



# Ambulatory Care Nurse-Sensitive Indicators Series: Reaching for the Tipping Point in Measuring Nurse-Sensitive Quality in the Ambulatory Surgical and Procedure Environments

### EXECUTIVE SUMMARY

- ▶ The value of the ambulatory care nurse remains undocumented from a quality and patient safety measurement perspective and the practice is at risk of being highly variable and of unknown quality.
- ▶ The American Academy of Ambulatory Care Nursing and the Collaborative Alliance for Nursing Outcomes propose nurse leaders create a tipping point to measure the value of nursing across the continuum of nursing care, moving from inpatient to ambulatory care.
- ▶ As care continues to shift into the ambulatory care environment, the quality imperative must also shift to assure highly reliable, safe, and effective health care.

an endeavor to reach a tipping point for ambulatory care nursing quality measurement.

As identified in the initial article in this series (Mastal, Matlock, & Start, 2016), and in the AAACN *Industry Report* (AAACN, 2016), nurse-sensitive quality measurement in ambulatory care systems is less developed than in acute care settings. There are no standardized measure sets that allow organizations to benchmark performance across settings or to understand the impact of nurse staffing on processes of care and patient outcomes. Nor are there well-understood and standardized definitions for the myriad ambulatory settings for care. As a result, the value of the ambulatory care nurse remains undocumented from a quality and patient safety measurement perspective and the practice is at risk of being highly variable and of unknown quality.



Many settings. Multiple roles. One unifying specialty.



Diane Storer Brown

**A** TIPPING POINT IS reached when a large number of group members change behavior rapidly by widely adopting a previously rare practice. Malcolm Gladwell's *The Tipping Point* (2000) is a best-selling book that helps us understand our nursing leadership role to introduce the concept of measuring nurse-sensitive quality indicators in ambulatory care to large numbers of people and to connect our quality and information specialists with stakeholders to share the possibilities. After achieving a tipping point of interest, as the persuaders we must translate the tipping point into a starting point for action, to help encourage adoption of this practice. Two organizations, American Academy of Ambulatory Care Nursing (AAACN) and the Collaborative Alliance for Nursing Outcomes (CALNOC), are collaboratively leading



Harriet Udin Aronow

### The Quality Imperative

Fundamental to high 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. While a wide range of improvement methods are currently embraced in health care, all require comparative data to understand performance and comparative data require standardized measurement and the ability to benchmark performance with internal and external comparisons (Brown, Donaldson, Burnes Bolton, & Aydin, 2010).

High reliability has been a health care topic for many years, but the predominant focus has been aimed

*DIANE STORER BROWN, PhD, RN, FNAHQ, FAAN*, is Executive Director, Medicare Strategy and Operations, Kaiser Permanente – Northern California Region, Oakland, CA; and Founding Member and Senior Scientist, Collaborative Alliance for Nursing Outcomes.

*HARRIET UDIN ARONOW, PhD*, is Research Scientist in Nursing, Cedars-Sinai Medical Center, Los Angeles, CA; and Director, Data Management Services, Collaborative Alliance for Nursing Outcomes.

*NOTE:* This column is written by members of the American Academy of Ambulatory Care Nursing (AAACN) and edited by Kitty Shulman, MSN, RN-BC. 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; Email: [aaacn@ajj.com](mailto:aaacn@ajj.com); Website: <http://AAACN.org>

at acute care in hospital settings. Approximately 1.5 million registered nurses (RNs) work in acute hospitals, while roughly one-third as many work in ambulatory care (Bureau of Labor Statistics 2014). That, still, is almost one-half million RNs supporting a rapidly growing ambulatory care industry. Nurses practicing in ambulatory care deserve to have the data they need to evaluate and improve their services. Two recent publications by national reputable authorities build the case that now is the time to strive for a tipping point in ambulatory care nurse-sensitive measurement. The National Patient Safety Foundation (2015) assessed the state of the patient safety field 15 years after the Institute of Medicine report *To Err is Human* was published. The report highlights that much of the work to date addresses hospital care, yet, today most care is provided outside hospitals. The report concludes patient safety concerns are still a serious public health issue. The report's new recommendations for achieving total system safety include the need to address safety across the entire care continuum, in addition to the creation of a common set of safety metrics that reflect meaningful outcomes and support the health care workforce.

