



The Economic Value of Nursing

Statement of Position

It is the position of the Center for American Nurses that professional nursing is essential to the delivery of quality patient care. The economic value of nursing is demonstrated through professional practice that delivers safe, appropriate, and cost-effective care. Nursing adds value in achieving patient outcomes consistent with evidence-based therapeutic plans. Helping nurses to understand, demonstrate, and communicate their contributions is the first step in recognizing and valuing nurses in a way that may impact the nursing work environment and the delivery of cost-effective health care.

Statement of Need

In 2002, with its visionary document *Nursing's Agenda for the Future*, the American Nurses Association prioritized the recognition and valuing of nursing care within the health care system (American Nurses Association, 2002). The document called for nursing to quantify "its contribution to the quality of patient care and the saving of health care dollars" (Kany, 2004). Demonstrating the individual and collective value of nursing has been recognized as foundational to advocating change within the nursing workforce and the health care environment. In recent years, the profession has continued to stimulate and support research to document the visibility and impact of nursing on health care quality and costs, especially through the incorporation of standardized terminologies and definitions (Keenan, Yakel, Tschannen, & Mandeville, 2008).

As pay for performance models are now being rapidly implemented, an urgent need exists for nursing to define its economic contribution in order to make these programs financially successful. According to the Agency for Healthcare Research and Quality (AHRQ), there are over 100 pay for performance initiatives nationwide sponsored by a variety of health plans, employer coalitions, and public insurance programs (AHRQ, 2006).

Despite the implementation of these programs, the implications for the role of nursing have been much more difficult to define. In May of 2006 a briefing, *Rewarding Quality Performance: The Multidisciplinary Approach*, sponsored by the Alliance for Health Reform in conjunction with the Robert Wood Johnson Foundation, set out to define the role of nursing as it contributes to quality and high performance.

Speakers concurred that nurses play a pivotal role in quality and patient outcomes and often drive processes involved in multidisciplinary teams. They agreed that part of the challenge for pay for performance is to construct mechanisms to measure and assess how nursing specifically affects patient quality outcomes. (Alliance for Health Reform, 2006)

Background

Assessing and demonstrating the economic value of nursing has been a goal of the profession for many years. Attempts to validate the value of nursing have presented a number of challenges, particularly since nursing services are not billed as a separate and distinct service in the acute care setting. Early in the 1990s, Claire Fagin observed that nurses were beginning to be recognized for their productivity, cost-effectiveness, and contributions to improved quality of care. Yet she noted that nursing's specific contributions and characteristics such as experience and education were not documented in relation to these outcomes (Fagin, 1990).

According to recent estimates, 44 percent of inpatient direct care costs are related to the provision of nursing care (Kane & Siegrist, 2002). Even as nursing care is identified as a large component of hospital operating costs, the economic impact of nursing care on health and health care organizations is inconsistently and poorly documented. It has been noted that while nurses directly influence costs, savings, and the effectiveness of care, the profession lags "behind other disciplines in evidence of rigorous economic analysis," (Stone, Curran, & Bakken, 2002, p. 281). The lack of effective assessment and evaluation processes has limited the profession's ability to demonstrate the economic impact of nursing on patient outcomes and organizational growth and well being.

The growing emphasis on cost-containment in health care has created an even greater impetus to assess the economic value of nursing care (Hendricks & Baume, 1997). Because nursing care is embedded in fixed costs/per diem charges, the current health care system does not adequately reflect the nursing profession's contribution/impact in real economic terms (i.e, how nursing benefits the "bottom line"). In a recent report, the Robert Wood Johnson Foundation concluded:

"In this environment, the nursing profession has suffered. In most cases, nursing is not recognized as a value-added service...because it has always been included in the cost of hospital care along with linens and food. The

traditional subjugation of the nursing profession gave rise to the current financing mechanism, which makes it difficult, if not impossible, to quantify the value that nursing service adds and to compensate for it accordingly” (Kimball & O’Neil, 2002, p. 17).

