



Ambulatory Care Nurse-Sensitive Indicators Series: Capturing the Role of Nursing in Ambulatory Care – The Case for Meaningful Nurse-Sensitive Measurement

EXECUTIVE SUMMARY

- ▶ The nation has been on a quest to advance quality in providing health care services and improving patient outcomes.
- ▶ The challenge has been to identify and define metrics that will demonstrate improvement.
- ▶ Acute care settings have a fairly well-established system of quality measurement, but ambulatory care systems are in less-developed stages.
- ▶ Imperative to accurate quality measurement in ambulatory care is to identify and define metrics that reflect the value of registered nurses to improved patient care and outcomes as well as to the organization.
- ▶ The American Academy of Ambulatory Care Nursing (AAACN) established a task force to determine appropriate measures of nursing quality.
- ▶ The task force spent 2 years investigating measures and produced an *Industry Report* that addresses measures of nursing quality.
- ▶ This article is the first in a series of articles that will reveal and discuss the contents of the *Industry Report*.



Many settings. Multiple roles. One unifying specialty.

DURING THE PAST 3 decades, delivery of health care has shifted from inpatient to the ambulatory care setting. Additionally, there has been great interest in improving health care delivery and patient outcomes. However, the success of our efforts has not always met our expectations (Institute of Medicine [IOM], 1999; 2001). In a recent report, the Commonwealth Fund states, “despite having the most expensive healthcare system, the United

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States ranks last overall among 11 industrialized nations on measures of health system quality, efficiency, access to care, equity and healthy lives” (Davis, Stemkis, Squires, & Schoen, 2014, p. 6).

In the past 15 years, there have been multiple efforts (IOM, 1999; 2001) to identify issues and improve care delivery and outcomes even as the industry deals with more explosive changes (e.g., technological advances, new legislative mandates, and entrepreneurial organizational system changes). A major step forward has been the focus on quality improvement at unit, organization, and health care system levels. Progress has been achieved in the documentation of improved processes and outcomes using modern sophisticated information technology. However, most quality reports in the ambulatory setting center on organizational level issues, often overlooking the contributions of nursing to improvements in care delivery, services, and outcomes.

The purpose of this article is to set the stage for a series of articles to discuss the efforts the American Academy of Ambulatory Care Nursing (AAACN) has instituted to identify, define, and test nurse-sensitive indicators (NSIs) that reveal professional nursing’s value to the patient, organization, and industry. In 2013, the AAACN Board of Directors commissioned a taskforce to identify and develop NSIs in the ambulatory care setting. This taskforce completed its work in the fall of 2015 and issued a report on the quality activities within the health care industry, focusing largely on ambulatory nursing care.

This report, *Ambulatory Nurse-Sensitive Indicator Industry Report: Meaningful Measurement of Nursing Indicators in the Ambulatory Patient Care Environment*, was the summation of a 2-year investigation on the factors mandating measurement of the ambulatory care nurse role (AAACN, in press). This report, often referred to by the NSI Task Force (TF) as the *Industry Report*, surveyed all existing endorsed measures within health care and ambulatory care nursing, adding support from the literature for advocacy statements that would make these measures meaningful to the role of the ambulatory care nurse. Several new

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indicators based on the NSI TF's investigation as being highly sensitive to the role of the ambulatory care nurse were proposed in this report. This article and the succeeding articles in *Nursing Economic\$* will summarize the findings of the NSI TF *Industry Report* and the current status of ambulatory NSI implementation.

Nurse-Sensitive Indicators: Definition and Importance

The evaluation of the quality of nursing practice began with Florence Nightingale's keen observations during the Crimean War of 1854. Nightingale identified the role of the nurse in health care quality by using statistical methods to correlate environmental conditions in the hospital to the outcomes of soldiers (Dossey, Selanders, Beck, & Attewell, 2005; Montalvo, 2007; Nightingale, 1859/1946). Nursing-sensitive indicators are used today in inpatient settings to measure nursing care. The American Nurses Association (ANA) and the Collaborative Alliance for Nursing Outcomes (CALNOC) define NSIs as "those indicators that capture care or its outcomes most affected by nursing care" (Heslop & Lu, 2014, p. 2471). The National Quality Forum (NQF) further defines a nursing-sensitive performance measure as processes, outcomes, and structural proxies affected, provided, and/or influenced by nursing personnel, but for which nursing is not exclusively responsible (NQF, 2004). NSIs differ from medical indicators of care quality and are specific to nursing (Montalvo, 2007).

