Jefferson.

Thomas Jefferson University
Jefferson Digital Commons

School of Nursing Faculty Papers & Presentations

Jefferson College of Nursing

November 2006

Demonstrating the value of the RN in ambulatory care

Beth Ann Swan
Thomas Jefferson University, bethannswan@gmail.com

Regina Conway-Phillips
Humana, Inc.

Karen F. Griffin
South Texas Veterans Healthcare System

Let us know how access to this document benefits you

Follow this and additional works at: http://jdc.jefferson.edu/nursfp

Part of the Nursing Commons

Recommended Citation

Swan, Beth Ann; Conway-Phillips, Regina; and Griffin, Karen F., "Demonstrating the value of the RN in ambulatory care" (2006). *School of Nursing Faculty Papers & Presentations.* Paper 13.
http://jdc.jefferson.edu/nursfp/13

This Article is brought to you for free and open access by the Jefferson Digital Commons. The Jefferson Digital Commons is a service of Thomas Jefferson University's Center for Teaching and Learning (CTL). The Commons is a showcase for Jefferson books and journals, peer-reviewed scholarly publications, unique historical collections from the University archives, and teaching tools. The Jefferson Digital Commons allows researchers and interested readers anywhere in the world to learn about and keep up to date with Jefferson scholarship. This article has been accepted for inclusion in School of Nursing Faculty Papers & Presentations by an authorized administrator of the Jefferson Digital Commons. For more information, please contact: JeffersonDigitalCommons@jefferson.edu.

Beth Ann Swan
Regina Conway-Phillips
Karen F. Griffin

Demonstrating the Value of the RN in Ambulatory Care

Executive Summary

- During 2003, an estimated 906 million visits were made to physician offices in the United States (Hing, Cherry, & Woodwell, 2005).
- Overall, 42% of visits to outpatient settings were attended by a registered nurse (Middleton & Hing, 2005).
- Despite ambulatory care being the fastest growing site for care, it is the least studied.
- The purpose of this article is to provide an overview of the role of the RN in ambulatory care and describe the direct and indirect economic value of RNs in ambulatory care settings.

In May 2006, Americans for Nursing Shortage Relief, a group of 51 national nursing organizations, convened a congressional briefing to address the ever-increasing shortage of nurses and nurse faculty in the United States. Three nurse leaders presented the evidence on the economic value of: (a) registered nurses (RNs) in hospitals, (b) advanced practice nurses, specifically certified registered nurse anesthetists, and (c) Magnet recognition (Nowicki, 2006). One of the areas not addressed was ambulatory care and the economic value of RNs in this practice setting.

There were 2.9 million RNs living and working in the United States in March 2004 (U.S. Department of Health and Human Services [HHS], 2004). Currently, RNs constitute the largest health care occupation and are projected to be the second largest number of new jobs among all occupations. In March 2004, 56% percent of the RNs were working in hospitals, this is a decrease from 59% in March 2000 (U.S. Department of Labor, Bureau of Labor Statistics [BLS], 2006). Twenty-nine percent of RNs were estimated to be employed in ambulatory care, community health, and public health settings, an increase from 24% in 2000 (HHS, 2004). While the intensity of nursing care is likely to increase, requiring more nurses per patient, the number of inpatients is not likely to increase as much. Rapid growth is expected in both patients and nurses in ambulatory care sites and hospital-based ambulatory care practices (BLS, 2006). This shift toward ambulatory care is found among all age groups but particularly among older adults (Rosenfeld, Kim, Londono, Kovner, & Mezey, 2005). This trend is predicted to increase due to the changes in health care delivery in ambulatory settings.

During 2003, an estimated 906 million visits were made to physician offices in the United States (Hing et al., 2005). Adults younger than 65 years of age make an average of six ambulatory visits per year and older adults make an average of 11 ambulatory care visits per year (Rosenfeld et al., 2005). Overall, 42% of visits to outpatient settings were attended by a RN (Middleton & Hing, 2005). Despite ambulatory care being the fastest growing site for care, it is the least studied. The purpose of this article is to provide an overview of the role of the RN in ambulatory care and describe the economic value of RNs, direct and indirect financial benefit, in the ambulatory care setting based on outcomes of care delivered by RNs.