Concurrently, an assessment of nursing advancement in the past 5 years was published as a follow up to the 2010 report, *The Future of Nursing* (National Academies of Sciences, Engineering and Medicine, 2015). This report recommended an emphasis for the next 5 years on ensuring nurses are prepared to fill the need for quality health care in a rapidly changing health care delivery system, since nurses are the largest group of health care professionals and positioned to lead and partner in teams that provide services across the continuum.

### **The Case for Outpatient Surgery**

One method to implement this recommendation is to promote collaboration among organizations and associations to create more robust datasets, and to encourage expansion of data collection activities to better measure and monitor the roles of nurses. To that end, the AACN and CALNOC entered into a collaboration to leverage the strength of both organizations to expedite the development of nurse-sensitive measures in the ambulatory care environment. Building on the expertise and 20-year experience of CALNOC in measurement development for hospitals, the initial work has focused on ambulatory surgery and procedure centers.

Ambulatory surgery centers (ASC) and hospital outpatient procedure units are a good transitional platform from which to move hospital nursing quality indicators into the ambulatory care arena. Staffing and dependence on nursing care are critical and the volume is high and growing. In 2006 there were 34.7 million patient visits for outpatient surgery, with 19.9 million occurring in hospital outpatient procedure

units and 14.9 million in freestanding ambulatory surgery centers (Cullen, Hall, & Golosinskiy, 2009). The number of ambulatory surgery centers has continued to grow with a 15% increase between 2007 and 2014 (MedPac, 2015).

### **Benchmarking Quality in Outpatient Surgery – The Basics**

The ultimate goal of quality measurement is the ability to benchmark performance against other similar units or organizations. Measuring the performance of an individual unit or units within an organization or system allows nurses to understand performance trends (Brown, Aydin, & Donaldson, 2008). However, without external comparison groups it is not possible to understand an individual unit's performance in reference to benchmarks and to understand performance within the context of the industry. For example, performance may be improving gradually – a very good outcome of performance measurement. However, the performance may be an outlier and far from where the rest of the industry performs in either a good or bad way. When performance is very good compared to the industry, prioritization of improvement efforts could be shifted to other areas of practice. Without external benchmarking, an organization only has anecdotal information to put performance in context.

To benchmark with “like” organizations or unit types, descriptive or demographic data are required to stratify by types of units. The initial CALNOC stratification measures selected were based on affiliation with hospitals and the predominant age group served by ambulatory surgery centers or procedure units. The first stratification, hospital affiliation, describes hospital-based clinics, ambulatory surgery and procedure centers with direct access to emergency response teams (not a 911 call) and higher levels of care. Freestanding units would not be under the license or billing of a hospital, thus provider-based billing differentiates a center that is free standing, versus hospital billing for a hospital-based center. A free-standing facility would not be on the hospital tax ID and would have billing associated with the practice that owns and operates the site. The second stratification addresses the predominant age group served with adult units having a predominate population over the age of 18, pediatric units having a predominate population under 18 years, and mixed units including both pediatric and adult.

Ambulatory care settings vary widely in size and the volume of patients that are served on a given day. Measures are summarized over a standardized period of time such as a shift, a day, a week, a month, or a year, but to compare in a meaningful way across settings, the data must also be standardized by creating rates using volume denominators. For the initial CALNOC measures for ambulatory surgery centers and procedure centers, the following volumes were selected:

