



Impact of the Clinical Nurse Specialist Role on the Costs and Quality of Health Care

December, 2013

In 2010, the U.S. spent \$2.6 trillion on health care, an average of \$8,402 per person. Implementation of the Affordable Care Act has begun and while the benefits and shortcomings of this law have been projected, the reality of implementation is before the nation. The Congressional Budget Office has estimated that more than 14 million more individuals will gain coverage either as a result of access to newly created health plans or as a result of an expansion of state Medicaid programs. The economic pressures and policy changes are causing a radical shift in health care delivery across the entire continuum of care. Within these major shifts of policy and care delivery models, it is essential that the patients who rely on the health care system have access to high quality, cost-effective care.

The nation's 72,000 Clinical Nurse Specialists (CNS) are uniquely prepared with advanced nursing education to meet the increased demand for health care and to safeguard the provision of quality care. Since 1953, the CNS has served as a committed leader, delivering cost-effective care with optimal patient outcomes (Peplau, 2003). The CNS provides both health promotion and maintenance through assessment, diagnosis, and management of acute and chronic patient problems that includes pharmacologic and non-pharmacologic interventions.

Research and demonstration projects have shown that the CNS role is uniquely suited to lead implementation of evidence-based quality improvement actions that also reduce cost throughout the health care system. This leadership has been demonstrated in the following areas, but not limited to; providing prenatal care, preventive and wellness care, behavioral health care and care to those with chronic conditions.

The CNS also plays an essential role in care coordination and transitions of care that result in reduced hospital length of stay, fewer hospital readmissions and hospital-acquired conditions (HACs). A review of the CNS Core Competencies supports the centrality of the function of care coordination within the CNS role. This would show that the CNS is educated and prepared to be, not only a participant in care coordination, but also to partner with other providers in the leadership role for care coordination.

Improving Prenatal Care

Clinical Nurse Specialists have demonstrated improved outcomes when providing home care to mothers with a high risk of delivering low-birth weight infants and for early discharge of very low birth weight infants with follow-up. Brooten, Youngblut, Brown, Finkler, Neff, & Madigan (2001) showed in a randomized, controlled clinical trial that the group receiving prenatal home care by a CNS saved 750 hospital days, yielding \$2.9 million dollars saved. The CNS has also been shown to be an effective member of the prenatal care team and to have the greatest client satisfaction and the lowest cost per visit when providing prenatal care (Gravely 1992).

Preventive and Wellness Care Reducing Overall Costs for Employer

Clinical Nurse Specialists improve access to wellness and preventive care by early identification of those at risk for costly chronic diseases, such as diabetes and heart failure and provide care to keep people healthy and prevent chronic conditions. A wellness company, owned and managed by CNSs, provides ongoing care to employees to help them stay healthy and to lower their risk for the development of disease. An employer, who has engaged the services of these CNSs, saw their health care costs decrease and the annual increase in their health insurance premiums go to the single digits, as opposed to previous double digit increases (Dayhoff 2008).

Psychiatric/Behavioral Health Care to Reduce Depression

Clinical Nurse Specialists provide behavioral health care to individuals in private practice and to communities through special programs. The Insight Program, which was implemented by CNSs in a community setting to address depression in women, had a statistically significant and clinically relevant improvement in scores on all tools used (Adams 2000). Another study demonstrated that CNSs also work as members of the primary care team in providing care to improve the recognition of depression and its initial management in a Veterans Administration hospital (Dobscha 2001).

Reducing Costs of Chronic Condition Care

Clinical Nurse Specialists have distinguished themselves as effective coaches of those with chronic illness by promoting self-care and reducing the costs of the illness and readmissions. Several studies document their efforts in the care of the chronically ill, including those with heart failure (Creason 2001, Newman 2002, Knox 1999, Ryan 2009), asthma (Horner 2008) and epilepsy (McNellis 2007). In addition, CNSs have developed and demonstrated the effectiveness of their community programs that identify those with COPD early slowing down the progression of their disease (DeLong 2004).

Preventing Hospital-Acquired Conditions (HACs)

Clinical Nurse Specialists are the leaders in preventing hospital-acquired conditions (HACs).

Hospital – acquired conditions (HACs) include pressure ulcers, falls, and infections such as: central line associated bloodstream infections (CLABSI) and catheter-associated urinary tract infections (CA-UTI). Preventing HACs is critical for improving the quality of care and reducing overall health care costs. Allain (2012) cites hospital-acquired pressure ulcers as affecting 1.6 million people at a cost of \$1.6 billion annually. Another prevalent HAC, CLABSI, “...adds additional costs of \$35,000 to \$56,000 per case, which is no longer reimbursed by Medicare.” (Lee, 2011).

