

Research

Self-Reported Activities and Outcomes of Ambulatory Care Staff Registered Nurses: An Exploration

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Abstract

Context: Ambulatory care is a growing field of nursing practice. As ambulatory registered nurse (RN) practice grows, there has been an ongoing effort to identify the desired role of the staff RN in outpatient care and to provide linkages to preferred outcomes.

Objective: This study sought to describe the perceived impact of components of the staff RN role on specific activities and outcomes, as guided by the structures, processes, and outcomes of the Nursing Role Effectiveness Model.

Design: This exploratory research study used a descriptive, self-report survey design.

Results: Survey respondents were ambulatory care staff RNs from various primary and specialty care clinics (n = 187) in an integrated health care organization in Southern California. The most frequently reported activities included patient assessment, nurse advice during message management, and completion of patient triage. Reported patient outcomes most frequently affected by RN activities were patient satisfaction, normalization of laboratory values, receiving the correct level of medical treatment, and prevention of complications. Respondents expressed that "emergency situations" periodically occur in the ambulatory setting.

Conclusions: This research study supports what ambulatory care RNs say they are doing: daily, diverse, and complex patient care activities that influence multiple relevant patient outcomes. Future research studies could reveal best practices related to message management, in addition to activities and outcomes unique to specialty care populations.

Introduction

The ambulatory setting is where most individuals in the US receive health care.^{1,2} Consequently, ambulatory care is a growing field of nursing practice. Employment of registered nurses (RNs) is projected to rise dramatically in physician offices and medical center outpatient clinics from 2010 to 2020.³ As ambulatory care RN practice grows, there has been an ongoing effort to identify the desired role of the staff RN in outpatient care and to provide linkages to preferred outcomes.^{4,6}

The purpose of this article is to present the findings of a study that described current ambulatory care staff RNs' self-reported activities and outcomes, as interpreted through the role. The study was initiated to provide a more adequate

understanding of current nursing practice, with an eye toward building a strategy for delivery of ambulatory nursing care that reflects the current dynamic health care systems where these nurses practice.

Background

Currently, knowledge exists that describes the impact of nursing activities on outcomes relevant to inpatient settings.^{7,8} For the ambulatory care setting, literature exists that supports the value of advanced practice nurses in primary care and case management.⁹ However, there is limited research articulating the specific activities and impact of staff RN activities in the ambulatory care practice setting.^{5,10,11}

The foundational evidence for activities of ambulatory care staff nurses was

disseminated in a 1995 four-part series of articles by the research team of Hackbarth, Haas, Kavanagh, and Vlases.¹²⁻¹⁵ These studies provided the first validated descriptions of the domains of ambulatory care nursing. Ambulatory care research published in the past decade has focused on the impact of staff RN activities specific to patients with diabetes, modification of patients' cardiac risk factors, and identification of depression among patients with comorbidities.¹⁶⁻¹⁹

More recent research studies and expert opinions are also exploring nurse-sensitive outcomes and quality indicators that include the topics of hospital readmissions, quality of life, functional ability, unplanned visits, and self-care ability.^{5,20-22} To date, studies by Wong and Chung²² in 2006 and Schroeder et al²¹ in 2000 have examined the relationships between designated structures such as nurse-run clinics, processes, and outcomes associated with ambulatory care staff RNs. The need for additional research is illustrated by a recent call to survey RNs in the ambulatory setting using the framework of performance measures.⁶ The purpose of this exploratory study was to describe the perceived impact of various components of the staff RN role on specific outcomes at one integrated health care system.

Study Framework

The Nursing Role Effectiveness Model²³⁻²⁵ provides the conceptual structure for this investigation. The basis for this model is the Donabedian structure-process-outcome model of high-quality care.²⁶ This model suggests that to achieve quality outcomes, efficient processes must

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be completed within effective structures leading to the desired outcomes. In the Nursing Role Effectiveness Model, the nurse is considered a structure. That is, structures are constituted as nurse demographics, education, settings, and skill mix. Processes in the model are the activities of the nurse's role, as illustrated by nurse-initiated independent processes such as self-care facilitation, exercise enhancement, and nutritional support. Outcomes in the Nursing Role Effectiveness Model are clinical outcomes, prevention of complications, knowledge of disease and treatment, functional status, and patient satisfaction.²⁵

Methods

This study employed a descriptive, self-report survey design. Because of the exploratory nature of the survey, both quantitative and qualitative data were obtained from participants. After obtaining approval from the institutional review board, the researchers considered all ambulatory care RNs (N = 4124) working in a large integrated health care organization in the Southern California Region as potential participants. These nurses provide care in 40 unique clinical settings that are primary care clinics/medical offices, specialty clinics, and Emergency Departments at 14 medical centers with outpatient clinics/units and 405 medical office buildings.