Nurse-sensitive indicators are needed in ambulatory care settings to measure what nurses do, justify nursing care, and identify how nursing care can improve patient outcomes (Heslop & Lu, 2014). Over the past several decades, quality measurement in health care and nursing has evolved. In 1970, the ANA disseminated the Quality Assurance model and offered a method for evaluating health care quality using structure, process, and outcomes (Montalvo, 2007). Nurse-sensitive indicators are often subdivided into three subcategories: structure, process, and outcome (Heslop & Lu, 2014). Structure indicators seek to measure the configuration of nursing staff and its impact on patients, nursing, and the setting (Heslop & Lu, 2014). Process indicators seek to measure interventions that are directed, overseen, and/or performed by nurses (McCloskey & Bulechek, 2000). Outcome indicators relate to how the patient is affected by nursing interventions regarding health issues (e.g., patient safety, perceptions, use of health care, functional status, and clinical management related to nursing care) (Doran, 2011).

In the 1990s, the ANA began a series of pilot studies to evaluate the link between the quality of care and nurse staffing (Montalvo, 2007). Between 1997 and 1999, the ANA Congress of Nursing Practice convened an advisory committee to identify indicators

Table 1.
Indicators Reflective of Nursing Quality in Inpatient Settings

- Nursing hours per patient day
- RN education and certification
- RN satisfaction survey
- Staff skill mix
- Voluntary nurse turnover
- Nurse vacancy rate
- Patient falls
- Patient falls with injury
- Pediatric pain assessment, intervention, reassessment cycle
- Pediatric peripheral intravenous infiltration rate
- Pressure ulcer prevalence
- Psychiatric physical/sexual assault rate
- Restraint prevalence
- Nosocomial infections
- Urinary catheter-associated urinary tract infection
- Central line catheter-associated blood stream infection
- Ventilator-associated pneumonia

SOURCE: Montalvo, 2007

sensitive to the impact of nursing practice in community-based subacute settings. These settings were identified as long-term care, home health, school health, and ambulatory care. The organization framework was built on the concepts and categories of care: utilization of services, patient satisfaction, risk reduction, increased protective factors, level of functioning, psychosocial functioning, changes in symptom severity, and strength of therapeutic alliance (Montalvo, 2007; Sawyer et al., 2002; Swan, 2008).

Organizations such as the CALNOC and the National Database of Nursing Quality Indicators (NDNQI) participated in a series of pilot studies across the United States. By incorporating expert opinion, they developed a first set of indicators, reflective of the inpatient setting (Brown, Donaldson, Burnes Bolton, & Aydin, 2010; Brown & Wolosin, 2013; Montalvo, 2007) (see Table 1).

Nurse-sensitive indicators have been used to build robust nurse-sensitive databases that incorporate executive and clinical reporting information systems (Aydin, Bolton, Donaldson, Brown & Mukerji, 2008; Donaldson, Brown, Aydin, Bolton, & Rutledge, 2005). NSIs have become an increasingly valid and reliable means to support nursing care quality and performance measurement in the hospital unit setting including the evaluation of nursing clinical practice. While NSIs in acute care have been established and widely accepted nationally, they are under developed and minimally standardized in the ambulatory care setting (Kurtzman & Corrigan, 2007; Swan, 2008).

The Shifting Health Care Landscape

Health care delivery is shifting from the inpatient setting to the ambulatory care setting. According to the American Hospital Association (2015), inpatient admissions per 1,000 persons decreased from 11.93% in 1993 to 10.63% in 2013. Furthermore, the average length of stay declined from 7 days in 1993 to 5.4 days in 2013. Meanwhile, total outpatient visits per 1,000 persons averaged 14.22% in 1993 and increased to 21.45% in 2013.

The registered nurse (RN) workforce, however, has declined in the ambulatory care setting despite an influx of patients (IOM, 2010). The National Association of Community Health Centers estimates 56 million people have inadequate access to a primary care medical provider and health centers need to increase the number of patients served from 16 million to 30 million, which would require another 16,000 to 20,000 RNs (IOM, 2010). With the Patient Protection and Affordable Care Act (PPACA) of 2010 creating a dramatic reduction in numbers of people without insurance, there will be an increased need for ambulatory care RNs (IOM, 2010). The influx of patients and the increase in the number of RNs makes it critical that we develop ways to evaluate the quality of nursing care in the ambulatory care settings.