Significant challenges to the measurement and expression of nursing impact relate to differential measurement techniques and lack of standard definitions, as well as diverse environmental, organizational, and technological influences in health care (Covaleski, 2005). Research indicates there is distinct variability among patient care units in the amount of time nurses spend engaged in value-added activities, such as direct care and indirect care (Upenieks, Akhavan, Kottlerman, Esser, & Ngo, 2007). The pricing and valuing of nursing care are difficult to measure within available client classification systems and other measures of quality and effectiveness of care. In addition, large national databases on health care costs, outcomes, and quality seldom include descriptions of nursing quality, type, or cost of care (Brooten, Youngblut, Kutcher, & Bobo, 2004). However, enhanced information system capabilities, growing interest, and emerging research suggests that systematic implementation and use of standardized terminology sets to describe nursing diagnosis, interventions, and outcomes can generate the data needed to price and value nursing practice (Keenan, Yakel, & Tschannen, 2008).

In the absence of a clear and strong economic voice, nursing is often invisible in important financial decisions (Kany, 2004). Nurses report lack of control over practice and an inability to influence key decisions, especially those related to resource allocation (Attree, 2007). Thus, understanding methods of economic evaluation and the ability to assess and contribute to rigorous economic evidence is an essential competency for responsible nursing practice (Stone et al., 2002).

In a cost-driven environment, an inability to understand and articulate nursing’s economic value and practice outcomes has serious implications. If nurses cannot articulate nursing roles and outcomes to others, cost-cutting efforts will continue to be directed at registered nurses (Turler, 2001). The delivery of quality care requires cost outlays for professional nursing services and interventions. Alternatives to controlling health care costs require examining the efficacy of investment in equipment, supplies, and pharmaceuticals.

The Evidence Base for Nursing Value

A growing body of research supports not only the value of individual nurses, but also nurses’ contributions to health care quality and outcomes. According to Welton, “when hospitals do not increase nurse staffing to adequate levels, patient complications can occur and patient care can deteriorate to the point that hospitals fail economically” (2007). National studies focused on critical factors such as staffing patterns, nursing skill mix, RN education levels,

and the nursing work environment have provided evidence of nursing impact on patient outcomes across settings. Noteworthy findings include:

Acute Care

- According to an Agency for Healthcare Research and Quality Evidence Report, increased nurse staffing was associated with lower hospital-related mortality, cardiac arrest, hospital-acquired pneumonia, and failure to rescue (Kane, Shamliyan, Mueller, Duval, & Wilt, 2007).
- In hospitals with high RN staffing, medical patients had lower rates of adverse outcomes (UTI's, pneumonia, shock, upper GI bleeding, and longer hospital stay) than patients in hospitals with low RN staffing (Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002).
- 30-day mortality and incidence of failure to rescue are higher when nurse staffing levels are lower (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). The best predictor of patient mortality in the hospital setting is the nurse-to-patient ratio: a higher nurse-to-patient ratio is associated with lower mortality (Tourangeau, Cranley, & Jeffs, 2006).
- An increase of one hour worked by RNs per patient day was associated with an 8.9 percent decrease in the odds of a surgical patient contracting pneumonia (Cho, Ketefian, Barkauskas, & Smith, 2003).
- The ratio of total nurse staffing to patients is significantly related to and predictive of in-hospital mortality (Sasichay-Akkadechanunt, Scalzi, & Jawad, 2003).
- There is a significant correlation between registered nurse supply and patient satisfaction. In states with higher percentages of working registered nurses, patients report greater satisfaction with the quality of hospital nursing care (Clark, P., Leddy, K., Drain, M., & Kaldenberg, D., 2007). Study results based on National Database of Nursing Quality Indicators™ (NDNQI) data found lower patient fall rates and lower hospital-acquired pressure ulcer rates associated with experienced RN staffing (Dunton, Gajewski, Klaus, & Pierson, 2007).

