The Current Evidence Base for the Clinical Nurse Leader: A Narrative Review of the Literature

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The clinical nurse leader (CNL) is a relatively new nursing role, introduced in 2003 through the American Association of Colleges of Nursing (AACN). A narrative review of the extant CNL literature was conducted with the aim of comprehensively summarizing the broad and methodologically diverse CNL evidence base. The review included 25 implementation reports, 1 CNL job analysis, 7 qualitative and/or survey studies, and 3 quantitative studies. All CNL implementation reports and studies described improved care quality outcomes after introduction of the role into a care delivery microsystem. Despite preliminary evidence supporting the CNL as an innovative new nursing role capable of consistently improving care quality wherever it is implemented, CNLs are still struggling to define the role to themselves and to the health care spectrum at large. Although the AACN CNL White Paper provides a concise model for CNL educational curriculum and end competencies, there is a compelling need for further research to substantively delineate the CNL role in practice, define care delivery structures and processes that influence CNL integration, and develop indicators capable of capturing CNL-specific contributions to improved care quality. (Index words: Clinical nurse leader; CNL; Review) J Prof Nurs 30:110–123, 2014. © *2014 Elsevier Inc. All rights reserved.*

THE CLINICAL NURSE leader (CNL) is a relatively new nursing role, developed to enhance the efficiency with which care is delivered and to coordinate and laterally integrate care through collaboration at the microsystem with the entire health care team (American Association of Colleges of Nursing [AACN], 2007). Since its introduction in 2003, more than 200 reports have been published describing CNL theory, conceptual framework, education, and implementation. The role has been implemented in many health care organizations, with numerous reports of enhanced collaborative practice and improved patient outcomes. This article presents a comprehensive narrative review of reports describing CNL implementations and research on the role found in the literature to date, as well as suggestions for future study.

Methodology

A narrative approach was used to summarize the current evidence regarding the CNL. Narrative review is considered a valid strategy for organizing a comprehensive knowledge base that is broad and methodologically diverse (Collins & Fauser, 2005), such as the current CNL evidence base. A search of CINAHL, PsychINFO, Pubmed, and Dissertations & Theses was undertaken using the phrase *clinical nurse leader*, from January 1995 to November 2011, with a repeat search in June 2012 to capture any newly released publications. The grey literature was also searched, including Google, Google Scholar, AACN Web site, AHRQ Innovations Exchange Web site, and a review of all references listed in extracted publications. The search returned 204 unique records. All implementation and research reports on the CNL were included in the narrative review. No reports were excluded on the basis of poor methodology, in the

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interest of comprehensiveness. Explanatory, theoretical, or historical articles on the CNL; abstracts; journalism; brief editorials; and articles addressing the CNL tangentially were excluded from the review. The final sample included 25 implementation reports, 1 CNL job analysis, 7 qualitative or survey studies, and 3 quantitative studies (see Figure 1).

Results

CNL Pilot Implementations

After the initial CNL White Paper was published in 2003, The AACN established a CNL Implementation Task Force (ITF) in 2004, charged with developing the curriculum and end-of-program competencies for CNL education, as well as a standardized evaluation framework for CNL pilot implementations (Bartels & Bednash, 2005; Harris, Tornabeni, & Walters, 2006). Seventy-nine schools of nursing and 143 practice sites were involved in the first phase of the pilot CNL education and practice implementations (Tornabeni, 2006). The ITF developed numerous education/practice partnerships across the country to educate and train the first CNLs who pioneered the role in their respective practice settings. The results of many of these pilot implementations, as well as independent CNL intervention trials, have been described in the literature. These reports describe the work completed through partnership between academia and practice settings to operationalize the education and clinical training of the first CNLs, and describe how organizations operationalized the role within their practice settings (for details please, see Table 1). The articles report a host of quality improvements demonstrated after CNL integration into various care delivery systems. These include the following: increased nursing time spent with the patient; improved staff, physician, and patient satisfaction; efficiencies in patient care processes and lengths of stay; improved nursing quality indicators such as falls, discharge teaching, sitter hours, and hospital acquired pressure ulcers; increased staff registered nurse (RN) certification rates; improved home health referral rates; decreased staff turnover; improved patient outcomes targeting infection rates, ventilator-associated pneumonia, transfusion rates, and restorative dining; and improved interdisciplinary communication and collaboration (see Table 1).

CNL Job Analysis

The Commission on Nursing Certification (CNC) authorized a job analysis in 2011 to establish the link between CNL certification examination test scores and the competencies being tested (CNC, 2011). Job descriptions, journal articles, reference books, Web sites, and other relevant search materials were reviewed to create a draft list of essential CNL skills and activities. An expert panel then worked to clarify performance activities, knowledge skills, and abilities required of a competent certified CNL. The results formed the basis of a survey instrument sent (via e-mail) to 1,560 certified CNLs across the country to validate skills and activities. The adjusted response rate was 16.7%. The survey content was determined to be adequate: 98% respondents indicated that the survey either adequately or completely covered the important tasks performed by a competent CNL. Reliability was calculated as Cronbach's alpha .99 for importance ratings. Although all respondents were certified CNLs, only 26% were currently working in a formally titled CNL role. Other job titles included nurse educator (16%), staff RN (10%), and manager/director (13%). The rest were spread across a wide swath of job titles. Fifty-nine percent worked in the acute care setting, 14% worked in schools of nursing,