Modern Ambulatory Care: Overview

A number of evolutionary societal, legislative, regulatory, technological, and health industry trends form the context of the ambulatory care environment, effecting change in both care delivery systems and practice of professional nursing. Today ambulatory care has evolved into sophisticated, highly complex organizations and systems.

Ambulatory care has been shaped by the PPACA. This legislation is transforming the practices of hospital systems and primary care physician organizations in a number of ways – financially, technologically, and clinically – to drive better health outcomes, lower cost, and improve methods of distribution and accessibility.

The PPACA supports rebuilding the primary care workforce, strengthening community health centers, providing free preventive care for seniors, establishing the Community Care Transitions program to help high-risk older adults who are hospitalized avoid unnecessary readmissions by coordinating care and connecting patients to services in their communities, and increasing reimbursement for primary care (Swan & Haas, 2011). Evidence supports RNs as critical to the delivery of these preventive services, as well as care coordination activities to avoid rehospitalizations. The Accountable Care Organizations supported by PPACA are centered on delivering coordinated, efficient, and effective care (Swan & Haas, 2011).

Nurses have been identified as important in this redesigned health care environment. “What nursing

brings to the future is a steadfast commitment to patient care, improved safety and quality, and better outcomes” (IOM, 2010, p. xi). “Further healthcare reform offers RNs the opportunity to take a leadership role in designing and filling the new expanded roles that will foster patient-centered, equitable, safe, high-quality healthcare services” (IOM, 2010, p. xi-xiii).

The IOM published a landmark report regarding the study of medical errors in hospitals which further supported the need to assess and constantly improve metrics related to patient safety (Brown & Wolosin, 2013; IOM, 2001). This report, along with a subsequent IOM call to action, and the PPACA in concert with the Centers for Medicaid & Medicare Services, have made it essential that organizations create cultures of safety. These metrics are intrinsically linked to such entities as skill mix, turnover, and workload intensity (Aiken, Clarke, Sloane, Sochalski & Silber, 2002; Brown & Wolosin, 2013). The work of developing NSIs in the ambulatory care setting requires measurement of RN staffing and demographic data for effective linkages to quality that are nurse sensitive (AAACN, in press). The benchmarking of both quality and RN demographics across like size and type environments must eventually be done to continue to advance and improve the quality of care RNs provide in these settings (Brown et al., 2010).

The American Nurses Credentialing Center (ANCC, 2014) in its requirements for Magnet® Designation states:

Nurses at all levels analyze data and use national benchmarks to gain a comparative perspective about their performance and the care patients receive...Action plans are developed that lead to systematic improvements over time...Magnet organization data demonstrate outcome measures that generally outperform the benchmark statistic of the national database used in patient and nurse sensitive indicators. (p. 42)

The key data elements required by application to this program are nurse-related patient satisfaction, nursing-sensitive quality, nurse satisfaction, nurse staffing, nurse turnover and vacancy, among others, for every RN in every setting of the applicant organization (ANCC, 2014). The NSI TF, through the *Industry Report*, has built a strong foundation for identification, development, and measurement of elements most relevant to ambulatory care nursing.

Professional Nursing in the Ambulatory Care Environment

Ambulatory care nursing is a unique realm of nursing practice, characterized by rapid responses to high volumes of patients in a short span of time while dealing with issues that can be unknown and unpre-

dictable. AACN (2011) formally defines professional ambulatory care nursing as:

... a complex, multi-faceted specialty that encompasses independent and collaborative practice. The comprehensive practice of ambulatory care nursing is built on a broad knowledge base of nursing and health sciences and applies clinical expertise rooted in the nursing process. Nurses use evidence-based information in a variety of outpatient healthcare settings across the care continuum to achieve and ensure patient safety and quality of care, while improving patient outcomes.

Ambulatory care nursing includes those clinical, organizational and professional activities engaged in by registered nurses with and for individuals, groups, and populations who seek assistance with improving health and/or seek care for health-related problems and end-of-life issues.

RNs promote optimal wellness, participate in the management of acute illness, assist the patient to manage the effects of chronic disease and disability, and provide support in end-of-life care.