School Nursing

- Children with asthma who were case-managed by nurses had fewer absences from school (Levy, Heffner, Stewart, & Beeman, 2006).

- School nurses are in a unique position to identify trends in injuries and implement changes in the school environment as a form of prevention (Guttu, Engelke, & Swanson, 2004).

Discharge Planning/Home Care/Advance Practice Nurse

- A study of low birthweight neonates found that early discharge with follow-up care from nurses was associated with safe, cost-effective care. Infants discharged early from acute care and followed at home by nurses incurred lower hospital costs (Brooten et al., 1986).
- Elderly high-risk patients enrolled in home care follow-up by nurses have fewer readmissions and incur lower health care costs (Naylor et al., 1999).
- Patients who receive discharge planning with follow-up by nurses have shorter lengths of stay, lower rates of admissions and lower rates of falls (Huang & Liang, 2005).
- Five patient groups who received Advanced Practice Nurses (APN) intervention had more positive outcomes with lower health care costs than the control groups. The five patient groups included: caesarean birth, high-risk pregnancy, hysterectomy, very low birth weight and elders with cardiac diagnoses (Brooten, Youngblut, Deatrick, Naylor, & York, 2003).
- Studies of the benefits of the role of advanced practice nurses on patient outcomes and reduced health care costs are particularly strong in making the case for the economic impact of nurses (Brooten et al., 2004).

Nursing Homes /Skilled Nursing

- Lower registered nurse hours available in nursing homes are associated with quality-of-care deficiencies (Harrington, Zimmerman, Karon, Robinson, & Beutel, 2000).
- Increased full-time equivalent staffing ratios of registered nurses are associated with lower death rates (Cohen & Spector, 1996).
- In skilled nursing facilities, the registered nurse hours per resident are associated with better quality of care (Cherry, 1991).

Professional Directions

The nursing profession must continue to document the value of nursing, benchmarked against patient outcomes and cost of care. To do this, information about nursing care provided and patient outcomes attributed to the interventions must be collected, recorded, and used in making management decisions (Rothert, Wehrwein, & Andre, 2002). High quality, projectable studies, as well as cost-benefit analyses of nursing care are sorely needed to prioritize resource allocation

and health care spending (Spetz, 2005). Significant nurse participation in associated standards development activities is critical to ensure the robust data and information infrastructures are in place to support such efforts.

Nurses must be educated and empowered to adopt new models of care that accurately represent nursing intensity and expended nursing resources. “It is no longer acceptable to look at just the cost of nursing services, but rather the cost savings and value of quality patient outcomes that nursing provides” (Nowicki Hnatiuk, 2006). Needleman, Buerhaus, Stewart, & Zelevinsky (2006) agree that costs are only part of the equation: the value will be evidenced in better patient care and cost savings to the health care system. Value-added outcomes related to increased patient satisfaction, decreased nurse turnover, and increased RN job satisfaction must be quantified to demonstrate and articulate the true value of nursing (Nowicki Hnatiuk, 2006). Use of cost-utility analysis is a strategy that is recommended to assess the economic impact of nursing interventions (Vanhook, 2007).

Recommendations

The Center for American Nurses recommends the following actions and strategies regarding the Value of Nursing:

Nurses

- Articulate to your patients and to your employer your value to patient care and to the financial bottom line of the facility for which you work. Value yourself as a nurse and the contributions you are making to the care of patients. Identify yourself to other providers and patients as a Registered Nurse, Advanced Practice Nurse or other relevant designation.
- Take action to ensure your clinical or academic setting adopts and systematically integrates a (ANA recognized) standardized nursing terminology set to support the accurate representation, communication, evaluation and improvement of nursing care.
- Support nursing colleagues in efforts to improve patient care delivery through evidence based–practice.
- Pursue ongoing professional development through continuing education and review of professional literature in order to apply evidence-based practices.
- Maintain current knowledge regarding research trends demonstrating the value of nursing and the contribution of nursing interventions to improving patient outcomes and safe patient care.