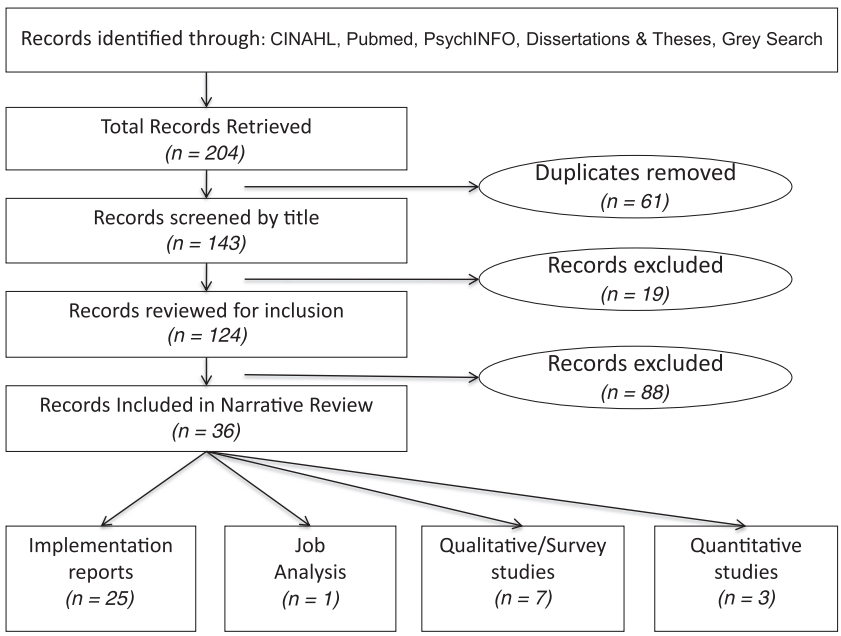

Figure 1. Literature search flow diagram.

and the rest were evenly spread across a variety of outpatient environments.

Tasks were bundled into 17 subdomains for CNL practice. Respondents were asked to allocate percentages to the subdomains, reflecting the percentage of questions that should be assigned to each subdomain based on perceived importance to practice. The results are shown in Table 2. The three most important subdomains for CNL practice, as judged by certified CNLS, were (a) evidence-based practice, (b) interdisciplinary communication and collaborative skills, and (c) quality improvement. The three least important perceived subdomains for CNL practice were (17) health care policy, (16) health care finance and economics, and (15) health care informatics.

CNL Research

The CNL initiative is still in its infancy, and systematic research on the CNL role is limited, but seven qualitative and survey studies were identified that help to better understand the CNL in practice (see Table 3), and three quantitative studies (two with control groups) have produced preliminary evidence correlating CNL implementation with improved outcomes (see Table 4).

Qualitative CNL Research

Bombard et al. (2010) conducted an action research study to explore a cohort of four direct-entry master's student's CNL clinical immersion and postcertification transition experience. Participants used a variety of data collection methods (see Table 2) and content analysis to identify major themes defining the CNL transition experience. The major theme was answering the question "What is a CNL," which incorporated four subthemes: (a) coming to the edge, (b) trusting the process, (c) rounding the corner, and (d) value becoming. The students struggled to answer the question they were repeatedly asked by other clinicians during their immersion experience: What it was exactly that they were doing. It took a leap of faith for each student to overcome the uncertainty of the clinical demands and to trust that they would meet clinical competencies by the end of the program. There came a turning point for each student when they felt a sense of accomplishment in their actions and transitioned from uncertainty to confidence that they had the skills needed to improve patient processes. The students describe a process of continuing growth after graduation and obtaining CNL certification to develop the clinical expertise, experience, and self-assurance needed to feel at a point of readiness to transition into a formal CNL role.

Sorbello (2010) used a hermeneutic phenomenological approach to explore the meaning of leadership for practicing CNLs. Ten certified CNLs were interviewed during the 2009 CNL Summit Conference to gather their perspectives on the following: what it was like to be a CNL; what it meant to lead at the point of care; and how caring was expressed in the CNL role. Emerging themes of the meaning of leadership for CNLs practicing at the bedside were (a) navigating safe passage, (b) making a difference evokes pride, (c) bringing the bedside point of view, (d) knowing the patient as caring person, (e) living caring with nurses, and (f) needing to be known, understood, and affirmed. CNLs saw the "big picture," and therefore could connect the dots in terms of coordinating what patients needed from numerous disciplines and making sure "nothing fell through the cracks." This required prodigious amounts of tenacity and perseverance, but was a great source of job satisfaction and pride for each CNL. It was also the source of the respect other practitioners developed for each CNL as their skills and commitment became apparent. The CNLs had the time to get to know the patient and families throughout their stay, which enabled them to translate what was happening throughout their admission in ways that were meaningful to the patients and their families. This was doubly true for the nursing staff: Because of the CNL's daily presence, they were able to forge relationships with the staff and mentor them through role modeling, actively assisting with complex patient care needs, and recognizing staff for their achievements. Finally, although the CNLs worked hard to ensure that the multidisciplinary team appreciated the achievements of the staff nurses, it was hard to find the same recognition for their own work. They were repeatedly pulled in many different directions by clinicians that did not understand their role. Support from upper management was considered crucial to the success of their role; without it, they feared an uncertain future within their organization. Overall, the CNLs expressed great pride in their work advocating for patients, but were concerned for their future as leaders at the bedside, and felt they needed greater affirmation from their managers and leaders to sustain and/or continue to grow the role.