Numerous studies have documented the impact the CNS has in preventing HACs in acute care settings.

- Krupp (2009) demonstrated CNSs decreased the HAC rate by 46% in an acute care setting.
- Hays (2010) demonstrated a pressure ulcer treatment program, implemented by a CNS, decreased HAC rates from 20% down to 3.8%, resulting in a cost savings of over \$40,000 for that organization.

- Richardson & Tjoelker (2012) demonstrated a CNS led initiative to decrease CLABSI saving the organization \$214,712 in terms of cost avoidance and 1.4 lives saved out of 8 patients with CLABSI.
- Maze (2011) also demonstrated a CNS led initiative resulting in the CLABSI rate to be consistently below the National Healthcare Safety Network (NHSN) benchmark.

Multiple other studies have proven the CNS role as expert clinician, consultant & change-agent in the prevention of HACs, leading to cost savings for the organization (Lee, 2011, Krupp, 2009, Quinn, 2011, Morrison, 2010, Jones, 2009, Carlson, 2009).

Reducing Lengths of Stay in Acute and Community Based Settings

Clinical Nurse Specialists have had a significant impact in implementing practices to reduce patients' lengths of stay in acute and community-based settings

- To improve the outcomes of those having a stroke, a CNS led team implemented practice guidelines and developed best practice tools resulting in reduced length of stay for those patients admitted with a diagnosis of stroke (Fuhrman 2011).
- For geriatric patients having a hip fracture, a CNS led the team to achieve The Joint Commission certification in Geriatric Hip Fracture Disease that led to decreased costs by 15%, a 28% decrease in length of stay and 0.5% decrease in mortality (McWilliams-Ross 2011).
- An interdisciplinary team, facilitated by a CNS, coordinated a transformation in the care of patients with diabetes within a health system. The Diabetes Clinical Initiative achieved remarkable outcomes with significant decreases in the average monthly glucose levels declining from 194 mg/dL to 155 mg/dL with a decrease in the percentage of patients with hyperglycemia after day 1. This significant decrease was also achieved in those receiving cardiac surgery, in critical care units and in perianesthesia pre-procedure and post procedure. Hypoglycemia rates remained low compared with published national data. As a result of these dramatic changes in blood glucose levels, the length of stay decreased significantly (Helmuth 2012).
- At an urban acute care hospital, CNSs developed a tool for nurses to assess patients on admission for alcohol consumption and collaborated with physician and pharmacy teams to create an order set. As a result of the implementation of this tool, the hospital costs and length of stay decreased (Corniello, 2012).
- Santos (2012) demonstrated CNSs led the effort to improve outcomes for patients with traumatic spinal cord injury (SCI) by creating and implementing a critical pathway. This resulted in a decrease in the average length of stay in the ICU by 7 days and a decrease in the average hospital length of stay by 10 days for traumatic paraplegic patients (Santos, 2012).
- In a community-based care program, CNSs who provided care to those with complex and chronic care conditions had an impact on clinical quality, costs and client satisfaction. Financial measures showed reductions in all key indicators: cost (decreased 24%), emergency department utilization (decreased 38%), inpatient admissions (decreased 23%), and inpatient days (decreased 49%), when compared with the year prior to the program (Schmidt and Ulch 2012).

- In an Emergency Department, the CNS led the team to implement standard practice protocols and guidelines in improving outcomes for septic patients that resulted in a marked decrease in the door-to-first antibiotic administration times and the reduction in patients' hospital lengths of stay. (Williams 2011).

Preventing Readmissions

The Clinical Nurse Specialist is also a leader in preventing hospital readmissions.

A patient is at risk of being readmitted to the hospital within 30 days of discharge if certain conditions are not met. The patient needs to be educated about medications, expected actions, and potential side effects. The patient also needs to be able to articulate signs and symptoms of the disease process and know when to call a health care provider. As of October, 2012 Medicare began to reduce payments to hospitals with excess readmissions. (Affordable Care Act, 2010).

The Clinical Nurse Specialist is in an ideal position to coordinate, implement, and evaluate a plan to prevent costly readmissions and improve care.