A power analysis indicated that a final sample of 352 was necessary to generalize results to the overall ambulatory care nursing population. In the absence of a sufficient sample size to achieve power, a sample of approximately 188 was deemed sufficient for reporting the findings because it would yield results with an acceptable ± 7% margin of error at a confidence level of 95%.

The Web-based survey was launched in Fall 2011. The survey questionnaire was adapted from a previously validated Clinical Nurse Specialist instrument that captured Clinical Nurse Specialist activities and outcomes.²⁷ However, because ambulatory care staff RNs are a separate and different population, study investigators tailored the survey to include activities and outcomes unique to ambulatory care practice. Activities and outcomes in this survey were drawn from several sources:

1) a review of the literature,^{15,28} 2) the 2010 American Academy of Ambulatory Care Nursing professional practice standards,²⁹ 3) an internal organizational job description, 4) the National Quality Forum 2008 and 2010 proposed outcome measures,^{1,30} and 5) ambulatory care expert clinicians. Seventeen ambulatory care practice nurse leaders in the health care organization validated the survey content.

The final survey had 30 questions related to activities and 18 questions about

outcomes. Respondents selected from the following categories of times per shift that they perceived an activity was completed or an outcome was influenced: 0 or not applicable; 1 to 5; 6 to 10; 11 to 15; or more than 15 times a shift. Nurses were not asked to track the time required to complete activities in this study. Open-ended questions included the request to describe any activities and outcomes not listed in the survey, in addition to an area for free-text comments from participants.

Table 1. Characteristics of ambulatory care staff registered nurse respondents (N = 187)

Characteristic	Responses, ^a % (n)	Mean (SD)
Age, ^b years (n = 186)		49 (9.49)
Sex ^b (n = 184)		
Women	89.1 (164)	
Men	10.9 (20)	
Race/ethnicity ^b (n = 176)		
White	46.0 (81)	
Asian/Pacific Islander/Filipino	24.0 (43)	
Hispanic/Latino/Spanish origin	14.0 (25)	
Black/African American	9.7 (17)	
American Indian/Native American	0.6 (1)	
≥ 2 races	2.8 (5)	
Other	2.3 (4)	
Experience		
Total years as RN (N = 187)		20.68 (11.30)
Years as staff RN in ambulatory care (n = 185)		9.45 (8.54)
Highest degree of education (n = 187)		
Associate	40.6 (76)	
BS/BA in nursing	32 (60)	
BS/BA in another field	8 (15)	
MSN	8.6 (16)	
MS in another field	2.7 (5)	
Joint MSN plus degree in another field	2.7 (5)	
Doctorate in another field	2 (4)	
Diploma	3 (6)	
Work hours ^b per week (n = 179)		
< 20	1.6 (3)	
20-30	12.3 (22)	
31-40	77.7 (139)	
> 40	8.4 (15)	
Average hours per shift ^b (n = 158)		8.20 (1.37)
Staff mix ^b (n = 182)		
RN, LVN, MA, with clinicians	84 (153)	
RN, LVN, with clinicians	11.5 (21)	
RN, LVN, in a nurse-run clinic	4.4 (8)	

^a Because of rounding, some percentages do not total to 100.

^b Some responses are missing.

BA = bachelor of arts; BS = bachelor of science; LVN = licensed vocational nurse; MA = medical assistants; MS = master of science; MSN = master of science in nursing; RN = registered nurse; SD = standard deviation.

Data Analysis

Data were analyzed using statistical analysis software (SPSS Version 18, IBM SPSS, Armonk, NY). The Cronbach α scores confirmed the reliability of the survey for this population (0.94 for activities section; 0.93 for outcomes section). Descriptive statistics, including percentages, frequencies, means, and standard deviations (SDs), were used to generate the findings. Wording from answered open-ended questions and the comments section were coded using content analysis.