Search Strategy

A literature search was conducted using PubMed and CINAHL in May and again in June 2006 using the search terms ambulatory care nursing, ambulatory care nurses, registered nurses, advanced practice nurses, ambulatory care, ambulatory care facilities, primary health care, community health nursing, nursing role, evaluation, cost-effectiveness, effectiveness, clinical effectiveness, risk reduction, risk management, cost and cost analysis, cost benefit analysis, value, patient satisfaction, outcomes (health care), health promotion, interventions, and statistics. These terms were used in various combinations in the databases, as well as in the EBSCO Information Services Megafile of Journals and Science Direct journals database. Tables of contents of selected nursing e-journals were scanned, as well as nursing association Web sites such as American Academy of Ambulatory Care Nursing, Oncology Nursing Society, American Academy of Nurse Practitioners, American Nurses Association, and National League for Nursing. References from

BETH ANN SWAN, PhD, CRNP, FAAN, is Associate Professor and Associate Dean, Graduate Program, Jefferson School of Nursing, Thomas Jefferson University, Jefferson College of Health Professions, Philadelphia, PA.

REGINA CONWAY-PHILLIPS, MSN, RN, is Process Manager Delegation Compliance, Humana, Inc., Louisville, KY.

KAREN F. GRIFFIN, MSN, RN, CNAA, is Associate Chief Nursing Service, South Texas Veterans Healthcare System, Grand Prairie, TX.

NOTE: This column is written by members of the American Academy of Ambulatory Care Nursing and edited by ELIZABETH DICKEY, MPH, RN, FNP. For more information about the organization, contact: AAACN, East Holly Avenue, Box 56, Pitman, NJ 08071-0056; (856)256-2300; (800)AMB-NURS; FAX (856)589-7463; E-mail: aaacn@ajj.com; Web Site: http://AAACN.org

retrieved articles were also searched. Studies were included that explored the role and the value of the RN in ambulatory care within the last 10 years. Studies were excluded if they examined the role and value of the advanced practice nurse in ambulatory care, which was not a focus of this article.

Role of the RN in Ambulatory Care

Before examining the economic value of the role of the RN in ambulatory care, it is important to define the role and role dimensions (Haas, Hackbarth, Kavanagh, & Vlasses, 1995). Readers are referred to a four-part series by Haas and Hackbarth describing the dimensions of the current staff RN role (circa 1995) and dimensions of the future staff RN role (present state). Table 1 lists the core dimensions for the current RN role and Table 2 lists the core dimensions for the future staff RN role (Haas & Hackbarth, 1995a; Haas & Hackbarth, 1995b; Haas et al., 1995; Hackbarth, Haas, Kavanagh, & Vlasses, 1995).

A recent survey conducted by the American Academy of Ambulatory Care Nursing (AAACN) explored "what is the value of ambulatory care nursing?" (Conway-Phillips, 2006). Open-ended responses included generic statements such as "I am a great asset and invaluable because of my diverse background" but did not describe how their versatility was valuable. Many responses described in broad terms roles, responsibilities, and functions that RNs perform daily. Two responses that elicited powerful images were: "I am the front and back door of the hospital" and "I am the eyes and ears of all providers." Two overarching themes emerged: (a) coordinating care and services and (b) ensuring continuity of care. Some respondents articulated that by RNs coordinating care and ensuring continuity, quality care was provided (clients remained healthy, and thus produced value).

Value of the RN in Ambulatory Care

Once the roles of the RN in ambulatory care are identified, links can be made to nursing interventions and patient outcomes in the context of available resources. Porter-O'Grady and Malloch (2006) state: "The value equation in which there is an examination of clinical practice, performance outcomes, and the available payment structure serves as a template to assess overall value" (p. 201). Value is defined as "a principle, standard, or quality considered worthwhile or desirable; worth in usefulness and importance" (American Heritage Dictionary, 2000, p. 1900).

Ambulatory care nurses care for patients with a variety of illnesses and injuries on an outpatient basis, either in physicians' offices, hospital outpatient departments, or clinics. Some ambulatory care nurses are involved in telehealth care, providing care and advice through electronic communications media such as the Internet or video conferencing (BLS, 2006). According to the AAACN *Ambulatory Care Nursing Administration and Practice Standards* (2004), ambulatory care nursing practice, "includes direct patient care, telehealth nursing

Table 1.
Dimensions of the Current Staff Nurse Role

Eight core dimensions of the current clinical practice role and three core dimensions of the current quality improvement/research role in ambulatory care.

