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A Self-Efficacy Scale for Clinical Nurse Leaders®: Results of a Pilot Study

EXECUTIVE SUMMARY

▶ Introduced in 2003, the Clinical Nurse Leader® (CNL®) role is the first new nursing role introduced in more than 30 years.

▶ The hallmark of CNL practice is the management of client-centered care and clinical excellence at the point of care.

▶ As part of multifaceted efforts to implement the CNL role, understanding how an individual's self-efficacy with the identified role competencies changes over time has important implications for individuals, educational programs preparing CNLs, and health care organizations employing CNLs.

▶ In this study, preliminary psychometric analyses assessing the construct validity, reliability, and discriminant validity for a new state-specific scale (CNL Self-Efficacy Scale) that assesses nurses' perceptions of their ability to function effectively as a CNL are reported.

▶ Because self-confidence is a key predictor of successful role transition, job satisfaction, and job performance, measuring individuals' self-confidence with the core competencies associated with the CNL role over time will be important to gain the full benefit of this innovative, unit-based advanced generalist role.

THE CLINICAL NURSE LEADER® (CNL®) is a new nursing role with the goal of returning expert clinicians to the point of care to strengthen the nursing profession's contributions to the quality, safety, and outcomes of health care in the United States (American Association of Colleges of Nursing [AACN], 2007; Reid & Dennison, 2011). Prior analyses of the new CNL role have focused mainly on ways to incorporate CNLs into workplaces (Bender, Mann & Olsen, 2011; Harris & Ott, 2008; Moore & Leahy, 2012; Sherman 2008; Stanton, Barnett Lammon & Williams, 2011). In contrast, this study focuses on individual CNL self-efficacy, an important facet of personal development associated with successful work role transitions (Ashforth & Saks, 1995; Nicholson, 1984). The authors contribute to the literature on CNL role implementation by presenting initial psychometric analyses of a new scale, the CNL Self-Efficacy Scale (CNLSES), a state-specific self-efficacy scale that assesses nurses' perceptions of their ability to function effectively as CNLs.

Background

The American Association of Colleges of Nursing introduced the CNL role in 2003; it is the first new nursing role to be introduced in more than 30 years (AACN, 2007). Unlike other master's-prepared nursing roles, the CNL is a generalist with unit-level (clinical microsystem level) responsibility for coordinating across disciplines; managing clinical outcomes, with a particular focus on promoting health and preventing disease in populations; and implementing programs aimed at clinical quality improvement and risk management (AACN, 2007). The scope of

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CNL practice complements that of the front-line nurse manager, on the one hand, and the nurse practitioner and clinical nurse specialist, on the other (AACN, 2007).

The hallmark of CNL practice is the management of client-centered care and clinical excellence at the point of care. The core competencies of CNL practice are organized into three domains: (a) nursing leadership to actively manage care coordination activities, (b) clinical outcomes management to promote evidence-based practice and data-based clinical decision making, and (c) care environment management to promote clinical quality and safety.

Clinical Nurse Leader practice is further distinguished by nine role competencies: clinician, outcomes manager, client advocate, educator, information manager, systems analyst and risk anticipator, team manager, member of a profession, and lifelong learner (AACN, 2007).

Clinical Nurse Leader program curricula conform to the Institute of Medicine's (2001) recommendations to promote clinicians' effectiveness in complex organizational settings. Graduate education for the CNL role extends the direct-care skills acquired at the baccalaureate level to build competence in the areas of health policy and organization, outcomes management, nursing leadership, and care management (AACN, 2007). Since 2004, the number of CNL programs has increased to over 100 and more than 200 organizations employ CNLs, most notably the Veteran's Health Administration (AACN, 2013; Ott et al., 2009). In the same time period, the number of nurses certified as CNLs has increased to 2,150 (Commission for Nurse Certification, 2012).

Self-efficacy at work. Self-efficacy is the belief in one's ability to effectively carry out a task within a specific situation. Self-efficacy at work is an important predictor of individuals' job satisfaction and job performance (Stakjovic & Luthans, 1998). Previous research shows individuals' self-efficacy is a predictor of their ability to perform effectively in new situations such as career transitions or during organizational change (Judge, Erez, & Bono, 1998; Stakjovic & Luthans, 1998). Moreover, a person's belief in his or her self-efficacy varies according to (a) the difficulty of the task, (b) certainty in performing a task at a given level of difficulty, and (c) the extent to which the difficulty of the task generalizes across situations (Stakjovic & Luthans, 1998). Because nursing is a contextually situated practice, an individual's competence in any given clinical situation is derived from building a repertoire of experiences to inform clinical decision making (Benner, 2009).