Answers were analyzed into concepts that were categorized into themes.

Results

After surveys from advanced practice nurses and managers were deleted, a total of 187 designated staff ambulatory care RNs completed usable survey questionnaires. Although these eliminated roles are important to the health care team in ambulatory care, the investigators' goal was to capture the staff RN's perceived activities and outcomes.

Structures: Characteristics of Ambulatory Care Staff Registered Nurses and Environment

The Nursing Role Effectiveness Model structural characteristics are outlined in Table 1. Of the sample, 10.9% of nurses (n = 20) were men. The nurses were experienced, with a mean of 20.68 years (SD = 11.3) of clinical practice as an RN and a mean of 9.45 years (SD = 8.54) of practice in ambulatory care. Their educational preparation was primarily at the associate degree level (40.6%; n = 76). Staff mix revealed that 81% (n = 153) worked in a team environment with RNs, licensed vocational nurses, medical assistants, and clinicians. For this article, "clinicians" refers to physicians, advanced practice RNs, and physician assistants.

The nurses in the sample mainly worked in primary and specialty care clinics/medical offices. In primary care, 87% of the RNs reported seeing patients in person and 64% reported 0 to 10 walk-in patients per shift (Table 2). Specialty care nurses reported seeing patients in their clinic/unit (93%), with 76% of these specialty RNs caring for 0 to 10 walk-in patients per shift (Table 2).

Many nurses reported some involvement with message management; however, the scope of involvement varied widely on a daily basis (Table 3). Most respondents reported a range vs a single number of managed messages per shift. The average of the reported ranges was 33 per shift for primary care and 19 for specialty care respondents. With variance considered, primary care nurse respondents managed 9 to 56 messages per shift. The range was 0 to 39 per shift for nurses in specialty care.

Processes: Activities of Ambulatory Care Staff Registered Nurses

Process questions captured the perceived frequency that RNs were involved in assessment, intervention, teaching, evaluation, care coordination, and execution of medical orders. Given the lack of statistical differences between the responses, responses from primary and specialty care nurses were combined for data analysis (Table 4). Thirty specific activities were part of the survey. For each activity, the percentage of nurses who reported completion more than 15 times, in addition to the percentage who reported

Characteristic	Percentage ^a (number)
Total respondents (N = 187)	
Primary care (includes Family Medicine, Adult Internal Medicine)	39.6 (74)
Specialty care ^b	39.6 (74)
Pediatrics	4.3 (8)
Other or did not answer	16.0 (31)
Patient encounters: "Yes, I see patients in person"	
Primary care (total) (n = 72)	
Yes	87.5 (63)
No	12.5 (9)
Specialty care (total) (n = 69)	
Yes	92.8 (64)
No	7.2 (5)
Walk-in patients: number of walk-in patients I assess for care ^c	
Primary care (total) (n = 58)	
0-10	63.8 (37)
11-20	29.3 (17)
21-30	6.9 (4)
Specialty care (total) (n = 46)	
0-10	76.1 (35)
11-20	15.2 (7)
21-30	2.2 (1)
31-100	2.2 (1)
> 100	4.3 (2)

^a Because of rounding, some percentages do not total to 100.

^b Specialty care combined 29 areas and included Addiction Medicine, Allergy, Anesthesia, Blood Donor Center, Continuous Ambulatory Peritoneal Dialysis, Cardiac Catheter Lab, Cardiology, Dermatology, Diagnostic Imaging, Endocrinology, General Surgery, Gastrointestinal (GI)/Endoscopy, Head and Neck Surgery, Hematology, Hemodialysis, Home Dialysis, Nephrology, Neurosurgery, Neurology, Obstetrics, Oncology, Ophthalmology, Orthopedics, Plastic Surgery, Podiatry, Pulmonary, Procedural Sedation, Rheumatology, and Urgent Care. The Emergency Department had no survey respondents.

^c Walk-in patients: shifts ranged from 8 to 12 hours.

Characteristic (n = number of respondents)	Mean of all reported daily range averages (SD)	Daily range of managed messages per shift
Primary care (n = 59)	32.86 (23.52)	9-56
Specialty care (n = 49)	19.29 (20.01)	0-39

SD = standard deviation.

the same activity less than 5 times a shift, are displayed across the row. Ranking accompanied each percentage. Lastly, the percentage of nurses who reported “zero/not applicable” for each activity is listed.