The ambulatory care registered nurse is accountable for the provision of nursing care in accordance with relevant federal requirements, state laws and nurse practice acts, regulatory standards, the standards of professional ambulatory care nursing practice, other relevant professional standards, and organizational policies. (p. 3)

Ambulatory care RNs interact with patients in a clinic, office, or home setting as well as in telehealth situations. They interact with professional colleagues within their institution and across the care continuum, seeking and providing information that facilitates access to care and ensures appropriate intervention(s) occur that result in optimal outcomes.

Patients and/or caregivers have primary responsibility for their health care and the RN functions as partner and consultant. The patient's individual preferences and culture are primary to successful delivery of care and services. The contributions of ambulatory care nurses to patient care and organizational success are significant. The challenge is to identify, define, and measure indicators that demonstrate ambulatory care nursing's value.

Institute of Medicine Nursing Mandate

The IOM (2010) states:

By virtue of its members and adaptive capacity, the nursing profession has the potential to effect wide-reaching changes in the healthcare system. Nurses'

regular, close proximity to patient and scientific understanding of care processes across the continuum of care give them a unique ability to act as partners with other health professionals and to lead in the improvement and redesign of the healthcare system and its many practice environments, including hospitals, schools, homes, retail health clinics, long term care facilities, battlefield and community and public health centers.

Nurses are poised to help bridge the gap between coverage and access, to coordinate increasingly complex care for a wide range of patients, to fulfill their potential as primary care providers to the full extent of their education and training and to enable the full economic value of their contributions across practice settings to be realized. In addition a promising field of evidence links nursing care to high quality of care for patients, including protecting their safety. Nurses are crucial in preventing medication errors, reducing rates of infection and even facilitating patient's transition from hospital to home. (p. 3)

These statements and the associated recommendations were not specific to any one environment where nurses practice; rather they were all encompassing to every sector, including ambulatory care (AACN, in press).

To bridge the gaps that exist in our health care system, the IOM (2010) recommended RNs in every setting must:

1. Practice to the full extent of their education and training.
2. Achieve higher levels of education and training.
3. Be full partners with physicians and other health professionals in redesigning health care in the United States.
4. Seek more effective workforce planning and policy making that requires better data collection and improved information infrastructures. (p. 4)

In evaluating the progress made by the original IOM *Future of Nursing: Leading Change, Advancing Health* report (2010), the IOM stated that:

Baccalaureate prepared nurses are not fully utilized across all practice settings; in particular in ambulatory care settings where they are needed to provide population health, health promotion, disease prevention, and chronic disease management...in some areas local credentialing requirements and practice policies can limit nursing practice even though state regulations permit a broader legal scope. (Breslin, 2015, p. 2)

Consistent with the IOM mandates, the AACN (2010) states:

The transition of healthcare from inpatient to the ambulatory setting has led to challenges with access to care, coordination of services, and escalated the complexity of care delivered outside the hospital. This shift has dramatically increased the need for professional nursing services, as patients and their families require increased depth and breadth of care. Ambulatory RNs facilitate patient care services by managing and individualizing care for patients and their families, who increasingly require assistance navigating the complex healthcare system. With provision of complex procedural care, ambulatory care RNs provide support with decision-making, patient education, and coordination of services. (p. 1)

RN Role in Changing Economic Incentives

Pay-for-performance initiatives are changing the quality landscape. Nurse-sensitive indicators in acute care have been established and widely accepted nationally. Leaders in ambulatory care nursing must articulate the value of nurses' contributions, as has been accomplished through the development of indicators of quality patient care and nursing-sensitive outcomes for other venues where nursing care is delivered (Swan, 2008). Ambulatory care RNs are well positioned to fully participate in health care reform initiatives (Swan & Haas, 2011).

Ambulatory care RNs must be involved in documenting and measuring the impact of nursing in care coordination and transitional management not only on patient outcomes, but on cost effectiveness and improvements in the patient's and family's well-being (Swan & Haas, 2011). Many sectors are already working on interventions to improve the gaps in the health care system. In a summary of 16 studies by Hamner (as cited in Swan, Conway-Phillips, & Griffin, 2006), which included 10 RN-led interventions in outpatient heart failure clinics and six using telephone or technology-based interventions, hospital readmissions, emergency room visits, and mortality were all decreased. Self-care, quality of life, and patient satisfaction were all improved.