- *Total patient visits.* Patient visits may be called by different names (e.g., registrations, admissions, encounters). Our general definition for one visit is a bundled patient encounter: The patient crosses the threshold, registers, several things may happen to him/her while in the visit (including being sent to lab or x-ray, having one or more procedure/surgery), and then he/she is discharged and leaves the unit/center. This is *one* visit.
- *No shows/cancellations.* Patients who cancel visits/appointments at the last minute or do not show up for their scheduled appointment, not permitting replacement, are totaled per month. This measure may be used as a benchmark by facilities interested in overall efficiency of center/unit operations.
- *Total surgeries/procedures.* This measure is an “unbundled” count of procedures/surgeries performed in the center/unit for the entire month. There may be more than one procedure in a patient visit.
- *Total operating room (OR)/procedure room minutes for surgeries/procedures.* This measure tracks the total amount of time patients spent in the OR/procedure room over the entire month. It is the summed amount of time in minutes the patients were actually in the OR or procedure suite – using the elapsed time between the times recorded for patient “in room” and “out of room.”

The next step in understanding performance measures is to organize the measures into a framework. The dominant framework for assessing the quality of health care is attributed to the work of Avis Donabedian (1988) using a structure, process, and outcome model. This framework was used in 2004 for the initial set of endorsed nurse-sensitive quality measures (National Quality Forum [NQF], 2004).

The NQF defined nurse-sensitive performance measures as processes and outcomes and structural proxies for these processes and outcomes such as skill mix and nurse staffing hours that are affected, provided, and/or influenced by nursing personnel but for which nursing is not exclusively responsible. The initial set of ambulatory measures in CALNOC includes structure measures and outcome measures.

Structure measures describe the staff who provide the care in the ASC or procedure unit. By describing the hours of care by each type of staff, the mix of skills can be compared when using the volume denominators, which quantify the amount of care provided. It is important to measure nursing hours but also support staff hours and other licensed hours to understand how the structure of care impacts both processes and outcomes of care. For example, if the industry has concerns there are not adequate numbers of RNs involved in care, the measurement of the skill mix can be used to understand if processes are not delivered and outcomes not consistently achieved to

provide safe, quality care. Without these data, anecdotal evidence is all that is available to form the argument for additional resources or a different mix of resources.

The staffing structural measures included in the CALNOC initial measure set include direct patient care hours. Direct hours are those related to providing face-to-face patient care (back office). Indirect hours are those related to front office employees (registration, surgery scheduling, or billing). Front office staff, managers, unit billing and registration clerks, medical records staff, and others with no direct patient care responsibilities are excluded. Included for benchmarking are the following:

- *RN nursing care hours.* Total number of productive hours worked by all registered RNs with direct patient care responsibilities.
- *Licensed vocational nurse (LVN) nursing care hours.* Total number of productive hours worked by all LVNs (known in some states as licensed practical nurses) with direct patient care responsibilities.
- *Non RN/LVN caregiver care hours.* Total number of productive hours worked by other unlicensed assistants (e.g., certified medical assistant, patient care technician, nurse’s aide). This measure excludes unit clerks and others with no direct patient care responsibilities.
- *Advanced practice RN (APRN) care hours.* Total number of productive hours worked by advanced practice nurses employed by the unit/center. This staff category includes certified nurse anesthetists, clinical nurse specialists, nurse midwives, and nurse practitioners, but excludes APRNs who work for the medical staff as physician extenders.
- *Other licensed professional hours.* Total number of productive hours worked by other licensed professionals employed by the unit/center. Examples of other licensed professionals include physical/occupational therapists, neuropsychologists, physician assistants, licensed radiologic technologists, registered dietitians, medical social workers, and licensed clinical social workers.

The outcome measures selected for inclusion are measures that have been developed by the Ambulatory Surgery Center Quality Collaboration and endorsed by the NQF in 2007 and 2008 (Ambulatory Surgery Center Quality Collaboration, 2015). This cooperative effort was formed as a collective of organizations interested in ensuring data are measured and reported in a meaningful way. By seeking endorsement by the NQF, these measures are available for use in the public domain and therefore desirable in our endeavor to reach a tipping point to standardize measurement for nurse-sensitive care. The measures below list the ASC-developed measure and the NQF-endorsed measure number. Using the NQF (2004) def-



initiation of nurse-sensitive care, the selected measures are influenced by nursing personnel but for which nursing may not be exclusively responsible.