The top 5 activities completed at least 15 times per shift were 1) assessment of the patient’s health history, 2) chief complaint/subjective history, 3) nurse advice during message management, 4) assessing laboratory test results, and 5) triage/access. Moving across Table 4, one sees

that these same activities were reported and ranked last as infrequent daily activities (defined as 5 or fewer times per shift).

The following activities ranked among those at the bottom of Table 4: 1) assist while a clinician completes treatments or diagnostic procedures, 2) teaching patients and/or family daily self-monitoring techniques, or 3) arranging for appropriate at-home equipment. For these activities, there was also a high rate of zero/not applicable responses. Therefore,

when high zero/not applicable percentages appear for activities in addition to low frequency, said activities may not be relevant to the staff RN role in ambulatory care for these respondents.

Activities of interest for further examination are those in the middle of activity rankings (Table 4). Examples such as 1) initiating and managing treatments (as orders or preset standardized procedures), 2) evaluation of treatment and/or procedures, and 3) teaching the patient and/or

Table 4. Reported frequency of activities of ambulatory care staff registered nurses

Self-reported frequency of activities ^a	Completed 15 times a shift or more	Rank for 15 times or more	Completed 1-5 times a shift	Rank for 1-5 times	Marked zero or not applicable
Assessing the patient's health history	47.7 (82)	1	14.5 (25)	30	6.4 (11)
Assessing the patient's chief complaint and subjective history	40.5 (70)	2	19.7 (34)	28	7.5 (13)
Conducting nurse advice during message management	39.7 (69)	3	19.5 (34)	29	14.4 (25)
Assessing laboratory test results	32.6 (57)	4	28.0 (49)	26	10.9 (19)
Triaging and arranging access to appropriate level of care on the basis of assessment	32.2 (56)	5	29.3 (51)	24	14.4 (25)
Developing immediate plan of nursing care	26.0 (45)	6	28.9 (50)	25	16.8 (29)
Evaluation of patient/family education	20.9 (36)	7	33.7 (58)	18	20.3 (35)
Coordinating next clinician visit	19.8 (33)	8	35.3 (59)	15	13.8 (23)
Evaluation of treatment or procedure	19.2 (33)	9	32.6 (56)	21	15.1 (26)
Coordinating next laboratory test	19.2 (32)	10	37.1 (62)	17	19.8 (33)
Initiating and managing treatments (as orders or preset standardized procedures)	18.3 (30)	11	32.3 (53)	22	23.2 (38)
Establishing with the patient the long-term outcome goal	17.1 (29)	12	27.6 (47)	27	30.0 (51)
Teaching patients and/or family health nutrition	16.2 (28)	13	44.5 (77)	6	18.5 (32)
Consultation with clinicians on plan of care	15.7 (26)	14	51.2 (85)	1	11.4 (19)
Teaching patients and/or family physical activity guidelines	15.5 (27)	15	39.1 (68)	10	23.6 (41)
Conducting nursing physical assessments	14.9 (26)	16	32.8 (57)	20	32.2 (56)
Teaching the patient and/or family medication administration	14.5 (25)	17	43.6 (75)	7	12.8 (22)
Teaching patients and/or family safety measures	14.5 (25)	18	46.2 (80)	5	20.8 (36)
Evaluation of patient readiness for release/discharge from the ambulatory setting	14.5 (25)	19	33.7 (58)	19	33.1 (57)
Completing/reviewing discharge instructions with the patient or family	14.4 (25)	20	29.9 (52)	23	28.7 (50)
Initiating and managing medications (as orders or preset standardized procedures)	13.9 (23)	21	36.4 (60)	16	27.9 (46)
Goal setting with the patient/family	12.4 (21)	22	37.1 (63)	14	28.8 (49)
Evaluation of medication effect	11.5 (20)	23	38.5 (67)	11	26.4 (46)
Coordinating/pending radiograph (x-ray) or diagnostic procedure	9.7 (16)	24	38.2 (63)	12	33.9 (56)
Teaching the patient and/or family administration of treatments/procedures for self-care	9.3 (16)	25	47.7 (82)	4	24.4 (42)
Assist while a clinician completes treatments or diagnostic procedures	7.9 (13)	26	40.2 (66)	9	40.2 (66)
Teaching the patient and/or family operation of equipment or products	6.9 (12)	27	50.9 (88)	2	29.5 (51)
Teaching patients and/or family daily self-monitoring techniques (eg, blood glucose, daily weigh-in)	6.9 (12)	28	40.8 (71)	8	32.2 (56)
Coordinating patient care with other departments (eg, Pharmacy or Social Services)	6.0 (10)	29	50.9 (85)	3	22.8 (38)
Arranging for appropriate at-home equipment	2.4 (4)	30	37.2 (61)	13	52.4 (86)