Critique of Available Ambulatory Care Nurse-Sensitive Indicators in the Health Care Environment

In January 2014, the ANA held an Ambulatory Care Summit which included representatives from AACN (Martinez, Battaglia, Start, Mastal & Matlock, 2015). During the summit, the group reviewed a list of indicators that could be used in the ambulatory care setting. After discussion, the group proposed the following indicators:

- Readmissions
- Pain assessment and followup
- Hypertension
- Depression screening
- Medication reconciliation

The medication reconciliation measure was further developed for use in the ambulatory care setting, along with one other measure, not discussed at the ANA Summit. In August 2014, the NDNQI released two measures for use by RNs in the ambulatory care setting:

- *Care Coordination: Medication Reconciliation* – Care Coordination related to Medication Reconciliation is a nurse-sensitive process measure aimed at capturing the percentage of times the medication reconciliation tool was documented as provided to the patient and family in the ambulatory setting as well as the percentage of times that education was documented as being administered to the patient or family related to the medication reconciliation process. (p. 2)
- *Care Coordination: Pending Diagnostic Test Results* – Care Coordination related to Pending Diagnostic Test Results is a nurse-sensitive process measure aimed at capturing the percentage of times pending diagnostic test results are documented as being provided to the patient and family in the ambulatory setting as well as the percentage of times that education was documented as being administered to the patient or family related to the pending diagnostic test results. (p. 2)

These measures represent an initial step in having NSIs in the ambulatory care setting. However, as the AACN NSI TF found through multiple membership feedback mechanisms, many nurses in the ambulatory care settings, or their administrators, were unaware of their existence and any impetus to implement or track them. The AACN NSI TF believes this may be due to the historical role of quality departments to primarily manage inpatient data and measures. The fact many nurses did not know about these measures represents one key barrier to furthering this work and any other measures that may be released by any organization in the future.

In addition, the NSI TF believes these two measures do not reflect the contribution of the RN in the ambulatory care setting. For NSIs to be meaningful for the RN, the RN must have a role in the process. In the case of medication reconciliation, this is a task performed by multiple different members of the health care team, including administrative staff. Many times the RN is not involved in any part of the process nor does the RN direct the collection process. Further, medication reconciliation is an activity related largely to the inpatient setting. In the outpatient setting, a more appropriate term for similarly related activities would be *medication review and education*. In the case of pending diagnostic test results, the RN again is not involved in the process or directing the work of the person performing this task. Both of these indicators are process measures that reflect tasks that are performed by staff, but not necessarily by the RN. To have a nurse-sensitive measure, the nurse should

have a role in the process, or be responsible for directing the process.

Conclusion

This article represents the first in a series drawing from the work of the AAACN NSI TF on *Meaningful Measurement of Nursing in the Ambulatory Patient Care Environment* (AAACN, in press). Over the next several months, future articles will address measures proposed by this group as meaningful to the ambulatory care RN, taken from already-endorsed measures within health care, measures as proposed by this group that are new, new examples of measures being developed in microsystems across the United States, as well as emerging efforts to create participation in benchmarking registries for ambulatory care NSIs. To help advance this work, the AAACN Board of Directors formed a strategic partnership and created a working agreement with CALNOC, a nurse-sensitive benchmarking registry with a 20-year history of indicator development. CALNOC recently completed a pilot study of ambulatory surgery centers across the country and will make those metrics available for benchmarking purposes in 2016. The partnership between CALNOC and AAACN will further seek to develop and validate measures proposed in the AAACN NSI Task Force *Industry Report*. Organizations interested in participating in a nationwide project to develop these indicators will be able to work within this partnership to do so.

While work on the development of indicators in the ambulatory care setting has occurred since the 1980s, there is a paucity of indicators currently available for use. The work described here from the AAACN NSI TF represents a current and plausible first step toward the development and testing of NSIs for ambulatory care that will be meaningful in a variety of settings with populations across the life span. As ambulatory care settings seek to pursue prestigious and value-based programs such as the ANCC's Magnet Recognition Program[®], use of indicators in the ambulatory care setting will serve to provide benchmarkable outcome measures. Combined with demographic data, nurse-sensitive indicators also have the potential to provide important information related to staffing, the increasing complexity and acuity in the ambulatory care setting, the formation of effective care delivery teams, and the importance of the role of the RN in the ambulatory care setting. \$

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