Nurse practitioners (NPs) are a proven response to the evolving trend towards wellness and preventive health care driven by consumer demand. A solid body of evidence demonstrates that NPs have consistently proven to be cost-effective providers of high-quality care for almost 50 years. Examples of the NP cost-effectiveness research are described below.

More than three decades ago, in 1981, the Office of Technology Assessment (OTA) conducted an extensive case analysis of NP practice, reporting that NPs provided equivalent or improved medical care at a lower total cost than physicians. NPs in a physician practice potentially decreased the cost of patient visits by as much as one-third, particularly when seeing patients in an independent, rather than complementary, manner. A subsequent OTA analysis in 1986 confirmed original findings regarding NP cost effectiveness. All later studies of NP care have found similar cost efficiencies associated with NP practice.

The cost effectiveness of NPs begins with their academic preparation. The American Association of Colleges of Nursing has long reported that NP preparation costs 20 to 25 percent less than that of physicians. In 2009, the total tuition cost for NP preparation was less than one year's tuition for medical (MD or DO) preparation (AANP, 2010).

Comparable savings are associated with NP compensation. In 1981, the hourly cost of an NP was one-third to one-half that of a physician, according to OTA. The difference in compensation has remained unchanged for 30 years. In 2010, when the median total compensation for primary care physicians ranged from $208,658 (family) to $219,500 (internal medicine) (American Medical Group Association, 2010), the mean full-time NP's total salary was $97,345, across all types of practice (AANP, 2010). A study of 26 capitated primary care practices with approximately two million visits by 206 providers determined that the practitioner labor costs and total labor costs per visit were both lower in practices where NPs and physician assistants (PAs) were used to a greater extent (Roblin, Howard, Becker, Adams and Roberts, 2004). When productivity measures, salaries and costs of education are considered, NPs are cost-effective providers of health services.

Based on a systematic review of 37 studies, Newhouse et al (2011) found consistent evidence that cost-related outcomes such as length of stay, emergency visits and hospitalizations for NP care are equivalent to those of physicians. In 2012, modeling techniques were used to predict the potential for increased NP cost effectiveness into the future, based on prior research and data. Using Texas as the model state, Perryman (2012) analyzed the potential economic impact that would be associated with greater use of NPs and other advanced practice nurses, projecting over $16 billion in immediate savings that would increase over time.

NP cost effectiveness is not dependent on actual practice setting and is demonstrated in primary care, acute care and long-term care settings. For instance, NPs practicing in Tennessee’s state-managed managed care organization (MCO) delivered health care at 23 percent below the average cost associated with other primary care providers, achieving a 21 percent reduction in hospital inpatient rates and 24 percent lower lab utilization rates compared to physicians (Spitzer, 1997). A one-year study comparing a family practice physician-managed practice with an NP-managed practice within an MCO found that, compared to the physician practice, the NP-managed practice had 43 percent of the total emergency department visits, 38 percent of the inpatient days and 50 percent total annualized per member monthly cost (Jenkins and Torrisi, 1995). Nurse-managed centers (NMCs) with NP-provided care have demonstrated significant savings, less costly interventions and fewer emergency visits and hospitalizations (Hunter, Ventura and Keams, 1999; Coddington and Sands, 2009). A study conducted in a large health maintenance organization (HMO) setting established that adding an NP to the practice could virtually double the typical panel of patients seen by a physician, with a projected increase in revenue of $1.28 per member per month or approximately $1.65 million per 100,000 enrollees annually (Burl, Bonner, and Rao, 1994).

Chenowith, Martin, Pankowski and Raymond (2005) analyzed the health care costs associated with an innovative on-site NP practice for more than 4,000 employees and its dependents, finding savings of $0.8 to $1.5 million, with a benefit-to-cost ratio of up to 15:1. Later, they tested two additional benefit-to-cost models using 2004–2006 data for patients receiving occupational health care from an NP, demonstrating a benefit-to-cost ratio ranging from 2:1 to 8.7:1, depending on the method (Chenowith, Martin, Pankowski and Raymond, 2008).
Use of terms such as mid-level provider and physician extender

Time lost from work was lower for workers managed by NPs compared to physicians, as another aspect of cost savings (Sears, Wickizer, Franklin, Cheadie and Berkowitz, 2007).

A number of studies have documented the cost effectiveness of NPs in managing the health of older adults. Hummel and Prizada (1994) found that, compared to the cost of physician-only teams, the cost of a physician-NP team at a long-term care facility was 42 percent lower for the intermediate and skilled care residents and 26 percent lower for those with long-term stays. The physician-NP teams also had significantly lower rates of emergency department transfers, shorter hospital lengths of stay and fewer specialty visits. A one-year retrospective study of 1,077 HMO enrollees residing in 45 long-term care settings demonstrated a $72 monthly gain per resident, compared to a $197 monthly loss for residents seen by physicians alone (Burl, Bonner, Rao and Kan, 1998). Intrator (2004) found that residents in nursing homes with NPs were less likely to develop ambulatory care-sensitive diagnoses requiring hospitalizations. Bakerjian (2008) summarized a review of 17 studies comparing nursing home residents who are patients of NPs to others, finding lower rates of hospitalization and lower overall costs for the NP patients. The potential for NPs to control costs associated with the health care of older adults was recognized by United Health (2009), which recommended that providing NPs to manage nursing home patients could result in $166 billion healthcare savings.

NP-managed care within acute-care settings is also associated with lower costs. Chen, McNeese-Smith, Cowan, Upenieks and Afffi (2009) found that NP-led care was associated with lower overall drug costs for inpatients. When Paez and Allen (2006) compared NP and physician management of hypercholesterolemia following revascularization, they found patients in the NP-managed group had lower drug costs while being more likely to achieve their goals and comply with prescribed regimen.

Collaborative NP-physician management was associated with decreased length of stay and costs and higher hospital profit, with similar readmission and mortality rates (Cowan et al., 2006; Ettner et al., 2006). The introduction of an NP model in a health system’s neuroscience area resulted in more than $2.4 million in savings the first year and a return on investment of 1,600 percent; similar savings and outcomes were demonstrated as the NP model was expanded in the system (Larkin, 2003). Boling (2009) cites an intensive short-term transitional care NP program documented by Smigleski et al. through which health care costs were decreased by 65 percent or more after enrollment, as well as the introduction of an NP model in a system’s cardiovascular area associated with a decrease in mortality from 3.7 percent to 0.6 percent and more than 9 percent decreased cost per case (from $27,037 to $24,511).

In addition to absolute cost, other factors are important to health care cost effectiveness. These include illness prevention, health promotion and outcomes. See Documentation of Quality of Nurse Practitioner Practice (AANP, 2013) for further discussion.

References:
References (cont.):


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