^a Total number of respondents varied per question and did not equal 187. The responses listed are from the most frequently reported and less frequently reported categories only. Results are reported by sample percentage and number of respondents in parentheses.

family medication administration are reported as completed infrequently, yet not reported as zero/not applicable. Results appear to reflect potential opportunities for consideration that are within the ambulatory care staff RN's scope of practice.

Outcomes: Perceived Influence by Ambulatory Care Staff Registered Nurses

Respondents were asked to choose the perceived frequency in which they influenced select patient outcomes during one shift. Survey questions addressed outcomes related to patient clinical care and symptom control, self-care, complications, disease knowledge, and satisfaction. Again, responses of primary and specialty care nurses were combined for data analysis. Eighteen separate outcomes were listed on the survey. The top 5 patient outcomes the nurses felt they influenced at least 15 times per shift were 1) patient satisfaction, 2) normal laboratory values, 3) prevention of complications, 4) correct level of medical treatment, and 5) decreased anxiety levels (Table 5). These same 5 outcomes also received low percentages as zero/not applicable.

Analogous to activities, a few outcomes were marked high as infrequent and high percentages as zero/not applicable. Examples include 1) body mass index improvement, 2) normalization of blood glucose levels, 3) decrease in medication for the patient, and 4) appropriate care products for the patient. For outcomes, this may reflect irrelevance to the role or that the outcome is considered too long term to achieve in relation to a worked shift.

However, there were outcomes reported as highly infrequent, yet with a low percentage of zero/not applicable scores. Examples are improved patient and/or family knowledge of disease process and medication adherence. Another opportunity within the scope of practice of the ambulatory care staff RN is influencing patient self-care ability with both highly infrequent, yet low percentage of zero/not applicable scores.

Content Analysis of Open-Ended Questions

Many respondents took the opportunity to articulate any additional outcomes and activities related to their role. Content

analysis of these comments resulted in the formation of two overarching themes: "Acute Aspects of Ambulatory Care" and "Daily Diverse and Complex Activities." These themes cut across both primary and specialty care settings.

Acute Aspects of Ambulatory Care

Respondents discussed emergency situations that could happen anywhere and anytime in ambulatory care practice. Examples included assisting patients during syncopal episodes and patient assessment/monitoring while waiting for paramedic transport to an Emergency Department. Emergency response skills included starting intravenous fluid administration, oxygen therapy, and "whatever was needed" for patient stabilization and transfer. Code blue situations and 911 calls were repeatedly discussed. One respondent eloquently articulated this major theme in the following quote: *Ambulatory care is more acute than we thought; it requires a whole range of different kinds of skills, [and] our care impacts people of all stages and ages. Ambulatory care and education should have its own body of evidence to establish it as a specialty.*