Clinical Practice Role

Factor	Dimension
Factor I	*Enabling Operations:* Maintain safe work environment, maintain traffic flow, search for space/equipment, set up room, locate records, order supplies, transport clients, provide emotional support, and take vital signs.
Factor II	*Technical Procedures:* Assist with procedures, prepare client for procedures, chaperon during procedures, inform client about treatment, witness signing consent forms, administer oral/IM medications, and collect specimens.
Factor III	*Nursing Process:* Develop nursing care plan, use nursing diagnosis, complete client history, assess client learning needs, conduct exit interview, evaluate client care outcomes, and chart each client encounter.
Factor IV	*Telephone Communication:* Telephone triage, call pharmacy with prescription, and call client with test results.
Factor V	*Advocacy:* Make clients aware of rights, promote positive public relations, act as a client advocate, and triage client to appropriate provider.
Factor VI	*Teaching:* Instruct client on medical/nursing regime and instruct client on home and self-care.
Factor VII	*Care Coordination:* Long-term supportive relationship, act as a resource person, coordinate client care, assess needs and initiate referrals, find resources in the community, and instruct on health promotion.
Factor VIII	*Expert Practice Within Setting*: Expertise in advanced nursing practice, function as advanced nurse resource, serve as preceptor for students, design and present in-service education.
	Reliability alpha = .9163

Quality Improvement/Research Role

Factor	Dimension
Factor I	*Quality Improvement:* Implement professional standards, participate in preparation of QI plan, collect and analyze QI data, use QI plan in practice, participate in interdisciplinary QI teams, and develop expected client outcomes.
Factor II	*Research:* Participate in research of others and follow guidelines to protect human subjects.
Factor III	*Continuing Education:* Participate in on-site continuing education and participate in off-site continuing education.
	Reliability alpha = .8647

Reprinted from *Nursing Economic$*, 1995, Volume 13, Number 5, pp. 285-294. Reprinted with permission of the publisher, Jannetti Publications, Inc.

Table 2.
Dimensions of the Future Staff Nurse Role

Nine core dimensions of the future staff nurse clinical practice role and three core dimensions of the future quality improvement/research role in ambulatory care.

Clinical Practice Role

Factor I	*Enabling Operations:* Order supplies, locate records, set up room, search for space/equipment, schedule appointments, transport clients, witness consent forms, maintain traffic flow, and enter data in computer.
Factor II	*Technical Procedures:* Assist with procedures, prepare client for procedures, chaperon during procedures, inform client about treatment, administer oral/IM medications, measure vital signs, and collect specimens.
Factor III	*Nursing Process:* Develop nursing care plan, use nursing diagnosis, and conduct exit interview.
Factor IV	*Telephone Communication:* Telephone triage, call pharmacy with prescription, and call client with test results.
Factor V	*Advocacy:* Make clients aware of rights, promote positive public relations, act as a client advocate, and triage client to appropriate provider.
Factor VI	*Client Teaching:* Assess client learning needs, instruct client on medical/nursing regime, instruct client on home and self-care, and evaluate client care outcomes.
Factor VII	*High-Tech Procedures:* Administer blood/blood products, perform complex treatments, and monitor clients before and after procedures.
Factor VIII	*Care Coordination:* Long-term supportive relationship, act as a resource person, coordinate client care, assess needs and initiate referrals, and instruct on health promotion.
Factor IX	*Expert Practice/Community Outreach:* Expertise in advanced nursing practice, function as advanced nurse resource, design and present in-service education, serve as preceptor for students, independently provide primary care, organize and conduct group teaching, participate in community outreach, follow-up clients in the home.
	Reliability alpha = .9098

Quality Improvement/Research Role

Factor I	*Quality Improvement:* Implement professional standards, participate in preparation of QI plan, collect and analyze QI data, use QI plan in practice, participate in interdisciplinary QI teams, develop expected client outcomes, and utilize a client classification system.
Factor II	*Research:* Facilitate nursing research, participate in research of others, follow guidelines to protect human subjects, serve on research review board, identify research questions, evaluate nursing research findings, and conduct own nursing research.
Factor III	*Continuing Education:* Participate in on-site continuing education and participate in off-site continuing education.
	Reliability alpha = .9318

Reprinted from *Nursing Economic$*, 1995, Volume 13, Number 5, pp. 285-294. Reprinted with permission of the publisher, Jannetti Publications, Inc.

practice, health maintenance and promotion, disease prevention and management, patient education and counseling, patient advocacy, case management, and the coordination of care for patients throughout the health care system" (p. 10).