- Dickinson and O'Brien (2010) developed guidelines and policies to address pandemic situations encountered by a health care institution. The CNS authors implemented a plan to prevent admissions/decrease readmissions and increase quality patient outcomes (Garolis, 2010). The CNS plays a role in accurate medication reconciliation which can ultimately decrease readmission rates. Complex change can be implemented through CNS influence and leadership.
- Brim (2010) discussed how the quality of patient care could be improved through a peer review process. The CNS author was a leader, mentor, and change agent for nursing staff. The CNS encouraged the nurses to become involved in recognizing areas that needed to be improved. As staff became engaged in the process, patient education improved, quality of care improved, and readmissions decreased. The Clinical Nurse Specialist is often the leader in organizations to coordinate and implement changes that result in quality outcomes and reduced readmissions.
- Mary Naylor's, PhD, FAAN, RN Transitional Care Model Program (TCM) has been extensively researched over the past 20 years and has been in patient practice in an urban, acute care health system for the past 6 years. TCM utilizes Advanced Practice Registered Nurses, CNSs and NPs to work with patients while they are still in the hospital, collaborate with the hospital interdisciplinary team to promote optimal patient health, stay with the patient through his/her transitions in care to home, and continue to work with the patient at the patient's home and the patient's out-patient providers with goals of increasing the patient's health awareness/self-management of chronic conditions and benefitting the health organization and insurance agencies by ultimately reducing readmission rates (Naylor, 1994, 1999, 2004, 2006, 2011; Bixby, 2000; Konick-McMahan, 2003).

Conclusion

This review of research and demonstration projects demonstrates how the CNS role promotes quality health care services and decreases health care expenditures through management of a patient's primary and chronic health care as well as through care coordination and transitions using advanced nursing knowledge, abilities, and skill. Greater utilization of the CNS role within the healthcare delivery system across all settings will improve access to cost-effective, high quality care for the millions who will need it beginning in 2014.

Bibliography

Adams, P. (2000). Insight into a mental health prevention intervention. *Nurse Clinicians of North America*, 35(2), 329-338.

Affordable Care Act, Section 3025; Social Security Act Section 1886(q).

Allain, M. (2012, March/April). A cultural revolution! Reducing nosocomial pressure ulcers in the intensive care unit. *Clinical Nurse Specialist*, 26(2), E2. Abstract retrieved from Conference Abstracts database. doi:10.1097/NUR.0b013e31824605c9

Altman, D. No Quick Verdict. KFF Website perspectives column. October 15, 2013 <http://kff.org/health-reform/perspective/no-quick-verdict-on-obamacare/>

Bixby, B., Konick-McMahon, J., McKenna, C. (2000, April). Applying the transitional care model to elderly patients with heart failure. *The Journal of Cardiovascular Nursing*, 14(3), 53-63.

Brim, C. (2010) Speak Up for Patient Care Quality Improvements Through Peer Review.

Brooten, D et.al. (2001). A randomized trial of nurse specialist home care for women with high –risk pregnancies: outcomes and costs. *American Journal of Managed Care*, 7(8), 793-803.

Carlson, G. (2009, March/April). Continuous quality improvement and ventilator-associated pneumonia-2003 to present. *Clinical Nurse Specialist*, 23(2), 98. Abstract retrieved from Conference Abstracts database. doi: 10.1097/NUR.0000325407.23482.1f

Creason, H. (2001). Congestive heart failure telemanagement clinic. *Lippincott's Case Management*, July/August, 146-156.

Dayhoff, D. (2008) Clinical Solutions, LLC

DeJong, S. (2004) The effectiveness of CNS-led community-based COPD screening and intervention program. *Clinical Nurse Specialist*, 18(2) 72-79

Dickinson, S., O'Brien, D. (2010) A Pandemic is Declared: are you really ready?

Dobscha, S. K., et. al. (2001). Effectiveness of an intervention to improve primary care provider recognition of depression. *American College of Physicians*. Retrieved 8/16/03, from www.acponline.org.

Garolis, S. (2010) Revising the Role of Nursing in Medication Reconciliation: A CNS-Guided Implementation. Providence Portland Medical Center, Oregon.

Gravely, E. A., et. al. (1992). Cost effective analysis of three staffing models for the delivery of low risk prenatal care. *American Journal of Public Health*, 82 (2), 180-184.

Hays, V. (2010, March/April). Pressure ulcer prevention and treatment program: Successful strategies implanted by a med/surge Clinical Nurse Specialist. *Clinical Nurse Specialist*, 24(2), 99-100. Abstract retrieved from Conference Abstracts database. doi:10.1097/01.NUR.0000348948.36446.a6

Health Care Costs: A Primer, May 2012, 10-15-2013
<http://kaiserfamilyfoundation.files.wordpress.com/2013/01/7670-03.pdf> page 1

Horner, S. (2008) Childhood Asthma in a Rural Environment. *Clinical Nurse Specialist*, 22(4), 192-198.