Table 5. Outcomes: Reported frequency of influence

Outcomes: Reported frequency of outcomes influenced ^a	Influenced 15 times a shift or more	Rank for 15 times or more	Influenced 1-5 times a shift	Rank for 1-5 times	Marked zero or not applicable
Overall patient satisfaction	36.8 (60)	1	19.6 (32)	18	4.9 (8)
Normal laboratory values for the patient	22.8 (37)	2	38.3 (62)	8	11.7 (19)
Prevention of complications	20.5 (33)	3	36.6 (59)	13	13.0 (21)
Patient receiving the correct level of medical treatment in relation to presenting need	17.9 (29)	4	35.8 (58)	14	18.5 (30)
Decreased patient anxiety level	17.8 (29)	5	39.3 (64)	5	8.6 (14)
Medication adherence	16.8 (27)	6	41.0 (66)	3	16.8 (27)
Appropriate medication reconciliation	15.0 (24)	7	30.0 (48)	16	35.6 (57)
Improved patient and/or family knowledge of disease process	14.7 (24)	8	44.8 (73)	1	15.3 (25)
Prevention of admission to acute care unit	13.5 (22)	9	39.3 (64)	6	30.7 (50)
Increased patient self-care ability	12.5 (20)	10	36.9 (59)	12	27.5 (44)
Increased family/significant other's ability to participate in the patient's care	12.3 (20)	11	38.7 (63)	7	28.2 (46)
Decreased excessive wait time for the patient	11.7 (19)	12	37.4 (61)	10	29.4 (48)
Normalization of blood pressure measurements	10.5 (17)	13	33.3 (54)	15	30.2 (49)
Decreased number of office visits for the patient	10.5 (17)	14	38.3 (62)	9	38.3 (62)
Decrease in needed medication for the patient	9.3 (15)	15	37.0 (60)	11	42.6 (69)
Normalization of blood glucose levels	7.4 (12)	16	39.5 (64)	4	37.7 (61)
Appropriate care products for the patient	6.2 (10)	17	43.5 (70)	2	35.4 (57)
Body mass index improvement	5.6 (10)	18	29.4 (47)	17	53.8 (86)

^a Total number of respondents varied per question and did not equal 187. The responses listed above are from the most frequently reported and less frequently reported categories only. Results are reported by sample percentage and number of respondents in parentheses.

Daily Diverse and Complex Activities

Numerous comments were made concerning additional activities not covered by the survey. Examples included staff education, case management, complex wound care, and conscious sedation procedures. A key comment was that respondents found it difficult to quantify activities and outcomes per shift. The nurses suggested future surveys that examine activities every week or per month. A staff RN reported: *The Ambulatory Practice RN role is so varied and wide it is difficult on a day-to-day level to try to frame it in numbers.*

Discussion

In 2010, the Institute of Medicine published its report, *The Future of Nursing: Leading Change, Advancing Health*.³¹ Included in that report's key messages was that nurses should practice to the full extent of their education and training.^{31p21} In 2014, principal provisions of the Affordable Care Act that will mandate individual health care coverage will be implemented as US law.³² Given these social drivers, the nursing profession will be asked to deliver on its social contract. There is and will be an urgent need for nurses to understand and to grow their practice if they are to adequately respond to these significant social changes.

Data from this exploratory survey are specific to the scope of practice of ambulatory care RNs as identified by the nurses in one health care system in Southern California. Objective measures of activities and outcomes were not part of the study. Although the instrument was newly designed for this exploration, results provide timely and compelling baseline information for improvement of internal organizational practice and recent external influences for the RN scope of practice examination, as seen in the Institute of Medicine report.³¹

The activities that most ambulatory care nurses reported as occurring most frequently were related to assessment. Only one other most frequent activity, conducting advice during message management, was an intervention. Assessment and triage activities reflect the nursing process,^{15,29} with message management aligning with telephone communication.¹⁵ The evidence from this exploratory study

supports the relevance of RN assessment and surveillance to daily practice. It also helps define the unique contributions of the RN, as assessment and surveillance are not part of the scope of practice for a nursing assistant or medical assistant.

However, assessment is only the first step of the nursing process. Nursing intervention and evaluation completes the process for RN practice. The findings in this group of nurses generate the formation of additional questions: Do ambulatory care staff RNs have the knowledge and/or support of the systems where they work to initiate nursing interventions? If the tradition in nursing practice in ambulatory care has been to hand off to another clinician such as an advanced practice nurse, a physician assistant, or a physician, how are nurse and operational leaders going to assist staff RNs in practicing to the full scope of regulatory activities?

Movement in health care to chronic care models and the team approach requires that all team members practice collaboratively. One reported activity identified as "consultation" could be inferred as falling under the American Academy of Ambulatory Care Nursing 2010 standards of collegiality and collaboration. Most activities described in this study also align with the American Nurses Credentialing Center certification for ambulatory care nursing for the conceptual domains of clinical practice and communication.³⁵ Nursing brings unique and critical knowledge to both a patient with a new diagnosis and patients and families receiving long-term episodic ambulatory care as they integrate a chronic illness into their lives. Chronic disease management, therefore, is an opportunity to expand areas for collaboration as ambulatory care staff RNs become integrated in the health care team.