The literature is replete with research of the value of the RN in acute care settings and the value of advanced practice nurses in outpatient settings (Aiken, Clarke, Cheung, Sloane, & Silber, 2003; Buerhaus, Donelan, Ulrich, Norman, & Dittus, 2006; Clarke & Aiken, 2006; Laurant et al., 2005; Laurant et al., 2006; Needleman, Buerhaus, Stewart, Zelevinsky, & Mattke, 2006; Richardson, Griffiths, Wilson-Barnett, Spilsbury, & Batehup, 2001; Spilsbury & Meyer, 2001; Vahey, Aiken, Sloane, Clarke, & Vargas, 2004). However, there is less research about the value of the RN in ambulatory care (Griffin & Swan, 2006; Mastal, 2000; Richter & Felix, 1999). Table 3 provides an overview of the studies examining the role of the RN in providing direct care interventions in ambulatory care and the outcomes of their care.

Twenty-three articles were reviewed; 21 articles represented single studies and two articles were systematic reviews of the research literature (Casey & Ormrod, 2003; Hamner, 2005). For example, Hamner summarized 16 studies: ten studies of RN-led interventions in outpatient heart failure clinics and six studies using telephone or technology-based RN interventions with heart failure clients (Hamner, 2005). Outcomes demonstrated were reduction in hospital admissions, reduction in emergency room visits, improved self-care and quality of life, and decreased mortality.

The settings or populations studied included health maintenance organizations; community health centers; telehealth nursing practices; psychiatric-mental health clinics; ambulatory care, general medicine clinics; pre-operative assessment clinics; ambulatory procedure and surgery centers; outpatient hemodialysis; adult specialty clinics such as care of clients living with HIV/AIDS, anticoagulation clinic, diabetes clinics, heart failure clinics, care of high risk pregnant women; gastroenterology clinic, oncology clinic, otology clinic; and pediatric specialty clinics such as infant hip dysplasia clinic.

The interventions delivered by the RN included RN-managed clinics (Adams, 1997; Casey & Ormrod, 2003; Hamner, 2005; Lee, 2005; Leenerts, Koehler, & Neil, 1996; Shimabukuro, Kramer, & McGuire, 2004; Uppal, Jose, Banks, Mackay, & Coatesworth, 2004; Vazquez, 2001), RN-delivered counseling and education (Dewar, Craig, Muir, & Cole, 2003; DiScenza, Nies, & Jordan, 1996; Philis-Tsimikas & Walker, 2001; Philis-Tsimikas et al., 2004; Wolosin, 2003), telephone-mediated care by RNs (Gulanick, Green, Crutchfield, Myers, & Marren, 1996; Kastens, 1998; Muender, Moore, Chen, & Sevick, 2000; O'Connell,

Table 3.
RN Interventions and Outcomes in Ambulatory Care

Citation	Setting/Population	Intervention Delivered by RN	Outcomes
Adams, 1997	Community Health Centers	RN care manager	Fewer hospitalizations and fewer emergency room visits.
Casey & Ormrod, 2003	Pre-Surgical Assessment Clinic	RN-managed surgical pre-assessment clinic	Review of the literature demonstrated high patient satisfaction, reduced costs, improved efficiency, and decreased waiting time.
Dewar et al., 2003	Ambulatory Surgery	Pre-op educational intervention, Post-op follow-up, and telephone advice	Improved pain management.
DiScenza et al., 1996	HIV Service	RN counseling on high risk sexual behaviors	Significant difference/change in behaviors from pre to post counseling.
Gulanick et al., 1995	General Medicine Clinic	Telephone nursing program	Increased patient and provider satisfaction; increased access to quality health care information.
Hamner, 2005	Heart Failure Clinics	RN managed clinic	Ten studies reviewed demonstrated reduction in hospital admissions and emergency room visits, decreased mortality, improved self-care and quality of life.
		Telephone or technology-based RN intervention	Improved patient satisfaction and decrease in emergency room visits.
Joseph & Freda, 2001	Ambulatory Care Clinics	RN patient recruitment	94% of the patients interviewed agreed to make appointments for their family members who were not already patients; 82% of the appointments were kept by the family member.
Kastens, 1998	Health Maintenance Organization	RN call center	Managed demand for service, managed chronic illness continuity of care, and prevention strategies.
Lee, 2005	Pediatric Clinic for Hip Dysplasia Infants	RN managed clinic	Increased patient satisfaction related to waiting time, appointments, and quality of service; RNs able to see 80% of infants referred within 2 months; 100% acceptance of service.

Table 3. (continued)
RN Interventions and Outcomes in Ambulatory Care

Citation	Setting/Population	Intervention Delivered by RN	Outcomes
Leenerts et al., 1996	Clients living with HIV/AIDS	RN-managed program	Less-frequent hospitalizations; reduction in ER visits; estimated cost savings in 1993 dollars: $884,000 by preventing 1 hospital stay in 20% of clients; $122,536 by shortening length of hospital stay by 1 day in 20% of clients; $583,848 by providing 25% of complex medical treatments and saving 1 hospital day each; overall cost savings $1.6 million.
Muender et al., 2000	High-Risk Pregnant Women	Prenatal nursing support via telephone	Reduced pre-term and low birth weight infants; cost savings from adverse events; net economic benefit $277/participant.
O'Connell et al., 2001	Telehealth Nursing	Telephone-based RN triage using algorithm	High overall satisfaction with service; 90% adherence/compliance with RN recommendations; 95.7% caller agreement with RN recommendations; use of medical service following a triage call: 6% scheduled followup with physician and 1% used emergency room.
Piette et al., 2000	Diabetes Care	Automated calls with RN telephone followup	Fewer symptoms of depression; greater self-efficacy to perform self-care activities; fewer days in bed because of illness; greater satisfaction with their health care overall, quality of their health outcomes, technical quality of service; greater satisfaction with continuity of care and communications with providers.
Quirk, 1998	Outpatient Hemodialysis	RN primary patient care model	Increased patient satisfaction and decreased venipuncture infiltrations.
Schroeder et al., 2000	Ambulatory Managed Care	RN expanded role: case management and coordination of care for complex clients	Decreased cost for complex procedures performed by RN; increased RN productivity; lowered system demands; higher attainment of clinical targets translated into lowered costs for future care for enrollees with chronic illness.

Table 3. (continued)
RN Interventions and Outcomes in Ambulatory Care

Citation	Setting/Population	Intervention Delivered by RN	Outcomes
Shimabukuro et al., 2004	Anticoagulation Program	RN-managed care	Increase in patient and provider satisfaction; no adverse events such as ER visits, hospitalizations related to therapy, no significant bleeding events, no excessive bruising, no deep-vein thrombosis.
Philis-Tsimikas & Walker, 2001 Philis-Tsimikas et al., 2004	High-Risk Diabetics	Multicomponent RN-led outreach and education, recruitment, screening, diagnosis, clinical care	Significant beneficial effect, HgbA1c, blood pressure, total cholesterol, and LDL are decreased significantly.
Uppal et al., 2004	Ear Clinic	RN-managed clinic for common otological procedures	Increased patient satisfaction; increased patient access; less cost, mean cost of outpatient visit was 75 GBP ($140 USD) less in RN-managed group equivalent to a reduction in cost to the hospital of more than 47,000 GBP ($88,000 USD) for 626 patients seen.
Vasquez, 2001	Schizophrenia Patients	RN competencies	Providing clinically competent care.
Wilson & Hubert, 2002	Ambulatory Oncology	Telephone-mediated care by RN	Increased patient satisfaction and improved continuity of care.
Wolosin, 2003	Gastroenterology Clinics	RN pre and post-procedure intervention	Increased patient satisfaction.

Stanley, & Malakar, 2001; Piette, Weinberger, & McPhee, 2000; Wilson & Hubert, 2002), and RN as care or case manager (Quirk, 1998; Schroeder, Trehearne, & Ward, 2000), and RN as patient recruiter (Joseph & Freda, 2001).

The outcomes that resulted from the RN care included increased patient satisfaction related to continuity of care and communications with providers; improved client self-efficacy, self-care, quality of life, and physiological markers such as blood pressure and hemoglobin A1c; fewer hospital visits and/or hospital re-admissions; fewer emergency room visits; improved operational efficiency; improved management of demand for services; and reduced cost and/or cost savings. Few studies quantified their outcomes in terms of dollars and cents (Leenerts et al., 1996; Muender et al., 2000; Uppal et al., 2004). Client/patient satisfaction was the outcome most often examined in this review.

Economic Value of the RN in Ambulatory Care

How can RNs in ambulatory care demonstrate their economic value based on patient outcomes such as client/patient satisfaction? Client satisfaction is an important outcome that assesses quality in ambulatory care and is a valid measure of quality of nursing care that translates to value. There is much research about the antecedents and consequences of patient satisfaction. Previous research revealed that the following antecedents are related to patient satisfaction: individual's demographic characteristics, overall quality, humaneness, and competence (Hall & Dornan, 1988; Pascoe, 1983). Consequences of patient satisfaction include better adherence to care recommendations, loyalty toward health care providers, and financial success in terms of revenue generation, cost avoidance, and cost reduction (Kaldenberg & Becker, 1999). Thus patient satisfaction is a proxy that can be used to demonstrate the

economic value of the RN. In addition, this review illustrates other nurse-sensitive outcomes that quantify the contribution of the RN role being an economically vital component to health care delivery in the ambulatory care setting.

