The Cost Effectiveness of Nurse Practitioner Care

For over 30 years nurse practitioners have provided high-quality, cost-effective care. It was evident back in 1981 when the Office of Technology Assessment determined that nurse practitioners perform comparable medical care tasks at a lower total cost than physicians, and it is still true today:

- In 2009 it was determined that nurse practitioners provide care of equivalent quality to physicians at a lower cost, while achieving high levels of patient satisfaction and providing more disease prevention counseling, health education, and health promotion activities than physicians.8
- In 2009, the national average cost of a NP visit was 20% less than a visit to a physician.7
- In 2008, treatment provided by nurse practitioners in retail clinics cost less than treatment in physician offices or urgent care centers with no apparent adverse effect on quality or delivery of care.4
- In 2004, primary care practices that used more nurse practitioners in care delivery realized lower practitioner labor costs per visit than practices that used less.6
- In 2008, a worksite clinic run by a single nurse practitioner resulted in direct medical care cost-savings of nearly $2.18 million over a two-year period, without including indirect savings related to lost productivity and absences.2
- Clinics run by nurse practitioners create cost savings associated with reduced use of emergency rooms, urgent care centers, hospitals, and emergency medical services.6
- Nurse-managed clinic patients have higher rates of generic medication fills at pharmacies, and lower rates of hospitalizations when compared to patients of similar providers.7

No matter what setting, nurse practitioner care has proven to be a high-quality, cost-effective means of primary care delivery.

3 Meloreta, A. et al. (2009). Comparing Costs and Quality of Care at Retail Clinics with that of Other Medical Settings for 3 Common Illnesses. Annals of Internal Medicine, 151, 321-323.

Fact 1 Access to Care

- Although 56% of patient visits in America are primary care, only 37% of physicians practice primary care medicine, and only 8% of the nation’s medical school graduates go into family medicine.13
- People who are uninsured, low-income, members of racial and ethnic minority groups, or living in rural or inner-city areas are disproportionately likely to lack a usual source of care.14
- There will be 45,000 too few primary care physicians in the next decade as nearly one-third of all physicians retire. The shortfall in the number of physicians will affect everyone, but the impact will be most severe on vulnerable and underserved populations. These groups include the approximately 20 percent of Americans who live in rural or inner-city locations designated as health professional shortage areas.5
- According to the American Academy of Nurse Practitioners, 89% of the APNs are prepared in primary care
- The spring 2008 report of the Medicare Payment Advisory Commission (MedPAC), nurse practitioners provide the highest percentage of primary care visits compared to other Part B providers in the Medicare Fee for Service Program.
- Nurse practitioners (NPs) have been providing primary care for over 45 years, and there is strong evidence that this care is cost effective, of high quality, and of great service in increasing access to care for vulnerable populations.45
- In its scenario of how primary care access may be addressed by 2025, the Institute for Alternative Futures (IAF) stated that the future primary care teams must broaden to include APNs and PAs, as nurse-managed health centers expand.6
1 Halsey, A. June 20, 2009. "Primary Care Shortage May Undermine Reform Efforts". Washington Post
2 Health Resources and Services Administration, Bureau of Health Professions. The physician workforce. Rockville MD: HRSA, Dec 2008
http://www.macyfoundation.org/docs/macy_pubs/IMF_PrimaryCare_Monograph.pdf

Fact 2 What is an APN?

Advanced Practice Registered Nurses (APRNs):
- They are registered nurses (RNs) with masters, post-master or doctoral degrees.
- They are certified by a specialty organization after passing national certification exams.
- They diagnose, treat, teach and counsel patients to understand their health problems and what they can do to get better. They may work in teams or individually.
- They coordinate care and advocate for patients in the complex health system.
- They refer patients to physicians and other health care providers.