Stanton et al. (2011) examined the CNL role as presently implemented to determine if the educational preparation of the CNL complements the implementation of the role in the hospital, home health, and public health arena. The investigators developed a questionnaire to gather respondent's agreement with 19 statements about CNL competencies and relationship to their current clinical position. The questionnaire also contained open-ended questions asking respondents "to describe and compare their actual role to the CNL as envisioned by the AACN." Survey responses indicated a high degree of agreement with the nine components of CNL practice: clinician, outcomes manager, client advocate, educator, information manager, systems analysis/risk anticipator, team manager, member of a profession, and lifelong learner. No single respondent's clinical position incorporated all nine, suggesting variability in the role depending on setting, which the investigators state conforms to the description of expected role diversity within the AACN White Paper. Qualitative analysis of open-ended questions resulted in the identification of four emerging themes of CNL practice: (a) responsibility for outcomes improvement, (b) use of evidence as a basis for practice, (c) importance of mentoring and developing staff, and

Table 1. Descriptions in the Literature of CNL (or Modified CNL) Implementations Within Various Health Care Systems Across the United States

Healthcare setting	Microsystem setting(s)	Context of implementation	Positive outcomes described	Report(s) describing implementation
119-Bed academic medical center in San Diego California	26-Bed progressive care unit	No executive leadership involved; one CNL certified and others had BSN with "documented evidence of nursing expertise and leadership" and "understanding [that] pursuit of CNL certification and advanced degree would be required"	Patient satisfaction scores, RN–physician team communication and collaboration, staff perceptions of a collaborative environment	Bender, Mann, & Olsen, 2011, Bender, Connelly, Glaser, & Brown, 2012, Bender, Connelly, & Brown, 2013
551-Bed nonprofit University Hospital in Augusta Georgia	39-Bed diabetes/ gastrointestinal unit; cardiac unit	AACN CNL White Paper served as a resource for the "care coordinator" role, as "no actual CNL program graduates yet existed." Both care coordinators were NPs. Part of national pilot "to develop CNL curriculum as well as pilot the role within the organization"	Home health referral rates, individual stories of patient-specific positive outcomes	Bowcutt, Wall, & Goolsby, 2006
5-Hospital, 1500-bed Inova Health System in Fairfax Virginia	Approximately 40 units throughout the system	"Only experienced nurses received team coordinator jobs. The level of education that is ultimately decided upon for the CNL role will drive the experience level of the nurse in this role"	Multidisciplinary rounds, staff relationships, physician satisfaction	Drenkard, 2004
194-Bed for-profit St. Lucie Medical Center in St. Lucie Florida	36-Bed progressive care unit; 45-bed med–surg unit	CNL role superceded "patient care coordinator" role while coordinator responsibilities changed to more administrative focus	Staff retention, patient and physician satisfaction, Joint Commission core measures, RNs with national certification, HAPU	Gabuat, Hilton, Kinnaird, & Sherman, 2008, Sherman, Edwards, Giovengo, & Hilton, 2009, Stanley et al., 2008, Hilton, 2010
4-Hospital 1100-bed nonprofit Morton Plant Mease Health Care System in Clearwater Florida	43-Bed med/ surg-telemetry unit; 45-bed oncology unit	"Evaluations occurred in settings in where CNL graduates and students were beginning to practice"	LOS, personal stories of individual patient care improvement, falls, CMS core measures, HAPU, physician satisfaction	Hartranft, Garcia, & Adams, 2007, Stanley et al., 2008
VA Tennessee Valley Healthcare System in Nashville Tennessee	Ambulatory surgery unit; surgical inpatient unit; GI laboratory; SICU; MICU; transitional care unit	"All CNLs had master of science in nursing degrees and had successfully passed the CNL certification examination"	Surgical infection rates, RN hours per patient day, heart failure-specific 30-day readmissions, Joint Commission core measures, LOS, surgical and GI cancellation/no-show rates, postsurgery blood transfusion rates, ICU patient VTE prophylaxis, participation in restorative dining (if indicated)	Fitzpatrick & Wallace, 2009; Harris, Walters, Quinn, Stanley, & McGuinn, 2006; Hix, McKeon, & Walters, 2009; Miller, 2008, Ott et al., 2009
Veteran Health Administration care centers (does not state exact locations)	Med–surg, subacute and SICU units	"VHA facilities with practicing CNLS were invited to participate in the evaluation of the project"; does not specify education/certification	Nursing hours per patient day, sitter utilization, falls, HAPU, CMS core measures (heart failure discharge teaching), VAP	Ott et al., 2009

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Table 1. (Continued)

