, who spearheaded the redesign. The NPs have to "work harder and think harder" now that they are doing so much more than just follow up and background work, and the physicians have to recognize and rely on NPs and RNs as teammates. "We couldn't do this without considerable trust and confidence among key players," Dimsdale explains.

During a pilot phase, patient response was positive and the average wait time for the next available appointment dropped 57% for new patients, and 75% for returning patients. Dimsdale says the department is starting to look at additional metrics, including patient readmission rates and lengths of stay.



Photo: George Hippel

Michael Trierweiler, MD, and Kelley Hasenauer, DNP, discuss a patient's care plan. The two health-care professionals run Platte Valley Women's Healthcare in rural Nebraska as full business partners, defining a new model of collaboration between a physician and an advanced practice registered nurse.

## APRN Safety and Quality

**W**hile each profession has its own methods of educating and training its workforce, there are many areas of overlap in the kinds of healthcare services delivered by APRNs and MDs. How do patient outcomes compare? Here's what some of the research says:

**APRNs provide safe, effective, quality care, according to a 2011 literature review involving dozens of studies published over a 28-year period.** The research team, led by Robin P. Newhouse, PhD, RN, NEA-BC, professor and chair at the University of Maryland's School of Nursing, found strong evidence of comparable or superior care by NPs as measured by patient satisfaction, patient perception of health status, functional status, glucose control, lipid management, blood pressure control, emergency room visits, hospitalization rates, and mortality rates. CNMs are performing well, too, with similar or better track records than MDs in terms of cesarean section rates, birth weights, Apgar scores, analgesia use, and breastfeeding.

"Advanced practice nurse outcomes 1990-2008: A systematic review." Newhouse RP, et. al. *Nurs Econ.* Sep-Oct 2011, 29(5): 230-50.

**Health outcomes are comparable for patients treated by primary care NPs and MDs, according to a literature review led by Mary D. Naylor, PhD, RN, at the University of Pennsylvania's School of Nursing.** The team also



"Our systematic review indicates that care delivered by APRNs produces equivalent outcomes to equivalent care delivered by physicians alone or in teams without an APRN."

Robin Newhouse, PhD, RN, NEA-BC, professor and chair, University of Maryland's School of Nursing

### Zero-sum game: Do primary care physicians lose when APRNs gain autonomy?

Noting that economic interests are "rarely discussed openly," Patricia Pittman, PhD, and Benjamin Williams, MPH, at the George Washington University's School of Public Health conducted a study to determine what happens to MDs' wages when restrictions on APRNs are removed. Analyzing US Bureau of Labor Statistics data, they concluded that allowing APRNs to practice to the full extent of their education and training does not have a negative financial impact on primary care physicians.

"Physician Wages in States with Expanded APRN Scope of Practice." Pittman P and Williams B. *Nursing Research and Practice*, 2012.

looked at costs, referencing a RAND Corporation study that revealed that the average cost of an NP or PA visit is 20-35 percent lower than the average cost of a physician visit.

"The Role of Nurse Practitioners in Reinventing Primary Care." Naylor M D and Kurtzman ET. *Health Affairs*, May 2010, 29(5): 893-99.

**NP prescriptive patterns are similar to those of physicians, according to a 2009 study conducted by researchers at the University of Nevada's Orvis School of Nursing.** Reviewing primary care charts, they found NPs used slightly more over-the-counter medications and nonpharmacotherapeutic interventions, but the difference was not statistically significant.

"Prescriptive patterns of nurse practitioners and physicians." Running A et. al. *Journal of American Academy of Nurse Practitioner*, 2009(18): 228-233.

**Highly trained CRNAs contribute to good obstetric care, according to a 2009 study conducted by the UCLA School of Public Health.** Researchers compared rates of anesthesia-related

deaths, complications, and trauma during delivery at hospitals using only CRNAs with those at hospitals using only anesthesiologists and found similar outcomes.

"Anesthesia Provider Model, Hospital Resources, and Maternal Outcomes." Needleman J and Minnick AF. *Health Services Research*, April 2009(44/2): 464-82.

While the evidence regarding APRN outcomes is compelling, the data don't tell the whole story, warns Richard "Buz" Cooper, MD, senior fellow in the Leonard Davis Institute of Health Economics at the University of Pennsylvania and director of the New York Institute of Technology's Center for the Future of the Healthcare Workforce. "Most of the studies look at APRN performance relative to physicians in delivering routine primary care. But APRNs' activities are being stretched further in specialty practices, where, for example, the role of an NP is distinct from that of an orthopedic surgeon, so there are no comparisons to make." Strong demand for APRNs is perhaps the best indicator that they are doing a good job. But he also cautions that many NPs staff or supervise hospital units or perform administrative tasks, such as running compliance programs. "They are not all functioning like physicians."

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Research, Writing and Design: *Spina Communications, LLC*

Acknowledgments: