Perspectives in Ambulatory Care

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Registered Nurses Make a Difference with Ambulatory Care Nurse-Sensitive Indicators

Executive Summary

- In the ambulatory care setting where care is episodic, occurs over time, and is impacted by multiple, interprofessional care team members, it is difficult to measure the specific impact of the registered nurse (RN).
- Many innovative processes are being developed and individual RNs are finding unique ways to benchmark quality that are nurse sensitive and improve outcomes for patients.
- The American Academy of Ambulatory Care Nursing Ambulatory Care Nurse-Sensitive Indicator Industry Report: Meaningful Measurement of Nursing in the Ambulatory Patient Care Environment focused on the clinical practice and the quality improvement/research role of the RN and identified nine clinical practice dimensions and three quality/research dimensions.
- Roles of the ambulatory care RN and exemplars classified according to those roles and dimensions are provided.

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Many settings. Multiple roles. One unifying specialty.

Rosemarie Battaglia

IN MANY organizations, ambulatory care registered nurses (RN) are demonstrating the value of their role and making significant differences in patient care that have not been documented in the literature. When the American Academy of Ambulatory Care Nursing's (AAACN) Nurse-Sensitive Indicator Task Force (NSITF) met to identify key indicators, there was discussion regarding work that nurses are already doing. National conferences demonstrate poster and oral presentations that highlight results across pediatric and adult care. The results being achieved while shared at conferences have not been published, preventing the advance of nursing science and decreasing the ability to replicate results across institutions and time. It is evident RNs are achieving results in vulnerable populations with care management of key common medical diagnoses. Many innovative processes are being developed and individual RNs are finding unique ways to benchmark quality that are nurse sensitive and improve outcomes for patients. The purpose of this article is to highlight the role of the ambulatory care RN and share exemplars in those areas where RN care is making a measurable difference.

Background

The AAACN *Ambulatory Care Nurse-Sensitive Indicator Industry Report: Meaningful Measurement of Nursing in the Ambulatory Patient Care Environment* focused on the clinical practice and the quality improvement/research role of the RN (Start, Matlock, & Mastal, 2016). Nine clinical practice dimensions and three quality/research dimensions were identified. The exemplars described in this column are classified according to these dimensions. The Industry Report uses the American Nurses Association (ANA) and Collaborative Alliance for Nursing Outcomes (CALNOC) definition of nurse-sensitive indicators (NSIs) as indicators that capture nursing care and can be structure, process, or outcome related (ANA, 1996; CALNOC, 2015). NSIs are needed in ambulatory care settings to measure what nurses do, justify RN care, and identify how nursing care can improve patient outcomes (Heslop & Lu, 2014).

In the ambulatory care setting where care is episodic, occurs over time, and is impacted by multi-

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ACKNOWLEDGMENTS: Please see the following page for authors' acknowledgments.

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ple, interprofessional care team members, it is difficult to measure the specific impact of the RN. Ultimately, the role of the ambulatory care RN is to improve patient health outcomes through proper care management, and decreased emergency department (ED) visits and hospitalizations. This is done by impacting care prior to urgent episodes, improving safe care, and decreasing its overall cost. Many of the members of the AAACN NSI task force joined because they were piloting various nurse-sensitive processes in their home organizations (Start et al., 2016). The following are examples of RNs doing this in their everyday work environment.

Clinical Practice Role Dimension: Care Coordination

RNs are independently implementing processes to minimize poor patient outcomes associated with lack of followup care and poor compliance resulting in ED visits, hospitalization, and readmission after discharge. Care coordination is the deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient's care to facilitate the appropriate delivery of healthcare services (McDonald et al., 2007, 2014).

Improving compliance rates. One organization encouraged career-ladder RNs to focus on patient care that the RN was passionate about and challenged these RNs to make a difference in their care. One of the early successes was with the primary care RN team improving palivizumab compliance rates, not only at the start of the project, but demonstrating sustained results over time. Palivizumab is an injection given to infants and toddlers who meet criteria and are vulnerable to respiratory syncytial virus (RSV) infection. A minimum of five monthly doses are administered during RSV season (American Academy of Pediatrics, 2014). Compliance in the organization was so low that the pharmaceutical company was considering dropping the organization as a registered site for the medication. A career-ladder RN implemented a series of interventions that increased compliance rates from 21% to 71% the first year (see Table 1). This increase was statistically significant (p=0.015). Each subsequent year demonstrated improvement, ultimately leading to 95% compliance for 9 years with a 1 year decrease associated with implementation of a new electronic medical record (EMR). The team posits that the most significant intervention is the EMR flag which allows children seen in other clinics to be captured for their injection while they are in house.

Table 1.
Improving Palivizumab Compliance Rates: Independent RN Interventions

1.	Identify and track qualifying patients for the palivizumab season.
2.	Require parental participation in viewing video on respiratory syncytial virus.
3.	Use calendar reminders for families.
4.	Remind patients who did not arrive by required date via phone calls.
5.	Flag the electronic medical record to capture children who were at other clinic visits during the "window of opportunity" for injection administration.

Reducing unplanned ED visits for baclofen refills. Pediatric ambulatory career ladder RNs were also successful at reducing ED visits in patients receiving baclofen pump therapy. Intrathecal baclofen therapy helps reduce severe spasticity associated with cerebral palsy, brain and spinal cord injury, multiple sclerosis, and stroke. The medication, through an implanted pump, delivers the drug directly to the fluid around the spinal cord. While the literature indicates intrathecal baclofen allows ease of feeding, dressing, and transfers by caregivers, baclofen withdrawal is a medical emergency with the potential to cause seizures and death. Regular clinic appointments for refill and dosage adjustment are critical in the care of these vulnerable children. Ambulatory care RNs were inspired to change practice based on a near sentinel event in the pediatric ED. They created a standardized set of interventions, including an EMR template for consistent documentation (see Table 2). Prior to the project, refills occurred in a variety of places and were not always documented. Creation of the documentation template corrected the visit and charges. In 2010, there were four unplanned ED admissions. For each subsequent year (2011-2016), RN interventions decreased unplanned ED visits to zero. There was one unplanned ED visit in 2013 which was for a pump failure, not a medication refill. Patient visits increased by 70%. Since the number of patients remained stable, this represents true

ACKNOWLEDGMENTS: The authors would like to recognize the following organizations and staff RNs who provided examples of their Nurse-Sensitive Indicator Performance Improvement work.

Children's Hospital at the Medical University of South Carolina: John Martines, BSN, RN III, for the initial palivizumab PI; primary care RN team for improving and maintaining results on palivizumab and HPV immunization; Bonnie Rab, RN III, CPN, seizure teaching and reducing ED visits; Jamie Nettles, RN, baclofen pump care coordination.

Rush Oak Park Hospital Wound Care Center: Chris Evans, MBA, BSN, RN, CWON, unit director, WCC; Jessica Jager-Pawlak, BSN, RN, CWON, wound ostomy and continence care RN; Patricia Meyer, BSN, RN, CWON; Karen Mon, BSN, RN, CWON; Kathleen Young, BSN, RN, CWON; Anne Brennan, BSN, RN; Janice Svela, BSN, RN, WCC; Evelyn Stockinger, BSN, RN.

AbilityLab (formerly Rehabilitation Institute of Chicago) Center for Pain Management: Sandra Aiello RN; Linda Toelke, MSN, RN, CRRN.

Table 2.
Decreasing Emergency Department Visits in Patients Using Baclofen Pump: Independent RN Interventions

1.	Establish a list of all patients using baclofen.
2.	Develop a documentation template to ensure complete consistent documentation at each visit including drug dose, infusion rate, refill date, return appointment date, and alarm date that pump will no longer have medication.
3.	Capture key billing elements for compliance and fiscal responsibility through documentation.
4.	Provide date of refill appointment at discharge from clinic.
5.	Call patients pre-visit who do not keep appointments.
6.	Call patients who did not show on appointment date.
7.	Educate emergency department RNs and neurology residents on pump interrogation, refill, and baclofen withdrawal.

changes resulting from standardized documentation and the creation of a baclofen-specific clinic allowing increased access to care. In addition to the positive patient outcomes, annual patient billings increased 72%.