Healthcare Organizations

- Engage nursing leadership in the development and implementation of productivity standards and healthcare finances.

- Utilize evidence-based research related to nurse staffing and patient outcomes in designing health care delivery systems.
- Allocate financial, operational, and personnel resources congruent with evidence-based practice to deliver optimal patient care.
- Design evidence-based nurse staffing models considering patient safety, patient outcomes, patient satisfaction, and efficacy of care.
- Provide appropriate compensation to nurses.
- Assure clinicians have input into design and organization of patient care delivery systems.

Academic Programs and Nursing Continuing Education

- Prepare nurses with the skills to advocate for patients and the profession through critical thinking, clinical skills, research, leadership, and communication skills.
- Enhance nurses' capacity to articulate their clinical value to patients and their economic value to their employers.
- Design educational programs that address the economic value of nursing and their financial impact on patient outcomes.
- Develop nurse leaders with research acumen who can articulate the contributions of nursing and its impact on quality, safety, and patient outcomes.
- Incorporate business principles into the curriculum of nursing programs, in undergraduate, graduate and doctoral programs, as nursing is in a unique position to cross-reference evidence-based outcomes to the financial community.
- Integrate an (ANA recognized) standardized nursing terminology set throughout all courses and practicum to support documentation, communication, evaluation, and improvement of nursing care.

Nursing Research

- Expand nursing research related to the efficacy of nursing interventions across the spectrum of care.
- Evaluate efficacy of nurse staffing models in various settings related to patient safety, patient outcomes, and cost effectiveness.
- Disseminate research on the value of nursing to consumers, healthcare providers, healthcare administrators, third-party payers, regulatory agencies, accrediting organizations, professional nursing associations, and legislators.

Consumer and Patient Education

- Provide consumers and patients with information delineating the relationship between professional nursing care and patient outcomes.
- Educate consumers regarding indicators of quality care and strategies for becoming informed and vigilant partners in healthcare.

The Center for American Nurses

- Provide support for initiatives that contribute to positive patient outcomes and document the value of nursing in quantifiable and qualitative terms.
- Provide nurses with evidence-based information and strategies to better connect and communicate the care they provide to the outcomes realized by their patients.
- Encourage nurses to serve on hospital/organizational committees where nurse staffing, patient outcomes, and health care costs are discussed and determined.
- Support nurse-directed research focused on demonstrating the value of nursing to quality and safety in health care.
- Serve as a catalyst in articulating the value of nursing, as it relates to patient safety, in terms understandable by consumers of health care.

References

- Agency for Healthcare Research and Quality. (2006) Final contract report: Pay for performance: A decision guide for purchasers. Retrieved March 2008 from <http://www.ahrq.gov/qual/p4pguide.pdf>
- Alliance for Health Reform. (2006). Rewarding quality performance: The multidisciplinary approach Retrieved May 14, 2008 from http://www.allhealth.org/briefing_detail.asp?bi=78
- Aiken, L. H., Clarke, S. P., Sloane, D. M., Sochalski, J., & Silber, J. H. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *Journal of the American Medical Association*, 288(16), 1987-1993.
- American Nurses Association. (2002). Nursing's agenda for the future: A call to the nation. Retrieved August 21, 2007, from <http://nursingworld.org/MainMenuCategories/HealthcareandPolicyIssues/Reports/Agendaforthefuture.aspx>
- Attree, M. (2007). Factors influencing nurses' decisions to raise concerns about care quality. *Journal of Nursing Management*, 15(4), 392-402.
- Brooten, D., Kumar, S., Brown, L. P., Butts, P., Finkler, S. A., Bakewell-Sachs, S., et al. (1986). A randomized clinical trial of early hospital discharge and home follow-up of very-low-birth-weight infants. *The New England Journal Of Medicine*, 315(15), 934-939.