In linking the role dimensions, nursing interventions, and patient outcomes to the economic value of the RN, questions persists such as is the value of the RN diluted by performing tasks that could be performed by other personnel, or is value added because of the comprehensiveness of the RN role? Does value equal role, responsibilities, and functions or is it something more? Is the value proposition only important when there is a shortage of RNs? From a business perspective, RNs represent a high cost human resource, but RNs are critical to the operational and financial success of health care delivery systems as demonstrated in this evidence review.

Next Steps

Answers to these questions may be elusive, vary among ambulatory care specialties, and vary among organizational practice models. National quality standardized performance measure sets are used in ambulatory care, most are at the practice level or health plan level not at the individual provider level (National Committee for Quality Assurance, 2006; National Quality Forum, 2006). When the individual provider is used, the physician is used as the unit of analysis. Gaps exist in quantifying the influence and value of the RN in ambulatory care.

There are national nursing quality performance measures for acute care and non-acute care community-based nursing practice (American Nurses Association [ANA], 1999; ANA, 2000a; 2000b; National Quality Forum, 2003). Through the National Database of Nursing Quality Indicators (NDNQI), nurses in acute care have been successful in identifying, measuring, and benchmarking patient outcomes and the value of the acute care RN (ANA, 2006). For ambulatory care nursing, measure development and standardization are underdeveloped. Ambulatory care nursing/nurses need to organize efforts and explore collaboration with the NDNQI as a practice area to be developed and included in their database. This would provide a vehicle for collecting uniform information that is standardized, identifiable, and measurable across ambulatory care practice settings.

A second lesson from RNs in acute care that can be applied to RNs in ambulatory care is the linking of RN interventions to patient safety. For example, research on acute care RN staffing demonstrated a relationship between RN staffing levels, education, and patient deaths (Aiken et al., 2003; Aiken, Clarke, Silber, & Sloane, 2003). In the ambulatory setting, mortality may not be the outcome of choice, but patient safety indicators would be applicable, such as medication management, risk reduction, and symptom severity management. It is imperative for ambulatory care nurses to recognize that there must be a clear delineation of value; that value should be identifiable, actionable, and quantifiable; and that value exists as part of a whole, not in isolation.**$**

REFERENCES

Adams, J.H. (1997). Perspectives in ambulatory care. using RN care managers in community health centers. *Nursing Economic$, 15*(3), 153-156.

Aiken, L.H., Clarke, S.P., Cheung, R.B., Sloane, D.M., & Silber, J.H. (2003). Educational levels of hospital nurses and surgical patient mortality. *JAMA: The Journal of the American Medical Association, 290*(12), 1617-1623.

Aiken, L.H., Clarke, S.P., Silber, J.H., & Sloane, D. (2003). Hospital nurse staffing, education, and patient mortality. *LDI Issue Brief, 9*(2), 1-4.

American Academy of Ambulatory Care Nursing (AAACN). (2004). *Ambulatory Care Nursing Administration and Practice Standards.* Pitman, NJ: Author.

American Heritage Dictionary. (2000). Boston: Houghton Mifflin Company.

American Nurses Association. (2006). *National center for nursing quality indicators.* Retrieved July 28, 2006, 2006 from http://www.nursingworld.org/quality/database.htm

American Nurses Association. (2000a). *Nursing quality indicators beyond acute care: Literature review*. Washington, DC: Author.

American Nurses Association. (2000b). *Nursing quality indicators beyond acute care: Measurement instruments*. Washington, DC: Author.

American Nurses Association. (1999). *Nursing-sensitive quality indicators for acute care settings.* Retrieved July 28, 2006, 2006 from http://www.nursingworld.org/readroom/fssafe99.htm

Buerhaus, P.I., Donelan, K., Ulrich, B.T., Norman, L., & Dittus, R. (2006). State of the registered nurse workforce in the united states. *Nursing Economic$, 24*(1), 6-12.

Casey, D., & Ormrod, G. (2003). The effectiveness of nurse-led surgical pre-assessment clinics. *Professional Nurse, 18*(12), 685-687.

Clarke, S.P., & Aiken, L. H. (2006). More nursing, fewer deaths. *Quality and Safety in Health Care, 15*(1), 2-3.

Conway-Phillips R. (2006). Ambulatory care nurses speak out: The value of ambulatory care nurses in the workplace. *AAACN Viewpoint, 28*(4), 3-4.

Dewar, A., Craig, K., Muir, J., & Cole, C. (2003). Testing the effectiveness of a nursing intervention in relieving pain following day surgery. *Ambulatory Surgery, 10*, 81-88.