Healthcare setting	Microsystem setting(s)	Context of implementation	Positive outcomes described	Report(s) describing implementation
Maine Medical Center in Portland Maine	Special care unit; pediatric unit; cardiothoracic unit; medical cardiology unit	CNL students assumed responsibilities of role during CNL immersion at the hospital (present 5 days/week)	Ventilated patient LOS in ICU, individual stories of patient-specific positive outcomes	Poulin-Tabor et al., 2008; Wiggins, 2006
Hunterdon Medical Center in Flemington New Jersey	3 med–surg units	"1 day per week to 'play in the role' while in school." "The CNL position with be part of the overall budget for FTEs" after graduation"	Improved collaborative professional relationships	Rusch & Bakewell-Sachs, 2007
Baptist Hospital in Miami Florida	All units except rehab, interventional and diagnostic areas, PACU, radiation oncology	Patient care facilitator role developed first, using BSN degree RNs. The role "will ultimately include both advanced practice nurses and CNLs" (11 PCFs have enrolled in the educational program)	11 a.m. discharge, CMS core measures, patient satisfaction	Sherman, Clark, & Maloney, 2008; Harris & Roussel, 2010
OSF St Joseph Medical Center in Bloomington Illinois	46-Bed med–surg unit pilot, eventually all units except obstetrics	"Patient care facilitator will transition into CNL" and are enrolled in a CNL program	Falls, HAPU, patient satisfaction, staff turnover, LOS, discharges before 11 a.m.	Smith & Dabbs, 2007
321-Bed Flager hospital in St. Augustine Florida	43-Bed cardiac/ pulmonary unit	"Patient care coordinator" role developed similar to CNL, utilizing master's-prepared RNs. "Projected implementation of the CNL role" through partnership with NE Florida University	Nursing job satisfaction, nurse retention, patient and physician satisfaction, contract labor usage, LOS, restraint use, falls	Smith, Hagos, et al., 2006; Smith, Manfredi, Hagos, Drummond-Huth, & Moore, 2006
733-Bed nonprofit Shands Jacksonville Academic Health Center in Jacksonville Florida	17-Bed oncology unit	"CNL student's 3-month immersion experience served as the activity around which the role was evaluated"	Pain management, nurse response to call light and overall nursing care patient satisfaction	Stanley et al., 2008
336-Bed Virginia Mason Medical Center in Seattle Washington	Extended LOS patients (>6 days) throughout the hospital	Role developed "drawing from definition of the CNL as outlined by the AACN" and "a nurse educated at the graduate level"	LOS, letters of patient care experiences	Tachibana & Nelson-Peterson, 2007
St. Vincent Hospital in Birmingham Alabama	"System service line based, implement care management at the point of care"	Clinical immersion served as CNL project. "Students successfully completed the CNL certification. CNLs [will] implement the role in their respective agencies"	Coordination of medication administration process for patients at risk for medical error	Stanton et al., 2008, Lammon, Stanton, & Blakney, 2010
Alabama Dept of Public Health	"All levels and aspects of the community" public health areas in Alabama		State and community collaborative coordination for pandemic influenza planning	Stanton et al., 2008, Lammon, Stanton, & Blakney 2010
Fayette Medical Center in Fayette Alabama	All patients at risk for HAPU in a rural hospital		Tracking of patients throughout stay, protocol education	Stanton et al., 2008, Lammon, Stanton, & Blakney 2010
Alacare Home Health and Hospice in Birmingham Alabama	Stroke patients in the home care setting		Patient/caregiver knowledge of disease management skills and functional status	Stanton et al., 2008, Lammon, Stanton, & Blakney 2010

Table 1. (Continued)

Healthcare setting	Microsystem setting(s)	Context of implementation	Positive outcomes described	Report(s) describing implementation
Tuscaloosa VA Medical Center in Birmingham Alabama	SICU, MICU, CCU		VAP rates, compliance with glycemic control protocol, rapid response utilization, CRBSI rates	Stanton et al., 2008, Lammon, Stanton, & Blakney 2010

LOS = length of stay, CMS = centers for medicare & medicaid services, VAP = ventilator associated pneumonia, BSN = bachelor of science in nursing, NP = nurse practitioner, HAPU = hospital-acquired pressure ulcers, ICU = intensive care unit, MICU = medical intensive care unit, SICU = surgical intensive care unit, CCU = coronary care unit, GI = gastrointestinal, VTE = venous thromboembolism prophylaxis, PACU = postanesthesia care unit, CRBSI = catheter-related blood stream infection.

(d) involvement in special organizational projects. The investigators conclude that the CNL "travels well" and is adaptable to a wide variety of clinical microsystems and that evidence-based practice, outcomes management, and staff education are critical aspects of the role.

Sherman (2008) used a grounded theory methodology to explore factors that influenced the decisions of 10 chief nursing officers (CNOs) to promote involvement of their organizations in the CNL project. Five major themes emerged to form a framework explaining organizational participation in the CNL project: (a) organization needs, (b) desire to improve patient care, (c) opportunity to redesign care delivery, (d) promotion of professional development of nursing staff, and (e) potential to enhance physician–nurse relationships. The CNOs described the need for their organizations to do a better job complying with regulatory requirements and viewed the CNL as way to ensure compliance at the point of practice. They envisioned the CNL as an "air traffic controller" who would reduce the chaos that is the current state of clinical practice and help remedy undiagnosed systemic problems that showed up as adverse patient outcomes. They felt CNL leadership skills would be necessary to facilitate redesign of chaotic care delivery systems not functioning as needed to provide seamless patient care. CNOs hoped the CNLs would help improve the image of nursing through mentoring, role modeling best practice, and encouraging professionalism at the bedside. Communication was seen as essential to improving care delivery, and CNOs predicted that the continuous CNL presence on the unit would improve cross-disciplinary communication. Overall, the investigator found that the identified themes aligned well with the AACN vision for the role and furthermore argued that this alignment of goals between education and practice may be a critical factor in the success of the CNL project.