Outcomes reported in this study reflect the cited literature on patient satisfaction,^{20,22} increased patient knowledge, and prevention of complications or admissions.^{21,22} Perceived effect on patient outcomes of receiving the correct level of treatment or appropriate care products mirror effective care coordination previously described by Swan et al⁶ for performance measurement. Nurses' self-reported effect on the outcome of normalizing general patient laboratory

values reflects many population-specific targets for ambulatory care performance measures.^{1,2,30} Although the findings from this study align with previous literature that articulates a multitude of domains that is the current state of ambulatory care nursing practice and its varied dimensions, it does not reflect specific regulated outcome indicators such as Healthcare Effectiveness Data and Information Set (HEDIS) measures.³⁴ Further research on outcomes for ambulatory care nurses should reflect those measures in primary and specialty care that are established as critical or even regulatory. If nursing is not seen as having an impact on those measures, the members of the discipline will not be seen as important to the outcomes achieved in their practice setting. Given the dynamic state of health care, nursing's contribution to outcomes must be clearly visible.

Noteworthy findings for the structural characteristics include those regarding sex and education. The sample was composed of 10% male respondents, which is slightly lower than a 2008 California survey reporting 14% of all RNs as male.³⁵ Nevertheless, the visibility of male nurses in the ambulatory care setting is encouraging. Slightly more than 40% of participants had a highest education level at an associate degree in nursing, which reflects the initial education of most California RNs.³⁵ However, a striking survey finding was that 16% of staff nurse respondents had obtained a master's degree level or higher. If one circles back to the activities-related findings, in which it was identified that most of these nurses spend the majority of their time in assessment activities, one disconcerting conclusion might be that, indeed, these nurses are not being used to their fullest capacity. Patients and families who often are struggling in the complex ambulatory care environment require the presence of and care provided by these highly educated clinical professionals.

Results regarding message management align with the literature related to the telephone advice nurse^{4,36,37} (Tables 3 and 4). The advent of e-mail messaging systems has introduced an added dimension to nurse-clinician-patient communications. Both primary and specialty care nurses reported a high percentage of message management as part of their role as an am-

bulatory care staff RN, either as a phone call or e-mail. Message management is still not clearly defined, and the concerns surrounding it may be idiosyncratic to a particular clinical setting. It is also possible that these findings may be unique to an integrated health care system. However, it would not be surprising in any extensions of this work to find that the substantial workload secondary to message management volume is increasingly becoming a reality for nurses practicing in ambulatory care. Further research is recommended on message management definitions, processes, patient outcomes, and impact on the ambulatory care staff RN role.

The ambulatory care staff RNs in this study reported simultaneous management of multiple and varied clinical activities in the same time frame. Acute emergency response activities for stabilization were more common than expected. The additional coordination of message management with patient encounters and walk-in patients supports the overarching theme of daily, diverse, and complex patient care. Diverse 21st century ambulatory care practice environments demand experienced RNs who can navigate these complexities. Sample demographic data demonstrates that the survey respondents are just such an experienced group, with an average of approximately 10 years in the ambulatory care setting and approximately 10 years of previous experience elsewhere. The survey results support the premise that the respondents have an astute familiarity with their nursing practice that is acquired over time. Organizations may choose to consider these results when designing "onboarding" curricula and/or competency evaluations, as well as tapping into the rich intellectual capital of these experienced ambulatory care staff RNs.

Conclusions

This exploratory survey contributes to the discussion concerning the role and professional practice of the ambulatory care staff RN. The survey supports what ambulatory care RNs say they are doing: daily, diverse, and complex patient care activities. Nurses perceived that they influenced multiple relevant patient outcomes on a daily basis. The sharing of common characteristics, activities, processes, and outcomes contributes to the body of

knowledge related to the specific role of the ambulatory care staff RN. The knowledge gained from this study has the potential to enhance the quality of ambulatory care for patients in the community setting. Future research studies could reveal best practices related to message management, as well as activities and outcomes unique to specialty care populations. Overall, this evidence provides support for the piloting of clinical improvement initiatives to demonstrate the complex role of ambulatory care staff RNs in an evolving health care system that needs every one of its practitioners practicing at the full scope of his/her knowledge and abilities. ♦

Disclosure Statement

The author(s) have no conflicts of interest to disclose.

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