*Wrong site, wrong side, wrong patient, wrong procedure, wrong implant* (ASC 3, NQF 0267). Measure is calculated as a rate per 1,000 visits where patients experience a wrong site, wrong side, wrong patient, wrong procedure, or wrong implant event. Wrong is defined as not in accordance with intended site, side, patient, procedure, or implant and reflects adherence to universal protocols.

*Patient burns* (ASC 1, NQF 0263). Rate of patients experiencing a burn prior to discharge per 1,000 patient visits. Burn is defined as an unintended tissue injury caused by any of the six recognized mechanisms: scalds, contact, fire, chemical, electrical, or radiation (e.g., warming devices, prep solutions, electrosurgical unit or laser).

*Patient falls* (ASC 2, NQF 0266). Rate of patients experiencing one or more falls per 1,000 visits. A fall within the surgery center or procedure unit is defined as a sudden, uncontrolled, unintentional, downward displacement of the body to the ground or other object, excluding falls resulting from violent blows or other purposeful actions.

*Total number of falls with any injury*. Rate of injury falls per 1,000 patient visits. This additional measure was adapted from the hospital environment NQF-endorsed measure set. Understanding the care team may mitigate the risk of fall injury with preventive measures, the count of all falls that occurred in the center/unit that resulted in an injury level of “minor” or greater was added to the measure set.

*All-cause hospital transfer/admission* (ASC 4, NQF 0265). Rate per 1,000 patient visits of ASC/procedure unit admissions or visits requiring a hospital transfer or hospital admission upon discharge.

## Emergency Department Nurse-Sensitive Measures

We would be remiss to not include a reminder that emergency department (ED) ambulatory measures have been part of the CALNOC registry for several years. These measures use the same framework for measurement as referenced previously. Structure measures include nurse staffing measures as well as encounter volumes for denominators to create rate-based data. Process measures include the Centers for Medicare & Medicaid Services (CMS, 2016) NQF-endorsed throughput of patients from both the arrival of the patient in the ED and the decision to admit. Outcome measures relate to the ability of providers to assess and complete patient treatments. Stratification of ED measures for benchmarking is done by type of ED (standby, basic, or comprehensive), trauma status, and by volumes. The ED ambulatory measures are described briefly below.

*ED encounters*. Used as volume metric to stratify and calculate denominators for measures per 100

encounters. ED encounters include patients who had a face-to-face contact with the provider. Excluded from encounters are those who left without being seen where the patient did not have a face-to-face encounter with the provider for the medical screening exam (MSE), and direct admissions into the hospital through the ED.

*Admission encounters*. Total count of encounters resulting in an admission at this hospital.

*Boarded patients*. Rate (per 100 encounters) of patients held in the ED or a temporary location for 4 hours or more after the decision to admit or transfer has been made.

*Decision to admission time* (CMS eMeasure 111; NQF 0497). Median time in minutes from admit decision time to time of departure from the ED for ED patients admitted to inpatient status.

*Arrival to admission time* (CMS eMeasure 55; NQF 0495). Median time in minutes from ED arrival to time of departure from the ED for patients admitted to the facility from the ED.

*Left without being seen (LWBS)*. Rate of patients who leave before initiation of the MSE. Patient presents and registers for an ED visit but leaves prior to the MSE completion.

*Left before treatment complete (LBTC)*. Rate of patients who leave after MSE but before the provider treatment is complete. Patient presents and registers for an ED visit, the MSE is done, but patient leaves before the practitioner completes treatment.

*Left against medical advice (AMA)*. Rate of patients recognized by the institution and left after interaction with the ED staff, but before the ED encounter is officially ended. This differs from LBTC in that it includes documentation of patient competence, discussion about risks and benefits, and completion or refusal to complete document confirming the intent to leave against the recommendation of medical care staff.