Sherman (2010) also conducted an interpretive phenomenology study to describe the role transition experiences of 71 CNLs as they pioneered the role in diverse practice settings across the country. Certified CNLs answered open-ended questions during semistructured telephone interviews. Interviews were taped, transcribed, coded, and categorized into emerging themes. Five major themes were identified regarding the CNL role transition experience: (a) staying at the bedside, (b) explaining who we are, (c) keeping things from falling through the cracks, (d) proving our value, and (e) cautious about the future. CNLs described the continuous need to explain their role to other practitioners, sometimes "at least 10 times each day." They describe this as a result of inconsistent engagement from executive leadership in the pilot project, causing confusion and role overlap for some of the CNLs within their practice sites. Although the CNLs were clearly able to articulate the value of their work, they also described the constant challenges of staying focused on the role and not getting drawn into direct patient care because managers or other leaders did not see the value of their work. This challenge to keep the role "pure" was also recognized through the variation in CNL role implementation itself, depending on microsystem needs or organizational priorities. The CNLs felt that this lack of consistent role delineation created role confusion and was a barrier to wider acceptance. Overall, the CNLs felt that no matter the challenges, their education had given them a "phenomenal skill set" that made them invaluable to organizations in a variety of positions (if not a formal CNL role). CNLs who felt most successful in their role had the greatest involvement of the CNO and unit

Table 2. CNC Job Analysis Descriptive Statistics of Respondents' Subdomain Weights

Subdomain	Min %	Max %	Mean %
Evidence-based practice	0	40	9.20
Interdisciplinary communication and collaboration skills	0	30	8.15
Quality improvement	0	35	7.71
Integration of CNL role	0	20	6.64
Illness and disease management	0	30	6.45
Team coordination	0	25	6.37
Lateral integration of care services	0	15	6.13
Advanced clinical assessment	0	15	5.99
Health promotion and disease prevention management	0	20	5.96
Horizontal leadership	0	20	5.79
Knowledge management	0	15	5.14
Ethics	0	84	5.10
Healthcare advocacy	0	11	4.89
Healthcare systems	0	10	4.53
Healthcare informatics	0	20	4.29
Healthcare finance and economics	0	10	4.07
Healthcare policy	0	15	3.60

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manager as champions of change during the implementation phase.

Klich-Heartt (2010) explored entry-level master's CNL graduates utilization of end-of-program competencies in their current nursing practice through an investigator-developed "Entry-Level CNL" survey, which used CNL end competencies as a source for items. The survey also included open-ended questions asking about CNL's ability to apply elements of educational competencies in their daily practice. The survey was sent through Survey Monkey in early 2010 to all recent graduates (n = 163) of Sonoma State University and University of San Francisco entry-level master's CNL programs. Fifty seven (35%) graduates responded. Thirty-six percent were staff nurses and 40% were in "charge or leadership roles." Overall, more than half of the respondents felt they were able to apply CNL competencies within their current nursing position, and 67% reported assimilating research-based evidence to improve their unit outcomes. Most were also taking part in facility-wide committees and "having an impact on client outcomes." Common themes of open-ended responses included the following: awareness of their novice stage as a nurse; unfamiliarity or resistance to the CNL role by their employers; and a realization of the potential for the CNL's skill set as their career advanced.

Moore and Leahy (2012) developed a "CNL Transitions into Practice" questionnaire, which included 13 broad open-ended questions designed to explore CNL's experience implementing the role in their practice. The survey was administered via Survey Monkey to 24 certified CNLs currently practicing in the role (a date range was not provided). Qualitative content analysis was used to identify themes of CNL practice around the 13 questions. For questions about role introduction, respondents were equally distributed in describing either a structured organizational rollout or a more ad hoc practice introduction. For questions about role implementation, most respondents described a lack of role clarity, and 43% described being clinically overburdened because of this lack of role delineation. Overall, 82% believed that their role improved care quality while remaining close to the bedside. Staff nurses, although appreciating the extra support, still did not understand what the role was about. For questions about role sustainability, most respondents felt executive nursing leadership would be essential to the role's continuing success, although a worrying 61% of respondents identified nurse administrators as having the greatest resistance to the role. Thirty-nine percent also identified the need for a more defined and structured role in order for long-term sustainability.

Quantitative CNL Research

Kohler (2010) conducted an ex post facto study to determine the relationship between the CNL role and (a) work-related stress, (b) job satisfaction, (c) quality of life, and (d) anticipated turnover of acute care staff nurses working on CNL and non-CNL units. Participants included 94 staff RNs from three nonprofit hospitals in the Tampa Bay Florida area. Staff nurses worked on telemetry, urology, orthopedic, and medical–surgical units employing CNLs or similar units that did not have CNLs. Staff nurses completed five survey instruments: (a) Nursing Stress Scale (NSS) to measure work-related nursing stress; (b) Nursing Work Related Index–Revised (WRS) to measure job satisfaction; (c) Medical Outcomes Inventory Study Short Form (MOI) to measure overall nurse well-being; (d) Anticipated Turnover Scale (ATS) to measure nursing turnover; and (e) an investigator-developed demographic survey. Independent t tests and multiple regressions were used to analyze results. Major findings included a significant difference between groups on the "mental health" subscale of the MOI's Mental Health Summary Score ($t = -2.34$, $P = .021$), indicating nurses working on a CNL unit were happier and less depressed than nurses not working on a CNL unit. There was also a significant difference between groups on ATS score ($t = 2.01$, $P = .047$), indicating nurses working on a CNL unit had less anticipated turnover than nurses not working on a CNL unit. Regression analysis showed employment on a CNL unit was associated with greater intention to stay on the unit ($\beta = -2.5$, $P = .048$). The R^2 for the model was not provided, so it is unclear how much variation the model accounted for. The investigator notes that the improved mental health of staff nurses working on CNL units may be related to the social support the CNL provides as part of their job workflow. The investigator also notes social support has been linked to greater job motivation and may explain why presence of a supportive CNL role was correlated with decreased anticipated turnover. The investigator concludes that the CNL may be influential in reducing epidemic rates of nursing stress and turnover and should be further investigated.