DiScenza, S., Nies, M., & Jordan, C. (1996). Effectiveness of counseling in the health promotion of HIV-positive clients in the community. *Public Health Nursing, 13*(3), 209-216.

Griffin, K.F., & Swan, B.A. (2006). Linking nursing workload and performance indicators in ambulatory care. *Nursing Economic$, 24*(1), 41-44.

Gulanick, M., Green, M., Crutchfield, C., Myers, S., & Marren, M. (1996). Telephone nursing in a general medicine ambulatory clinic. *MEDSURG Nursing, 5*(2), 93-98, 124.

Haas, S.A., & Hackbarth, D.P. (1995a). Dimensions of the staff nurse role in ambulatory care: Part III – Using research data to design new models of nursing care delivery. *Nursing Economic$, 13*(4), 230-241.

Haas, S.A., & Hackbarth, D.P. (1995b). Dimensions of the staff nurse role in ambulatory care: Part IV – Developing nursing intensity measures, standards, clinical ladders, and QI programs. *Nursing Economic$, 13*(5), 285-294.

Haas, S.A., Hackbarth, D.P., Kavanagh, J.A., & Vlasses, F. (1995). Dimensions of the staff nurse role in ambulatory care: Part II – Comparison of role dimensions in four ambulatory settings.

Nursing Economic$, 13(3), 152-165.
Hackbarth, D.P., Haas, S.A., Kavanagh, J.A., & Vlasses, F. (1995). Dimensions of the staff nurse role in ambulatory care: Part I – Methodology and analysis of data on current staff nurse practice. *Nursing Economic$, 13*(2), 89-98.
Hall, J.A., & Dornan, M.C. (1988). What patients like about their medical care and how often they are asked: A meta-analysis of the satisfaction literature. *Social Science & Medicine, 27*(9), 935-939.
Hamner, J.B. (2005). State of the science: Posthospitalization nursing interventions in congestive heart failure. *ANS Advances in Nursing Science, 28*(2), 175-90.
Hing, E., Cherry, D.K., & Woodwell, D.A. (2005). National ambulatory medical care survey: 2003 summary. *Advance Data,* (365), 1-48.
Joseph, M., & Freda, M.C. (2001). The impact of staff nurses on the recruitment of patients. *American Journal of Nursing, 101*(2), 26-32.
Kaldenberg, D.O., & Becker, B.W. (1999). Evaluations of care by ambulatory surgery patients. *Health Care Management Review, 24*(3), 73-83.
Kastens, J. M. (1998). Integrated care management: Aligning medical call centers and nurse triage services. *Nursing Economic$, 16*(6), 320-322, 329.
Laurant, M., Reeves, D., Hermens, R., Braspenning, J., Grol, R., & Sibbald, B. (2006). Substitution of doctors by nurses in primary care. *The Cochrane Library, 1*.
Laurant, M., Reeves, D., Hermens, R., Braspenning, J., Grol, R., & Sibbald, B. (2005). Substitution of doctors by nurses in primary care. *Cochrane Database of Systematic Reviews (Online: Update Software), 2*(2), CD001271.
Lee, A. (2005). A satisfaction survey of a nurse led paediatric clinic for hip dysplasia in infants. *Journal of Orthopaedic Nursing, 9*(2), 77-80.
Leenerts, M.H., Koehler, J.A., & Neil, R.M. (1996). Nursing care models increase care quality while reducing costs. *Journal of the Association of Nurses in AIDS Care, 7*(4), 37-49.
Mastal, P. (2000). Report cards: Proving the value of ambulatory care nursing. *AAACN Viewpoint, 22*(6), 16-17.
Middleton, K., & Hing, E. (2005). National hospital ambulatory medical care survey: 2003 outpatient department summary. *Advance Data,* (366), 1-36.
Muender, M.M., Moore, M.L., Chen, G.J., & Sevick, M.A. (2000). Cost-benefit of a nursing telephone intervention to reduce preterm and low-birthweight births in an African American clinic population. *Preventive Medicine, 30*(4), 271-276.
National Committee for Quality Assurance. (2006). *NCQA physician recognition program.* Retrieved July 28, 2006, 2006 from http://www.ncqa.org/PhysicianQualityReports.htm
National Quality Forum. (2006). *National voluntary consensus standards for ambulatory care: An initial performance measure set.* Retrieved July 28, 2006, 2006 from http://www.qualityforum.org/docs/ambulatory_care/tbAMB3%201APPAspecifications05-26-06.pdf
National Quality Forum. (2003). *Core measures for nursing care performance.* Retrieved July 28, 2006, 2006 from http://www.qualityforum.org/txNQFprojectsummary+SClistnursingcare5-28-03.pdf