## Conclusion

Armed with these measures, CALNOC and AAACN are encouraging ambulatory care nurse leaders to become persuaders with a starting point for action to encourage adoption in practice and begin the nurse-sensitive quality journey. As care continues to shift into the ambulatory care environment, the quality imperative must also shift to assure highly reliable, safe, and effective health care. The challenge is ours. Can we reach the tipping point? \$

## REFERENCES

- Agency for Healthcare Research and Quality. (2008). *Becoming a high reliability organization: Operational advice for hospital leaders*. Rockville, MD: The Lewin Group.
- Ambulatory Surgery Center Quality Collaboration. (2015). *ASC quality measures: Implementation guide*. Retrieved from <http://ascquality.org/documents/ASC%20QC%20Implementation%20Guide%203.2%20October%202015.pdf>

- American Academy of Ambulatory Care Nursing (AAACN). (2016). *Ambulatory nurse-sensitive indicator industry report: Meaningful measurement of nursing in the ambulatory patient care environment*. Pitman NJ: Author.
- Brown, D.S., Aydin, C., & Donaldson, N. (2008). Quartile dashboards: Translating large data sets into performance improvement priorities. *Journal for Healthcare Quality, 30*(6), 18-30.
- Brown, D.S., Donaldson, N., Burnes Bolton, L., & Aydin, C.E. (2010). Nursing-sensitive benchmarks for hospitals to gauge high-reliability performance. *Journal of Healthcare Quality, 32*(6), 9-17. doi:10.1111/j.1945-1474.2010.00083.x.
- Bureau of Labor Statistics. (2014). *Occupational employment and wages, May 2014: 29-1141 registered nurses*. Retrieved from <http://www.bls.gov/oes/current/oes291141.htm#ind>
- Centers for Medicare & Medicaid Services (CMS). (2016). *Clinical quality measures finalized for eligible hospitals and critical access hospitals beginning with FY 2014*. Retrieved from [https://www.cms.gov/regulations-and-guidance/legislation/ehrincentiveprograms/downloads/2014\\_cqm\\_eh\\_finalrule.pdf](https://www.cms.gov/regulations-and-guidance/legislation/ehrincentiveprograms/downloads/2014_cqm_eh_finalrule.pdf)
- Cullen, K.A., Hall, M.J., & Golosinskiy, A. (2009). Ambulatory surgery in the United States, 2006. *National Health Statistics Reports, 11*. Revised. Hyattsville, MD: National Center for Health Statistics.
- Donabedian, A. (1988). The quality of care: How can it be assessed? *JAMA, 121*(11) 1145-1150.
- Gladwell, M. (2000). *The tipping point: How little things can make a big difference*. New York, NY: Little, Brown and Company.
- Mastal, M., Matlock, A.M., & Start, R. (2016). Capturing the role of nursing in ambulatory care: The case for meaningful nurse-sensitive measurement. *Nursing Economic\$, 34*(2), 92-97, 76.
- MedPac. (2015). *June 2015 data book: Health care spending and the Medicare program*. Retrieved from <http://www.medpac.gov/documents-/data-book>
- National Academies of Sciences, Engineering and Medicine. (2015). *Assessing progress on the Institute of Medicine Report The Future of Nursing*. Washington, DC. The National Academies Press.
- National Patient Safety Foundation. (2015). *Free from harm: Accelerating patient safety improvement fifteen years after To Err Is Human*. Retrieved from [http://c.ymcdn.com/sites/www.npsf.org/resource/resmgr/PDF/Free\\_from\\_Harm.pdf](http://c.ymcdn.com/sites/www.npsf.org/resource/resmgr/PDF/Free_from_Harm.pdf)
- National Quality Forum (NQF). (2004). *National voluntary consensus standards for nursing sensitive care: An initial performance measure set*. Retrieved from [http://www.qualityforum.org/Publications/2004/10/National\\_Voluntary\\_Consensus\\_Standards\\_for\\_Nursing-Sensitive\\_Care\\_\\_An\\_Initial\\_Performance\\_Measure\\_Set.aspx](http://www.qualityforum.org/Publications/2004/10/National_Voluntary_Consensus_Standards_for_Nursing-Sensitive_Care__An_Initial_Performance_Measure_Set.aspx)