Bender et al. (2012) conducted a quasi-experimental interrupted time series study to measure patient satisfaction with multiple aspects of care 10 months before and 12 months after integration of a CNL role on a progressive care unit, compared to a similar unit that did not have CNLs. The setting was a 26-bed unit within a 119-bed academic medical center. Data were obtained from Press Ganey surveys, and analysis was completed using a publicly available program for short time series data streams. CNL implementation was correlated with significantly improved patient satisfaction with admission processes ($r = +.63$, $P = .02$) and nursing care ($r = +.75$, $P = .003$), including skill level ($r = .83$, $P = .003$), and keeping patients informed ($r = .70$, $P = .003$), and "attention to requests" ($r = .68$, $P = .01$). Control data showed no significant changes in patient satisfaction measures throughout the study time frame. The investigators note significant improvements in scores corresponded with CNL accountability for care coordination and interdisciplinary collaboration, but the introduction of multidisciplinary rounding and processes leading to better progression toward discharge goals did *not* impact patient satisfaction with their discharge or their physician. The investigators conclude the data

Table 3. Qualitative Studies on the CNL Role

Primary investigator	Study purpose/aims	Design	Sample	Data collection	Analysis	Major findings
Sherman, 2008	Explore the driving factors that influenced the decisions of CNOs to promote the involvement of their organizations in the CNL project	Strauss and Corbin Grounded Theory	Convenience sample of 10 (of a total of 25 invited to participate) CNOs from health care agencies in Florida participating in the CNL project	One-hour semistructured face-to-face interviews using 8 open-ended questions	Coding, core categories developed	Five major themes emerged to form a framework that explains organizational participation in CNL project. (a) organization needs, (b) desire to improve patient care, (c) opportunity to redesign care delivery, (d) promotion of professional development of nursing staff, (e) potential to enhance physician–nurse relationships
Stanton, Barnett, & Williams, 2011	Examine the CNL role as it is presently implemented and whether the educational preparation of the CNL complements the implementation of the role in the hospital, home health, and public health arenas	Exploratory survey with closed and open-ended responses	Eight University of Alabama CNL graduates	Investigator-developed questionnaire (mailed with stamped return envelope) with 19 statements about the CNL role asking for respondent's agreement between statement and their actual position description on a 4-point Likert type scale. An unspecified number of open-ended questions asking respondents "to describe and compare their actual role to the CNL role as envisioned by the AACN"	Frequency distributions of closed-ended responses and qualitative content analysis of open-ended responses	Overall findings show there is disparity between the CNL role as taught and how it is actually implemented in any particular setting. Most respondents function as educator, data analysis and effecting change in organization. Most respondents were not (or only somewhat) involved with care coordination, financial impact analysis, or ethical guideline development. Themes from open-ended responses include (a) responsibility for outcomes improvement, (b) use of evidence as a basis for practice, (c) importance of mentoring and developing staff, and (d) involvement in special organizational projects

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Table 3. (Continued)

Primary investigator	Study purpose/aims	Design	Sample	Data collection	Analysis	Major findings
Bombard et al., 2010	Analyze the experience of direct entry master's students in the first cohort to complete the CNL curriculum and sit for CNL certification	Action research as described by Holter and Schwartz-Barcott	Four students, clinical faculty leader, writing consultant	Reflective journals, faculty notes of seminar discussions, student reflections on experience written after graduation, transcripts of 4 analytic discussion sessions	Content analysis, theme development	Dominant theme: how to answer the question "what is a CNL." Subthemes include: coming to the edge, trusting the process, rounding the corner, value becoming
Sherman, 2010	Describe the role transition experiences of 71 CNLs as they pioneered the role in practice settings	Interpretive phenomenology	71 certified CNLs nationwide working in the role in practice settings	Semistructured telephone interviews with 9 open-ended questions	Open coding into categories and themes	Themes explaining the CNL role transition experience included: (a) staying at the bedside, (b) explaining who we are, (c) keeping things from falling through the cracks, (d) proving our value, and (e) cautious about the future
Sorbello, 2010	What is the meaning of leadership as experienced by CNLs? What is it like to be a CNL; what does it mean to lead at the point of care; how is caring lived in the role of the CNL?	Van Manen's phenomenology approach	10 certified CNLS that responded to email invitations for participation during the national CNL Conference in New Orleans, Louisiana	60-Minute unstructured (using "story method") interviews with 8 in-person and 2 over-the-phone; field notes, investigator journal	"selective or highlighted reading" approach as defined by Van Manen to form thematic groups	Essential themes of meaning that leading at the bedside has for CNLs include: (a) navigating safe passage, (b) making a difference evokes pride, (c) bringing the bedside point of view, (d) knowing the patient as caring person, (e) living caring with nurses, and (f) needing to be known, understood and affirmed
Moore & Leahy, 2012	Explore the experiences of CNLs as they launched the CNL role in the practice setting	Qualitative, descriptive design	24 certified CNLs identified through attendance list of 2009 CNL Summit Conference	24-Item Investigator-developed "CNL Transition into Practice Questionnaire," broad open-ended questions developed through review of literature and CNL-educator expertise	Qualitative content analysis	Themes for implementing the new CNL role included: (a) systematic vs. unplanned role introduction, (b) lack of role clarity and overburdened practice, (c) improved care quality, and (d) need for nurse leader support and more structured role description