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 (Project Hope), 25*(1), 204-211.
Nowicki C. (2006). The economic value of nursing. *AAACN Viewpoint, 28*(4), 1-15.
O'Connell, J.M., Stanley, J.L., & Malakar, C.L. (2001). Satisfaction and patient outcomes of a telephone-based nurse triage service. *Managed Care, 10*(7), 55-56, 59-60, 65.
Pascoe, G.C. (1983). Patient satisfaction in primary health care: A literature review and analysis. *Evaluation and Program Planning, 6*(3-4), 185-210.
Philis-Tsimikas, A., & Walker, C. (2001). Improved care for diabetes in underserved populations. *Journal of Ambulatory Care Management, 24*(1), 39-43.
Philis-Tsimikas, A., Walker, C., Rivard, L., Talavera, G., Reimann, J.O., & Salmon, M., et al. (2004). Improvement in diabetes care of underinsured patients enrolled in project dulce: A community-based, culturally appropriate, nurse case management and peer education diabetes care model. *Diabetes Care, 27*(1), 110-115.
Piette, J.D., Weinberger, M., & McPhee, S.J. (2000). The effect of automated calls with telephone nurse follow-up on patient-centered outcomes of diabetes care: A randomized, controlled trial. *Medical Care, 38*(2), 218-230.
Porter-O'Grady, T., & Malloch, K. (2006). Partnership economics: Creating value through evidence-based workload management. In K. Malloch & T. Porter-O'Grady T. (Ed.), *Introduction to evidence-based practice in nursing and health care* (1st ed.) (pp. 183-220). Boston: Jones and Bartlett Publishers.
Quirk, B. P. (1998). Primary patient care in a chronic outpatient hemodialysis unit. *ANNA Journal, 25*(3), 301-306.
Richardson, G., Griffiths, P., Wilson-Barnett, J., Spilsbury, K., & Batehup, L. (2001). Economic evaluation of a nursing-led intermediate care unit. *International Journal of Technology Assessment in Health Care, 17*(3), 442-450.
Richter, P., & Felix, K.G. (1999). Adding value by expanding RN roles in ambulatory care. *Nursing Economic$, 17*(4), 225-228.
Rosenfeld, P., Kim, H., Londono, G., Kovner, C., & Mezey, M. (2005). Adult ambulatory care visits to nurses and physicians: Methodological limitations of the medical expenditure panel survey data. *Policy, Politics, & Nursing Practice, 6*(3), 221-228.
Schroeder, C.A., Trehearne, B., & Ward, D. (2000). Expanded role of nursing in ambulatory managed care. Part II: Impact on outcomes of costs, quality, provider and patient satisfaction. *Nursing Economic$, 18*(2), 71-78.
Shimabukuro, T.T., Kramer, J., & McGuire, M. (2004). Development and implementation of a nurse-managed anticoagulation program. *Journal for Healthcare Quality, 26*(1), 4-13.
Spilsbury, K., & Meyer, J. (2001). Defining the nursing contribution to patient outcome: Lessons from a review of the literature examining nursing outcomes, skill mix and changing roles. *Journal of Clinical Nursing, 10*(1), 3-14.
Uppal, S., Jose, J., Banks, P., Mackay, E., & Coatesworth, A.P. (2004). Cost-effective analysis of conventional and nurse-led clinics for common otological procedures. *Journal of Laryngology and Otology, 118*(3), 189-192.
U.S. Department of Health and Human Services (HHS). (2004). *The registered nurse population: National sample survey of registered nurses.* Washington, DC: Author.
U.S. Department of Labor, Bureau of Labor Statistics (BLS). (2006). Registered nurses. *Occupational outlook handbook* (2006-07 ed.). (pp. 8). Washington, DC: Author.
Vahey, D.C., Aiken, L.H., Sloane, D.M., Clarke, S.P., & Vargas, D. (2004). Nurse burnout and patient satisfaction. *Medical Care, 42*(2 Suppl.), II57-66.
Vazquez M. (2001). Providing competent care for mentally ill persons: An evidence-based goal for ambulatory care. *Nursing Economic$, 19*(5), 228-233.
Wilson, R., & Hubert, J. (2002). Resurfacing the care in nursing by telephone: Lessons from ambulatory oncology. *Nursing Outlook, 50*(4), 160-164.
Wolosin, R.J. (2003). Patient satisfaction in gastroenterology clinics. *Gastroenterology Nursing, 26*(5), 203-208.