- Brooten, D., Youngblut, J. M., Deatrick, J., Naylor, M., & York, R. (2003). Patient problems, Advanced Practice Nurse (APN) interventions, time and contacts among five patient groups. *Journal of Nursing Scholarship*, 35(1), 73-79.
- Brooten, D., Youngblut, J. M., Kutcher, J., & Bobo, C. (2004). Quality and the nursing workforce: APNs, patient outcomes and health care costs. *Nursing Outlook*, 52(1), 45-52.
- Cherry, R. L. (1991). Agents of nursing home quality of care: ombudsmen and staff ratios revisited. *The Gerontologist*, 31(3), 302-308.
- Cho, S., Ketefian, S., Barkauskas, V. H., & Smith, D. G. (2003). The effects of nurse staffing on adverse events, morbidity, mortality, and medical costs. *Nursing Research*, 52(2), 71-79.
- Clark, P., Leddy, K., Drain, M., & Kaldenberg, D. (2007). State nursing shortages and patient satisfaction: More RNs--better patient experiences. *Journal of Nursing Care Quality*, 22(2), 119-127.
- Cohen, J. W., & Spector, W. D. (1996). The effect of Medicaid reimbursement on quality of care in nursing homes. *Journal of Health Economics*, 15(1), 23-48.
- Covaleski, M. A. (2005). The changing nature of the measurement of the economic impact of nursing care on health care organizations. *Nursing Outlook*, 53(6), 310-316.
- Dunton, N., Gajewski, B., Klaus, S., & Pierson, B. (2007, September 30). The relationship of nursing workforce characteristics to patient outcomes. *OJIN: Online Journal of Issues in Nursing*. Retrieved January 2, 2008, from <http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN.aspx>
- Fagin, C. (1990). Cost effectiveness: nursing's value proves itself. *American Journal of Nursing*, 90(10), 16-8, 22, 25, 29-30.
- Guttu, M., Engelke, M.K. & Swanson, M. (2004). Does the school nurse-to-student ratio make a difference? *Journal of School Health*, 74(1), 6-9.
- Harrington, C., Zimmerman, D., Karon, S. L., Robinson, J., & Beutel, P. (2000). Nursing home staffing and its relationship to deficiencies. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, 55(5), S278-S287.
- Hendricks, J., & Baume, P. (1997). The pricing of nursing care. *Journal of Advanced Nursing*, 25(3), 454-462.