Table 3. (Continued)

Primary investigator	Study purpose/aims	Design	Sample	Data collection	Analysis	Major findings
Klich-Heartt, 2010	Evaluate entry-level master's CNL graduates with the CNL end-of-program competencies to determine whether these graduates are able to have positive effects on patient, systems and leadership outcomes in clinical settings	Descriptive survey design	57 recent graduates from Sonoma State University and University of San Francisco entry-level master's program in nursing	11-Item (plus demographic questions) investigator developed "entry-level CNL" survey, including 1 open-ended question, using end-of-program competencies as source for items administered February 2010	Descriptive frequencies and review plus coding of open-ended question to identify common themes	40% in charge/ leadership roles; majority used aggregate data to improve patient care and part of facility-wide committees; 55% applied competencies to their current role. Qualitative themes include (a) knowledge that still a novice, (b) unfamiliarity/ resistance to CNL, and (c) realize potential of skill set in the future

correlating CNL-mediated care processes with improved patient satisfaction show the CNL may be an innovative strategy for restructuring care delivery structures and services to improve care quality.

Guillory (2011) conducted a cross-sectional correlation study to examine (a) the relationship between the leadership style of nurse managers and the leadership style of their CNLs, (b) the relationship between the leadership style of CNLs and the leadership behaviors of staff nurses, and (c) if differences exist in staff nurse leadership behaviors as a function of nurse manager level of engagement. Participants included 180 RNs and 18 CNLs working at various clinic locations in the Houston Texas area. Staff nurses and CNLs completed a survey containing three instruments: (a) Multifactor Leadership Questionnaire (MLQ-5x short) to measure leadership styles; (b) Leadership Behavior Description Questionnaire (LBDQ-XII-self) to measure leadership behaviors; and (c) an investigator-developed demographic survey. CNLs completed the MLQ-5x "Rater" form to rate their manager's leadership style, and the MLQ-5x "Leader" form to rate their own leadership style. Staff RNs completed the MLQ-5x Rater from to rate their CNL's leadership style, and the LBDQ-XII-self form to measure their own leadership behaviors. The survey data were analyzed using regression analyses, cluster analysis, and *t* tests. A major limitation of this study is that not all stated results are quantified either in the text or within tables, so it is impossible to corroborate statements such as "there was a significant, positive relationship between the CNL's leadership style and staff RN's rating on structure [leadership behavior]." In addition, although regression model summary data are presented for all analyses, the investigator does not include coefficient tables with confidence intervals, so it is difficult to gauge the effect size of the outcomes as well. The main relevant quantified finding was a significant positive relationship between transformational leadership style of the CNL and staff RN's self-rating of leadership "consideration" behaviors ($\beta = .340$, $P = .002$). The investigator concludes the data support prior research showing positive relationships between transformational leadership style of clinical and administrative leaders, such as a CNL, and staff RN performance and behavior.

Discussion

The CNL has been piloted in over 159 health care organizations across the country through partnerships with more than 91 schools of nursing (Stanhope & Turner, 2006). There are 25 reports describing the context of implementation and/or quality improvements facilitated through CNL integration into various care settings. Most microsystems were within acute care facilities, but the role is promoted to be valuable across the care spectrum. A recent job analysis validated essential CNL tasks, knowledge, and skills needed for competent CNL practice and were reflected in many of the CNL processes described in the CNL implementation reports, such as responsibility for quality improvement projects, encouraging interdisciplinary communication and collaboration, and initiating evidence-based guidelines to better provide and coordinate safe and effective patient care.

Although the results of the implementation reports are very encouraging, one must be careful interpreting overall significance as all used either a narrative or case study approach, which makes it difficult to separate CNL impact from the influence of other non-CNL processes occurring simultaneously on the unit or throughout the organization. Many outcomes were apparently chosen

Table 4. Quantitative Studies on the CNL Role

Primary investigator	Study purpose/aims	Design	Sample	Measures	Analysis	Major findings
Kohler (2010)	Explore the relationship of the CNL role with (a) work related stress, (b) job satisfaction, (c) quality of life, and (d) anticipated turnover of acute care nurses. In addition, this research examined the interrelationships among work-related stress, quality of life, job satisfaction, and anticipated turnover	Prospective Ex post facto	94 RNs from 3 nonprofit hospitals in the Tampa Bay Florida area. Units include tele, urology, ortho, and med-surg employing CNLs and nonequivalent control units	(a) NSS (b) WRS (c) MOI (d) ATS	Independent *t* tests and multiple regression	Mental health subscale (of mental health summary score) was significantly different between groups. Significant difference between groups on ATS scores. Regression analysis showed employment on CNL-unit and WRS score predicted ATS score.
Guillory (2011)	Examine (a) the relationship between the leadership style of nurse managers and the leadership style of their CNLs, (b) the relationship between the leadership style of CNLs and the leadership behaviors of staff nurses, and (c) see if differences exist in staff nurse leadership behaviors as a function of nurse manager level of engagement	Cross-section correlation design	198 RNs (180) and CNLs (18) at various Kelsy-Seybold Clinic locations in the Houston Texas area	(s) Multifactor Leadership Questionnaire (MLQ-5x short) (b) Leadership Behavior Description Questionnaire (LBDQ-XII-self)	Regression analysis, hierarchical cluster analysis, *t* tests	Leadership styles of CNLs (as perceived by staff nurses) predicted leadership behaviors of staff nurses. Leadership styles of nurse managers (as perceived by CNLs) predicted the leadership styles of CNLs.
Bender (2012)	Assess the impact of CNL integration into an acute care microsystem on care quality as measured by patient satisfaction with care	Short interrupted time series	36-Bed progressive care unit and a nonequivalent control oncology-BMT unit located within a 119-bed academic medical center in San Diego California	Press-Ganey survey scores: "admission", "discharge", "nursing", "physician", "skill of the RN", "RN kept you informed", "attention to special needs", "attention to requests"	Simulation modeling analysis for short time series data streams	CNL implementation was correlated with significantly improved patient satisfaction with "admission," "nursing", including "skill of the RN", "RN kept you informed", "attention to special needs", "attention to requests". There was no significant correlation with improved patient satisfaction and control data.