History of Advanced Practice Nursing

There are four advanced practice nursing (APN) masters/doctoral nursing degrees.
1. Certified registered nurse anesthetists (CRNA), or in New Jersey APNs Anesthesia Medicine
2. Clinical nurse specialists (CNS)
3. Certified midwives (CNM), in New Jersey they are regulated under the Board of Medical Examiners.
4. Nurse Practitioners

CRNAs (APNs Anesthesia) and CNMs have a long history dating back to the mid to late 1800's, while the NP and CNS roles were both initiated in the 1960s.

Certified Registered Nurse Anesthetists (CRNA, in NJ titled APN Anesthesia)
The first organized program in nurse anesthesia education was offered in 1909. More than 37,000 certified nurse anesthetists (CRNA) are now practicing, and 109 nurse anesthesia programs exist. CRNAs have been certified nationally by the American Association of Nurse Anesthetists (AANA) since 1945. A minimum of 7 calendar years of education and experience IN NURSING are required to prepare for practice as a CRNA. Between 1,300 and 1,700 student nurse anesthetists graduate each year. CRNAs must be recertified every 2 years. APNs Anesthesia administer anesthesia and related care before and after surgical, therapeutic, diagnostic and obstetrical procedures, as well as pain management. Settings include operating rooms, outpatient surgical centers, and dental offices. CRNAs deliver more than 65% of all anesthetics to patients in the U.S., and CRNAs are the sole anesthesia providers in more than two thirds of all rural hospitals in the United States. viii

Clinical nurse specialists (CNS)
There are over 60,000 CNS in the United States. They provide advanced nursing care in hospitals and other clinical sites; provide acute and chronic care management; develop quality improvement programs; serve as mentors, educators, researchers and consultants.

Certified nurse midwives (CNM)
There are almost 19,000 Certified nurse midwives (CNM) in the US. They 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 patient homes.

Nurse Practitioners (NP)
There are almost 160,000 nurse practitioners in the US. They take health histories and provide complete physical exams; diagnose and treat acute and chronic illnesses; provide

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This page contains a text that appears to be a medical report or a paper discussing various aspects of healthcare, patient care, and medical practices. It includes references to studies, statistical data, and policy recommendations. The text is dense with medical terminology and references to journals and conferences.

Fact 3 Quality of Care
- A review by Brown and Grimes of more than 900 articles and documents over 30 years of practice and based on studies that had been randomized, reported that NPs and physicians were equivalent on outcome measures such as overall quality of care, prescription of drugs, functional status, number of visits, and use of the emergency room.
- Patients followed by NPs were more likely to be compliant with taking medications, keeping appointments and following recommended behavioral changes than patients followed by physicians.
- NPs ordered slightly more lab tests than did physicians.
- Patient satisfaction was higher for NPs than physicians.
- NPs scored higher on resolution of pathological conditions such as diastolic BP, blood sugar control, and otitis media.
- NPs spent more time with patients, addressed health promotion more frequently, and made more referrals than physicians. Their patients also had fewer hospitalizations.
- A systematic review of eleven randomized controlled trials and 23 observational studies compared NPs and physicians providing care at first point of contact for patients with undifferentiated health problems in primary care.
- No differences in health status were found, but NPs had longer and more frequent patient visits than did physicians.
- No differences were found in prescriptions, return visits, or referrals.
- Quality of care was in some instances better for NP visits.
- A meta-analysis of 16 studies found no appreciable differences between physicians and nurses in health outcomes for patients, process of care, resource utilization, or cost. Patient health outcomes were similar for nurses and physicians, but patient satisfaction was higher with nurse-led care. Nurses tended to provide longer visits, give more information to patients, and recall patients more frequently than did physicians.
- In a study using HEDIS (Health Employer Data Information System) national benchmarks, Barkauskas and colleagues found that NPs in six nurse-managed health centers met and often exceeded national benchmarks for treatment of chronic diseases such as hypertension, diabetes, and asthma.
- Three studies (one RCT) reviewed patient complications. Studies were conducted with samples of patients discharged with a diagnosis of stroke and transient ischemic attack, a surgical intensive care unit, postoperative cardiac surgery, and a pregnancy wellness program. When comparing APN and non-APN groups, there is a moderate level of evidence to support that the APNs decreases complication rates.