- Huang, T.T., & Liang, S.H. (2005). A randomized clinical trial of the effectiveness of a discharge planning intervention in hospitalized elders with hip fracture due to falling. *Journal of Clinical Nursing*, 14(10), 1193-1201.
- Kane, N. M., & Siegrist, R. B., Jr. (2002, August 12). *Understanding rising hospital inpatient costs: key components of cost and the impact of poor quality*. Retrieved September 11, 2007, from http://www.bcbs.com/blueresources/cost/4_Inpatient_Qual_Assess.pdf
- Kane, R. L., Shamliyan, J., Mueller, C., Duval, S., & Wilt, T. J. (2007, March). Nurse staffing and quality of patient care. Evidence Report/Technology Assessment No. 151 Agency for Healthcare Research and Quality. Retrieved September 11, 2007, from <http://www.ahrq.gov/clinic/tp/nursesttp.htm#Report>
- Kany, K. A. (2004). Nursing in the next decade: implications for health care and for patient safety. *OJIN: Online Journal of Issues in Nursing*, 9(2). Retrieved March 3, 2008 <http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN.aspx>
- Keenan, G., Tschannen, D., & Wesley, M. (2008). Standardized terminologies can transform Practice. *Journal of Nursing Administration*, 38 (3), 103-106.
- Keenan, G., Yakel, E., & Tschannen, D., Mandeville, M. (2008). Documentation and the nurse care planning process. In R. Hughes (Ed) *Patient safety and quality: An evidence based handbook for nurses*. AHRQ Publication No. 08-0043), Agency for Healthcare Research and Quality, Rockville, MD., Chapter 49. Retrieved May 19, 2008 http://www.ahrq.gov/qual/nursesfdbk/docs/KeenanG_DNCPD.pdf
- Kimball, B., & O'Neil, E. (2002). *Health care's human crisis: The American Nursing Shortage*. Princeton, NJ: Robert Wood Johnson Foundation. Retrieved March 3, 2008 from <http://www.maricopa.edu/bwd/pdfs/healthcarecrisis.pdf>
- Levy, M., Heffner, B., Stewart, T., & Beeman, G. (2006). The efficacy of asthma case management in an urban school district in reducing school absences and hospitalizations for asthma. *Journal of School Health*, 76(6), 320-324.
- Naylor, M. D., Broten, D., Campbell, R., Jacobsen, B. S., Mezey, M. D., Pauly, M., et al. (1999). Comprehensive discharge planning and home follow-up of hospitalized elders: a randomized clinical trial. *Journal of the American Medical Association*. 281(7), 613-620.
- Needleman, J., Buerhaus, P., Mattke, S., Stewart, M., & Zelevinsky, K. (2002). Nurse-staffing levels and the quality of care in hospitals. *New England Journal of Medicine*, 346(22), 1715-1722.

- Needleman, J., Buerhaus, P. I., Stewart, M., Zelevinsky, K., & Mattke, S. (2006). Nurse staffing in hospitals: is there a business case for quality? *Health Affairs*, 25(1), 204-211.
- Nowicki Hnatiuk, C. (2006). The economic value of nursing. *AAACN Viewpoint*, 28(4), 1, 15.
- Rothert, M., Wehrwein, T., & Andre, J. (2002). Informing the debate: Health policy options for Michigan policymakers: Nursing workforce requirement for the needs of Michigan Citizens. Retrieved August 23, 2007, from <http://ippsr.msu.edu/Publications/Nursing.pdf>
- Sasichay-Akkadechanunt, T., Scalzi, C. C., & Jawad, A. F. (2003). The relationship between nurse staffing and patient outcomes. *Journal of Nursing Administration*, 33(9), 478-485.
- Spetz, J. (2005). The cost and cost-effectiveness of nursing services in health care. *Nursing Outlook*, 53(6), 305-309.
- Stone, P. W., Curran, C. R., & Bakken, S. (2002). Economic evidence for evidence-based practice. *Journal of Nursing Scholarship*, 34(3), 277-282.
- Tourangeau, A. E., Cranley, L. A., & Jeffs, L. (2006). Impact of nursing on hospital patient mortality: a focused review and related policy implications. *Quality & Safety in Health Care*, 15(1), 4-8.
- Turkel, M. C. (2001). Struggling to find a balance: the paradox between caring and economics. *Nursing Administration Quarterly*, 26(1), 67-82.
- Upenieks, V. V., Akhavan, J., Kottlerman, J., Esser, J., & Ngo, M. J. (2007). Value-added care: a new way of assessing nursing staffing ratios and workload Variability. *Journal of Nursing Administration*, 37(5), 243-252.
- Vanhook, P. M. (2007, September 30). Cost-Utility Analysis: A Method of Quantifying the Value of Registered Nurses. *OJIN: Online Journal of Issues in Nursing* Retrieved January 2, 2008, from <http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN.aspx>
- Welton, J. (2007, September 30). Mandatory hospital nurse to patient staffing ratios: Time to take a different approach. *OJIN: Online Journal of Issues in Nursing* Retrieved January 2, 2008, from <http://www.nursingworld.org/MainMenuCategories/ANAMarketplace/ANAPeriodicals/OJIN.aspx>