because of CNL-developed projects specifically targeting them. These targeted outcomes could arguably have been accomplished by clinicians other than CNLs; for example, through a unit-based, staff nurse-led quality improvement project. Publication bias, or the possibility of unpublished CNL pilot interventions that may not have resulted in care quality improvements, must also be considered when interpreting these reports: Unpublished negative or neutral outcomes cannot be compared with the published evidence to produce a more comprehensive picture of the CNL in practice, including facilitators and barriers to effective implementation and/or sustainability.

There were seven qualitative and survey studies found in the literature regarding the CNL role. Most explored the transition experience of CNL cohorts pioneering the educational and clinical pathways leading to a formal

CNL role in an organizational setting. Common themes found across studies included the challenges CNLs felt explaining the CNL role to themselves and others; keeping patients safe; mentoring nurses through role modeling; the necessity of organizational leadership support for implementation success; pride in staying at the bedside; and uncertainty about the future of the CNL. Uncertainty was related to the disparate ways the role has been operationalized in various care settings, and the lack of role clarity highlighted in many of the studies. Notably, "integration of the CNL role" was listed as the fourth most important CNL practice subdomain as defined by certified CNLs in the recently completed CNL job analysis (see Table 2), substantiating the challenges inherent in effectively defining and operationalizing the role. Where the role has met with success, executive leadership was viewed as essential to that success. Leaders that stood behind the role viewed the CNL as a way to elevate the professional status of nurses within an interdisciplinary care team and envisioned the CNL as the point person at the bedside ensuring compliant and quality care.

There were only three quantitative research studies found in the literature on the CNL role. None were designed to specifically define or measure CNL-specific mechanisms of action that resulted in targeted outcomes. All three were correlational studies, and only two used control groups. In these studies, CNL integration into care delivery settings was correlated with the following: happier staff nurses; decreased anticipated staff RN turnover; improved patient satisfaction with nursing care and admission processes; and greater staff RN self-report of leadership behaviors. Each study had methodological limitations, such as small sample size, non-equivalent (or no) control groups, and incomplete data reporting, which limit generalizability of the results. Nevertheless, the combined quantitative trends appear to show an improvement in staff RN and patient satisfaction with their care environment when a CNL is integrated into that environment.

Recommendations for Future Research

To date, all published reports on CNL implementation describe, in various detail and rigor, a diverse list of improved quality outcomes after introduction of the CNL depending on CNL activities and microsystem priorities. Still, little is known about care delivery structures and processes that influence successful CNL integration, and components that either facilitate or hinder CNL effectiveness and sustainability.

Research on the CNL role is still in its infancy, with only a handful of studies to look to for evidence of CNL-specific impact on patient outcomes. Quantitative research focused on correlating CNL practice in general with improvements in patient and staff outcomes. Further research is needed to quantify CNL impact on a wider range of health outcomes, including overall microsystem health, interdisciplinary teamwork, and patient care coordination within and across settings. These outcomes also need to be linked to CNL-specific practice components. This will require the development of valid instruments capable of measuring CNL-mediated contributions to care outcomes.

Qualitative research conducted on the CNL emphasizes the variation of the role across settings. CNLs feel uncertain about clarifying their role and sustaining it in the future because of the general ambiguity surrounding the role and its function within the care delivery setting. This ambiguity highlights the need for research that can help articulate the role in practice and identify essential CNL practice elements and activities. Without a clear model for practice, CNLs will continue to struggle to define and articulate their value.

Conclusions

The CNL has been touted as an unprecedented partnership between academia and practice to both educate the new breed of nurse leader and redesign the environment in which this leader would practice (Porter-O'Grady, Clark, & Wiggins, 2010; Stanley, Hoiting, Burton, Harris, & Norman, 2007). The IOM Future of Nursing report (2010) highlights the CNL role as a nursing-led innovative strategy for restructuring care delivery settings and services to improve care quality. This review has summarized the literature on CNL implementations across the country and the research completed to-date on the CNL. All CNL implementation reports and studies describe improved care quality outcomes after introduction of the role into a care delivery microsystem, providing preliminary evidence supporting the capacity of the CNL to reliably improve care quality wherever the role is implemented. A consistent finding across reports was that CNLs are still struggling to define the role to themselves and to the health care spectrum at large. While the AACN CNL White Paper provides a concise model for CNL educational curriculum and end competencies, there is a compelling need for further research to substantively delineate the CNL role in practice, describe care delivery structures and processes that influence CNL integration, and develop indicators capable of capturing CNL-specific contributions to improved care quality.

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