Fact 4 Cost of Care
- In a review of 69 studies (20 random controlled trials (RCTs) and 49 observational studies) included in outcome aggregation the analysis showed:
  - Length of hospital stay (LOS). Seven studies (two RCTs) reported patient LOS. Studies were conducted with inpatient samples of patients post-coronary bypass surgery, in end-of-life care, undergoing radical prostatectomy, and post total knee replacement. When comparing inpatient care by APN and non-APN groups, there is a high level of evidence to support equivalent or lower LOS for patients cared for in the APN group.
  - Four studies (two RCTs) reported cost outcomes. Studies were conducted with samples of CNS postpartum care, a population of patients at risk to die, and guideline implementation for patients with radical prostatectomy. When comparing CNS and non-CNS groups, there is a high level of evidence to support that the CNS group has lower cost of care.

According to data from the Medical Expenditure Panel Survey (MEPS), the average cost of an NP or PA visit is between 20 and 35 percent lower than the average cost of an office-based visit with a physician. (The 20-percent figure represents national data from the MEPS, and the 35-percent figure represents data specific to Massachusetts.)
- A 2009 analysis by RAND projected a cumulative healthcare savings of $4.2 to $8.4 billion (0.6-1.3%) from 2010 and 2020 for all payers if Massachusetts were to expand the role of APNs and PAs removing barriers to practice relative to the status quo.
- A paper reviewing the initial impact of an on-site Nurse Practitioner (NP) initiative for 4,284 employees and their dependents by an industrial metal/plastics manufacturing firm working with the Carolinas Healthcare System (CHS) estimated cost savings of $1,313,756 per year for the employer. A follow-up of the worksite clinic run by a single nurse practitioner resulted in direct medical care cost-savings of nearly $2.18 million over a two-year period, without including indirect savings related to lost productivity and absences.
- Nurse-managed clinic patients have higher rates of generic medication fills at pharmacies, and lower rates of hospitalizations when compared to patients of similar providers.


Fact 5 Scope of Practice
The scope of practice for healthcare professionals and continues to evolve over time as education has expanded, new roles are defined and the need to address shifts in healthcare occur. In 2006 representatives from six healthcare regulatory organizations—medicine, nursing, occupational therapy, pharmacy, physical therapy and social work—met to address scope of practice issues from a public protection viewpoint by determining whether a specific healthcare profession is capable of providing the proposed care in a safe and effective manner within changes to those healthcare professions’ scopes of practice.

These groups found:
4. Overlap among professions is necessary. No one profession actually owns a skill or activity in and of itself. One activity does not define a profession, but it is the entire scope of activities within the practice that makes any particular profession unique. Simply because a skill or activity is within one profession’s skill set does not mean another profession cannot and should not include it in its own scope of practice. (This is key to understanding why an APN Anesthesia and an anesthesiologist may both legal give anesthesia without being guilty of practicing the others profession)
5. Practice acts should require licenses to demonstrate that they have the requisite training and competence to provide a service. No professional has enough skills or knowledge to perform all aspects of the profession’s scope of practice. For instance, physicians’ scope of practice is “medicine,” but no physician has the skill and knowledge to perform every aspect of medical care. In addition, all healthcare providers’ scopes of practice include advanced skills that are not learned in entry-level education programs, and would not be appropriate for an entry-level practitioner to perform. As professions evolve, new technologies are developed; not all practitioners are competent to perform these new techniques.}

vii Changes In Healthcare Professions’ Scope of Practice: Legislative Considerations. May 2006 https://www.ncbha.org/ScopeOfPractice_09.pdf. Developed by:
A. Association of Social Work Boards (ASWB)
  Donna DeAngelo, LICSW, ACSW, Executive Director
B. Federation of State Boards of Social Work Practice (FSBSP)
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