These care coordination exemplars can be adapted to other high-risk populations. These nurse actions support the value RNs contribute to the ambulatory care team and fiscal accountability they can bring to their organizations.

Reducing 30-day readmission rates with care management. A multi-specialty medical group within a large integrated healthcare system established a RN Care Manager Model in 2012 as part of primary care redesign to support Patient-Centered Medical Homes (PCMH). RN care managers' work is designed to manage and coordinate the care of identified primary care populations, comprised of high-risk patients (high-cost and high-utilizers) with chronic diseases (e.g., congestive heart failure, diabetes, chronic obstructive pulmonary disease/asthma) and/or conditions (e.g., pain, depression), as these patients are the medical group's "sickest of the sick."

One of the primary goals of the RN Care Manager Model is to reduce 30-day readmissions. In 2011, the medical group's primary care readmission rate was 32.6% and served as the impetus for establishing a comprehensive care management model using experienced RNs. The model used multiple approaches, such as face-to-face visits in the office, hospital, home, group, telephonic, and virtual visits, to establish and maintain relationships with patients and their families/caregivers.

In 2013, RN care managers expanded their scope to include an intense focus on the transition of patients across venues to support the system's strategic initiatives to reduce readmissions and length of stay for patients with certain medical diagnoses. The transition process was developed based on data indicating the majority of patients were readmitted to the hospital within 3-5 days post-discharge. This process is initiated with the RN care manager conducting a comprehensive patient assessment at 48 hours post-discharge to address any clinical issues or needs (e.g., medications, activities of daily living, home health, durable medical equipment), and to verify or establish a 7-day followup appointment with the patient's primary care provider. The RN care manager contacts or visits the patient the day after the 7-day followup appointment and at key intervals (days 14, 21, 28, and 32 post-discharge) to prevent readmissions within 30 days. RN care managers began in November 2011. Data from January 2012 through December 2016 showed a significant decrease in readmission rates for patients with a RN care manager. In addition, data showed an overall improvement in the primary care provider 30-day readmissions rates. RN care managers' practice is community-based, patient centric, and focused on maintaining a long-term relationship with the patients and their caregivers; they are the linchpin for effective transitions of care.

In addition to transition work, RN care managers facilitate advanced care planning, monitor patient status, provide resources for improving medication adherence, participate in office huddles to address hospital and ED discharges, review cases at monthly PCMH meetings, and work closely with payers and practices to impact ED visits, admissions, medication adherence, and disease management. This RN care management model supports patient integration and strengthens collaboration across multiple venues of care, and has reduced 30-day readmission rates in the primary care setting from 32% in 2011 to 7.2% in 2016.

Quality/Research Role Dimension: Quality Improvement

Fundamental to reliability in health care is that every patient receives the right care, every single time, ensuring patient care safety, quality, effectiveness, and efficiency (Agency for Healthcare Research & Quality, 2008). Lack of reliability in patient care processes contributes not only to medical errors, but also to inconsistent quality, suboptimal outcomes, and system inefficiencies (Brown & Aronow, 2016). Quality improvement (QI) consists of systematic and continuous actions that lead to measurable improvement in healthcare services and the health status of targeted population groups (U.S. Department of Health and Human Services, 2011). The NSI task force found many organizations taking part in national benchmarking work whereby RNs implemented a

set of standardized interventions associated with improving patient outcomes. Standardized care, independently initiated by the RN and impacting patient outcomes, is NSI in action. Two examples are human papillomavirus (HPV) and wound care.

Human papilloma virus immunization rates. RNs in pediatric primary care attempting to improve the success rate for HPV vaccination were part of a national partnership for adolescent immunizations that included nine academic medical centers. This work represents a diligent effort at standardizing interventions across institutions and repeating effective results across time. The barriers to achieving vaccination success were the need for three doses of vaccine in a teen population and the misinformation that only females needed to receive the vaccine. While patients were always given instruction on the need for three doses and families of males were offered the vaccine, the RNs concentrated their efforts on two interventions all staff would follow. These were nursing prompts which provided the opportunity for the adolescent to receive the immunization at any visit, not just a well-check visit, and standing orders that empower the clinic staff to vaccinate without physician involvement at all visits. As a result, HPV immunization rates went from 51% to 74% at the organization. HPV compliance has improved across all participating organizations. Because of the initial success, a phase 3 practice has begun which incorporates an additional intervention of reminder recall systems.

Healing rates in a wound care facility. An exemplar demonstrating QI efforts to standardize care in the adult population involves a partnership between an organization and a national wound care company to compare healing rates, based on current best practice, with the company's database of over 600 other similar wound care clinics. The wound care ambulatory center described here is connected to an urban community hospital and provides treatment for various chronic and nonhealing wounds, including, but not limited to, venous ulcers, pressure ulcers, arterial ulcers, osteoradionecrosis, necrotizing infections, surgical wounds, and burns. Wound care centers within the comparison database treat these same types of patient populations and utilize similar best practice algorithms; therefore, the comparison was considered valid.

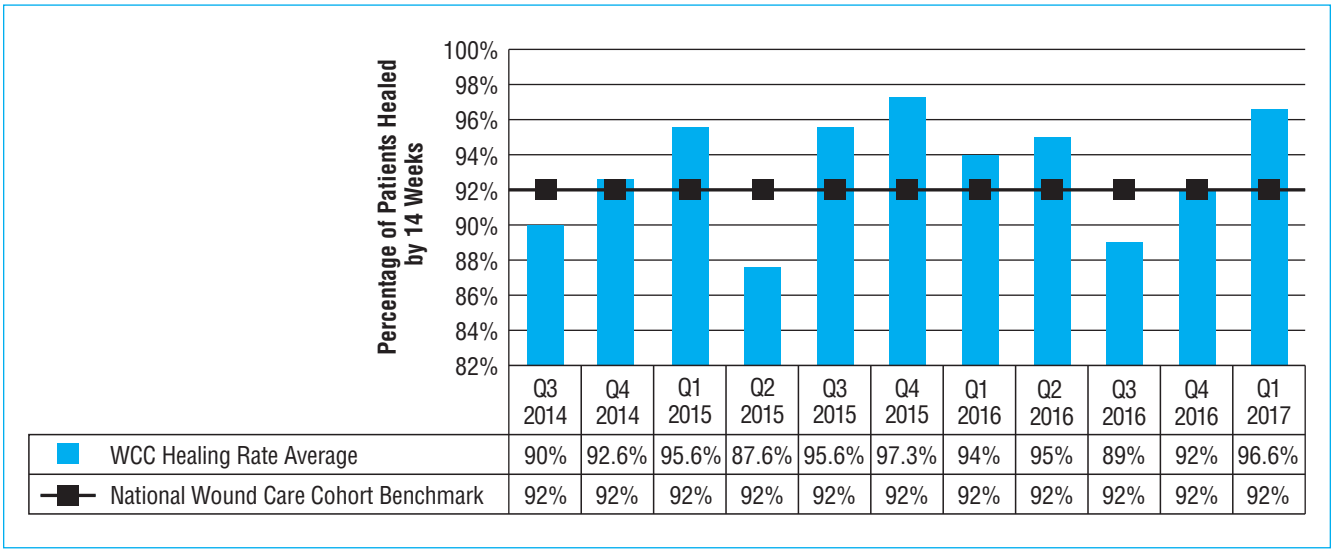
Because no national database for benchmarking ambulatory care RN practice was available for this organization to meet American Nurses Credentialing Center (ANCC) Magnet® Program application requirements, the healing rate at the wound care clinic and the comparison to the wound care company's database were proposed to the ANCC for application purposes and tracked for performance for the eight quarters prior to application. This measure was described as: the percent of patients with complete wound healing after 14 weeks, with once-weekly visits to the RN case managed wound care clinic. The numerator was the number of patients with complete wound healing after 14 weeks, with once-weekly visits to the RN case managed wound care clinic. The denominator was the number of all patients seen in the RN case managed wound care clinic. Exclusions were patients who chose to abort treatment before 14 weeks. The benchmark determined by the wound care national database for this healing rate was 92%.

Fifty-five percent of the nurses practicing in this wound care clinic are certified as wound ostomy care nurses. Their practices adhere to the standards, meet the competencies, and utilize best practices of the Wound Ostomy and Continence Nurses Society™ (WOCN®). The healing rate metric utilized to meet ANCC requirements is a 14-week healing rate. This rate describes the percentage of patients who have their often nonhealing or chronic wounds completely healed within 14 weeks of aggressive weekly treatment. During each visit to the wound care clinic, the patient sees both the provider as well as the same primary RN, who case manages their care throughout the 14 weeks, assuring healing within that time frame. Nurses in this clinic follow a case load of their own patients and work directly within the interprofessional team to influence rates of healing for their patients within the 14-week benchmark (see Figure 1).

Some key elements of nursing care during this process are assessment for wound causative and contributing factors, conducting an anatomical assessment to determine wound etiology, factors that delay healing such as infection, and a plan for the most appropriate therapy and modifiable risk factors (WOCN, 2011). Case management is another key component of nursing care in this clinic. Nurses act as autonomous case managers, suggesting lab work, advocating for nonhealing wound status or inadequate treatment protocol if they don't believe the wound is healing per their expected timeline. They seek to, throughout the 14 weeks, through case management, relieve inadequate perfusion, resolve infection or inflammation, remove viable or nonviable tissue, encourage tissue growth, resolve edema, prevent injury, and address co-morbidities such as diabetes, malnutrition, and venous stasis disease that may exacerbate the wound healing process. Algorithms based on best practice from the WOCN are utilized to support decision making and advocacy by the nurses so that a sustained number of patients, over 92% of the time, experience complete wound healing.

Standardization in care and use of national benchmarks provide a methodology for organizations to improve care by setting realistic goals and incorporating standardized proven interventions. Ambulatory care RNs are at the forefront of adopting these strategies. As they participate in standardization of care and national benchmarking, the results in patient care are likely to continue to improve.

Figure 1.
Wound Care Center (WCC) Healing Rate by Quarter Compared to National Wound Care Cohort Benchmark



	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016	Q1 2017
WCC Healing Rate Average	90%	92.6%	95.6%	87.6%	95.6%	97.3%	94%	95%	89%	92%	96.6%
National Wound Care Cohort Benchmark	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%	92%

Clinical Practice Role Dimension: Client Teaching

Ambulatory care RNs are involved in innovative education strategies that go beyond simply distributing pre-printed instructions and verbal explanations with teach back. Education is a hallmark of all ambulatory care professional disciplines. What makes the following exemplar unique is the strategy employed and the intervention utilized which could be attributed to the RN.

Increasing appropriate ED use. A career-ladder RN in pediatric neurology noted patients were frequently responding "yes" to the intake query regarding any emergency room visits since their last appointment. While all members of the healthcare team were involved in patient education, this RN examined what might make a difference to break this cycle of events. A 2-year project ensued whereby patient knowledge of care during seizures and reasons for ED visits information was collected. The nurse educated clinic staff to provide patients with seizure diagnosis with a refrigerator magnet that listed key emergency instructions and to document this in the medical record. Another 2 years of data collection and tracking patient ED visits after magnet distribution demonstrated a 50% reduction in non-essential ED visits. The data also demonstrated use of the magnet was a statistically significant intervention with a *p* factor of 0.05. Further, it was demonstrated that an increased number of patients who went to the ED needed to be there and were subsequently admitted. This nurse's work has been presented at national conferences and is due to be published. The seizure magnets are now patented in her name.

Clinical Practice Role Dimension: Nursing Process/Enabling Operations

Readmission rates based on implementation of RN-initiated phone calls. An organization's triage RNs initiated a care coordination QI project calling patients within 72 hours of hospital discharge. The project was initiated because of a question posed while reviewing readmission rates about whether a phone call by an RN, using the nursing process, could affect the rate of readmissions. Patients seen in a residency clinic from August 2015-Janaury 2016, prior to project implementation and who did not receive an RN-initiated phone call after discharge, demonstrated a readmission rate of 18%. Patients seen from August 2016-January 2017 in the same residency clinic, who received an RN-initiated phone call within 3 days of discharge, had a readmission rate of 23%. The readmission rate was higher in the second group due to the early assessment and communication skills of the RN which were used to successfully identify patients in need of care and develop a plan to get them needed care (see Table 3). This was considered an improvement in the patient's care. Examples of these reasons for readmission were early discharge, reactions to treatment, lack of home support for chronic illness, patients needing a higher level of care, or the demographic of the patient. Patients with multisystem organ failure and high acuity were commonly seen in this Level 1 trauma center's patient population. This care coordination effort supports the need for the RN role in ambulatory care settings. While increased admissions were the result, further study is needed to evaluate the impact of post-discharge calls on patient safety, mortality, and outcomes.

Table 3.
Template of RN-Initiated Phone Calls to Affect Readmission Rates

1.	Identify discharge patients.
2.	RN chart review: discharge summary, problem list, medications, discharge planning notes, after visit summary.
3.	RN assessment and recommendations for changes in current health status per standard protocols.
4.	RN assessment of knowledge and education of actions needed in event of change in health status.
5.	RN assessment and intervention for medication compliance: access, knowledge of medications, taking medications as prescribed, barriers, side effects, feelings of taking medications, effects if not taken. Verification and intervention of home intravenous/line care.
6.	RN assessment intervention for appropriate home management: able to obtain medications, transportation to appointments, care provider in home if indicated.
7.	Facilitate appropriate referrals: anticoagulation, specialties.
8.	Facilitate chronic disease management: contact specialist, educate per standard protocols, followup.
9.	Post emergency room phone call for continuity of followup if triaged to return to hospital.
10.	Document assessment, planning, intervention, and evaluation.
11.	Collaborate with medical team as indicated.

Clinical Practice Role Dimension: Telephone Communication

Increasing efficiency. RNs in a nationally known pain management center found themselves spending prolonged periods of time on the phone refilling prescriptions, leaving them little to no time to assess their patient's knowledge and problem-solving abilities related to their opioid prescription. A goal was set to improve the time available for nurse visit interaction to improve patient compliance, understanding, and response to their opioid medication and to reduce the number of patients obtaining prescription refills over the phone.

As a result of implementing the interventions, nursing calls for refills decreased significantly, face-to-face time with patients increased, and there was consistent monitoring and prescribing by physicians and better compliance with medications by patients (see Table 4). Following the interventions, mean call volume per day decreased to 2.23 (86% reduction). As the number of phone calls decreased, more patients were scheduled for clinical visits. The mean number of visits per month increased from 14.55 to 19.77 (a 26% increase). The ability to impact the volume of calls to the pain management clinic increased RN availability for assessing patient needs and providing care coordination rather than responding only to phone calls.

Table 4.
Reducing Phone Requests for Opioid Prescription Refills

1.	In partnership with the provider, establish a required visit policy for number of visits.
2.	Update opioid agreements for the calendar year and then repeat yearly.
3.	Develop risk stratification levels for patients to determine future visit patterns based on the size of the opioid dose, current use of multiple long-acting or multiple short-acting opioids, associated diagnosis, and/or medication used.
4.	Initiate routine urine drug screens.
5.	Continue phone refills for initial calls, but schedule face-to-face visit prior to the next refill.

Summary

The successes described here have all been achieved by RNs who are passionate about patient care and who come to work each day striving to make a measurable difference. The value these RNs add to their organizations and patients are evident when the time is taken to measure the results of the roles they play in patient care. The AAACN NSI Task Force encourages all RNs in ambulatory care settings to articulate their roles through the documentation and measurement of what they do. **$**

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