Jones, D. (2009, March/April). Creating a foley free zone by preventing and removing unnecessary urinary catheters. *Clinical Nurse Specialist*, 23(2), 98. Abstract retrieved from Conference Abstracts database. doi: 10.1097/NUR.0000325409.08234.ad

Knox, D. & Mischke, L. (1999). Implementing a congestive heart failure disease management program to decrease length of stay and cost. *Journal of Cardiovascular Nursing*, 14(1), 55-74.

Konick-McMahon, J., Bixby, B., McKenna, C. (2003, December). Heart failure in older adults: Providing nursing care to improve outcomes. *Journal of Gerontological Nursing*, 35-41.

Krupp, A. (2009, March/April). Pressure ulcer prevention in the intensive care unit: Clinical Nurse Specialist impact on changing unit culture. *Clinical Nurse Specialist*, 23(2), 106. Abstract retrieved from Conference Abstracts database. doi: 10.1097/01.NUR.0000325434.19910.3e

Lee, R., Slade, J. (2011, March/April). Clinical Nurse Specialist influencing practice outcomes: Reducing bloodstream infections. *Clinical Nurse Specialist*, 25(2), 82. Abstract retrieved from Conference Abstracts database. doi: 10.1097/NUR.0b013e31820d9112

Maze, L., Riggins, K. (2011, March/April). Tipping point for decreasing central line-associated bloodstream infections. *Clinical Nurse Specialist*, 25(2), 94. Abstract retrieved from Conference Abstracts database. doi: 10.1097/NUR.0b013e31820d9112

McNellis, A. (2007) Concerns and needs of children with epilepsy and their parents. *Clinical Nurse Specialist* 21(4), 195-202

Morrison, D. (2010, March/April). Developing the role of the CNS as an internal IV therapy consultant. *Clinical Nurse Specialist*, 24(2), 93. Abstract retrieved from Conference Abstracts database. doi:10.1097/01.NUR.0000348925.58424.34

National CNS Competency Task Force (2006-2008). *Clinical Nurse Specialist Core Competencies*. National Association of Clinical Nurse Specialists.

Naylor M, Brooten D, Jones R, Lavizzo-Mourey R, Mezey M, Pauley M. Comprehensive discharge planning for the hospitalized elderly. *Ann Intern Med*. 1994; 120:999-1006.

Naylor MD, Brooten D, Campbell R, Jacobsen BS, Mezey MD, Pauley MV, Schwartz JS. Comprehensive discharge planning and home follow-up of hospitalized elders: a randomized clinical trial. *JAMA*. 1999; 281:613-620.

Naylor MD, Brooten DA, Campell RL, Maislin G, McCauley KM, Schwartz JS. Transitional care of older adults hospitalized with heart failure: a randomized, controlled trial. *J American Geriatrics Society*. 2004; 52:675-684.

Naylor, M.D., Aiken, L.H., Kurtzman, E.T., Olds, D.M. & Hirschman, K.B. The importance of transitional care in achieving Health Reform. *Health Affairs* 2011;30(4):746-754.

Naylor, M. Transitional Care: A Critical Dimension of the Home Healthcare Quality Agenda. *Journal for Healthcare Quality* 2006;8(1): 48-55

Naylor M, McCauley K: The effects of a discharge planning and home follow-up intervention on elderly hospitalized with common medical and surgical cardiac conditions. *J Cardiovasc Nurs*. 1999; 14 (1): 44-54.

Newman, M. (2002). A specialist nurse intervention reduced hospital readmissions in patients with chronic heart failure. *Evidence-Based Nursing*, 5(2), 55-56.

Peplau H (2003). Specialization in professional nursing, 1965. *Clinical Nurse Specialist*, 17(1): 3-9.

Quinn, B. (2011, March/April). Cleaning up hand hygiene. *Clinical Nurse Specialist*, 25(2), 80. Abstract retrieved from Conference Abstracts database.

Richardson, J., Tjoelker, R. (2012, July/August). Beyond the central line-associated bloodstream infection bundle: the value of the clinical nurse specialist in continuing evidence-based practice changes. *Clinical Nurse Specialist*, 205-211. doi: 10.1097/NUR.0b013e31825aebab

Ryan, M. Improving self-management and reducing readmission in heart failure patients. *Clinical Nurse Specialist*. 2009; 23(4); 216-221.