While some observers argue all professional registered nurses (RN) need to be involved in care planning and coordination, outcomes management, and process-improvement activities (Erickson & Ditomassi, 2005; Pearson et al., 2009), recent analyses of the content of RNs' daily work suggest nurses do not have the time for these activities (Chow, 2008; Lucero, Lake, & Aiken, 2009), lack skills either to assess the quality of care or integrate evidence into clinical decision making (Kovner, Brewer, Yingrengreung, & Fairchild, 2010), or work in organizations that have been slow to adopt quality and process improvement techniques into daily routines (Watcher, 2010). Thus, though many CNLs are experienced staff nurses, their exposure to, and confidence with, the core activities of the CNL role may be limited. As part of multifaceted efforts to implement the CNL role, understanding how an individual's self-efficacy with the identified role competencies changes over time has important implications for individuals, educational programs preparing CNLs, and health care organizations employing CNLs.

Design and Methods

A web-based survey was used to gather cross-sectional data from a national sample of nurses who passed the national CNL certification exam administered by the Commission for Nurse Certification (CNC), an autonomous arm of the AACN. All RNs certified as CNLs contained in the CNC database were eligible to participate. Graduates of CNL programs granting a master's of science in nursing degree and CNL program faculty are eligible to take the CNL certification exam. The CNLSES study was launched in March 2011. Eligible participants received three emailed reminders sent at 6-week intervals until the survey site was closed at the end of September 2011. University and college institutional review boards approved the study.

CNLSES development. The CNLSES consists of two parts: (a) items to assess self-efficacy for the CNL role adapted from the *Performance Evaluation Tool of the Practice Setting: Cross-Setting Expectations for the CNL Graduate* established by the AACN (2006) in the CNL role implementation toolkit, and (b) a brief section on the respondent's demographic characteristics (age, gender, geographic region), education, and work history (number and type of degrees, years worked as a nurse, years/months worked as a CNL, year completed CNL degree, type of CNL program attended, and years/months employed in current job).

The self-efficacy items in the survey were developed in two steps. First, item-stems from Bandura's (2006) well-established survey assessment of self-efficacy were identified. Nurses were asked, "In your practice as a CNL, how confident are you that you can…" Second, items from the *Performance Evaluation Tool of the Practice Setting* (AACN, 2006) were adapted to assess self-efficacy for each CNL role competency

set forth by the AACN. For example, one competency is the ability to identify clinical risks. For this competency the question reads: "In your practice as a CNL, how confident are you that you can identify client population risks based on a comprehensive assessment?" The survey assesses a respondent's self-efficacy to meet each prescribed competency using a 5-point Likert scale (1 = not at all confident through 5 = extremely confident).

Because an existing tool developed by the AACN was adopted to define the practice competencies of CNLs, a content validity index was not calculated for the proposed CNLSES (DeVon et al., 2007). Following standard practice for new instrument development, five nurse leaders who participated in the AACN CNL task force for role development reviewed the preliminary version of the CNLSES. Two reviewers recommended wording changes for 3 of the 56 questions, one reviewer suggested changes for the demographic questions, and one commented on the overall layout and design of the survey.

Reviewer feedback was incorporated into the final version of the 56-item CNLSES tested in this study. Respondents were asked to rate their confidence in performing each of the 56 practice competencies on the day they completed the survey. Respondents working as CNL program faculty were asked to consider their confidence in teaching the practice competencies.

Survey administration. The population (*N*=1,378) of nurses certified as CNLs as of March 2011 received an invitation sent to the email address listed in the CNC database. To maintain participants' anonymity, CNC staff sent the study invitation with the link to the survey so that neither the CNC staff nor the researchers could link survey respondents to the population of certified CNLs contained in the database. The CNLSES survey was created and

managed using the Qualtrics survey software (Provo, UT).

The survey was programmed to obtain respondents' consent to participate in the survey. If respondents declined to participate in the study, the survey terminated. The self-efficacy items were presented in a matrix format with individual questions appearing down the matrix rows and the rating scale appearing across the columns. The demographic questions followed. Participants were able to track their progress in completing the survey and move between screens within the survey. To mitigate against multiple responses from individual participants, the survey was programmed to record the IP address of the client computer to identify potential duplicate entries.

Data Analysis

A standard three-step approach, summarized below, was used to guide the development of the CNLSES (Nunnally & Bernstein, 1994). First, construct validity was assessed using Principal Components Analysis (PCA) with varimax rotation. Second, the reliability of the indices that resulted from PCA analysis was examined using Cronbach's coefficient alpha. Finally, the discriminant validity of the CNLSES was assessed using the inter-correlations among its indices.

Construct validity. Because the goal was to reduce the number of items from an existing tool to create a valid and reliable scale to promote practice and research on the CNL role, PCA with varimax rotation was selected as the analytic approach. Principal Components Analysis is a common multivariate technique in the social sciences used to identify the most central variables in a larger data set. Thus, PCA is useful for instrument development because it helps to produce assessment tools that are efficient and focused (Abdi & Williams, 2010; Nunally & Bernstein, 1994). Kaiser's criteri-

on and scree plots were used to identify components to retain in the final solution (Abdi & Williams, 2010; Brown, 2006; Hinkin, 1998; Nunnally & Bernstein, 1994).

Based on results from the PCA, indices were created with items that loaded highly (> 0.60) only on one factor and had near-zero loadings on other factors; items that did not meet these criteria were dropped (Hinkin, 1998; Tabachnick & Fidell, 2007). Because of the relatively small sample size, the more stringent 0.60 (vs. 0.40) item loading was used to improve confidence in the reliability of the items associated with each principal component in the solution (Hair, Tatham, Anderson, & Black, 1998; Tabachnick & Fidell, 2007).

Reliability. The reliability of these indices were further examined, giving particular attention to assessing the internal consistency of responses for each CNL competency as indicated by Cronbach's alpha scores.

Discriminant validity. Finally, the researchers sought to determine the extent to which the CNL role competencies derived from the analysis measure different aspects of self-efficacy. Thus, discriminant validity was assessed by examining inter-correlations among the indices. The goal of discriminant analysis is to establish measures of constructs that theoretically should be distinct from each other are, in fact, empirically distinct (Hinkin, 1998; Nunnally & Bernstein, 1994).

Analyses used Statistical Analysis Software version 9.1 with and without the respondents identified as CNL faculty, which yielded similar substantive results. Therefore, data for the whole sample of respondents are reported.

Results

One hundred and ninety seven (*n*=197) surveys were returned. Of the returned surveys, 50 had missing data for all the items, suggesting respondents activated the sur-

vey link and decided not to complete the survey after it was launched. These 50 cases with missing data for all questions were deleted from the data set, leaving a final sample of 147 cases and a response rate of 9.4% (147 respondents/1,378 eligible participants). A review of the descriptive statistics revealed no items had substantial missing data or skewed distributions. A power analysis showed a minimally acceptable sample size for a pilot study (Cohen, 1988; MacCallum, Browne, & Sugawara, 1996), including a pilot study using PCA (Hair et al., 1998); subject-to-item ratio was 2.6:1 (Osborne & Costello, 2004).

Participant demographics are reported in Table 1. Results from analyses comparing the characteristics of respondents to the population of CNLs indicate the sample largely represents the population of CNLs. According to AACN data, this sample has a slight over-representation of respondents from the Midwest region of the United States. Also according to AACN data, there are 28 CNL programs in this region, representing approximately 28% of the total number of CNL programs (AACN, 2013).

For the employment setting, the Veteran's Administration (VA) is over-represented in the sample compared to the proportion of VA hospitals in the population of U.S. hospitals. This is expected because the VA was an early adopter of the CNL role, with a strategic agenda to integrate CNLs at each facility across the national network of 153 VA hospitals by 2016 (Veterans' Administration, 2009). This sample has a larger percentage of male respondents than the general RN population (8% in the CNL sample vs. 5% in the RN population) (U.S. Department of Health and Human Services, Health Resources and Services Administration [DHHS], 2010).

As expected, due to the direct master's entry CNL program model (Model C), the sample has a

Table 1.
Respondent Demographics*

Gender	
Male	(8%)
Female	(92%)
Age	
Mean = 46.07	
Standard deviation = 10.93 (min 25 – max 70)	
Educational Preparation to Enter Nursing	
Diploma	(12 %)
Associate's degree	(21%)
Bachelor's degree	(48%)
Master's degree	(19%)
Years Since Graduating from Basic Nursing Program	
Range 1962-2001	
Mean = 19.91 years in nursing	
Standard deviation = 12.24 years	
CNL Program Model	
Model A	(55%)
Model B	(4.2%)
Model C	(18%)
Model D	(1.4%)
Model E	(1.4%)
Not applicable	(17%)
Year Graduated from CNL Program	
2005	(1%)
2006	(3%)
2007	(14%)
2008	(12%)
2009	(23%)
2010	(31%)
2011	(8%)
NA	(9%)
Geographic Region	
New England	(8%)
New York-New Jersey	(8%)
Mid-Atlantic	(10%)
Southeast	(18%)
Midwest	(32%)
Southwest	(3%)
Mountain-Plains	(4%)
Western	(19%)

Table 1. (contnued)
Respondent Demographics*

Organization Type	
For-profit	(7%)
Not-for-profit	(62%)
Public	(10%)
Veteran's Affairs	(21%)
Job Title of CNL	
Yes	(39%)
No	(55%)
Not Applicable	(6%)
CNL Faculty	
Yes	(15%)
No	(85%)

* Not all percentages equal 100% due to rounding or missing data on some items.

larger percentage of nurses prepared with a master's degree as their initial education for entering the profession (17.5%) than the general nursing population. According to the RN Population Survey, 13,235 individuals or 0.4 % of the RN population hold a master's degree as their initial educational preparation (DHHS, 2010). In comparison, approximately 989 graduates or 54% of the CNL population are graduates from direct master's entry programs (Commission for Nurse Certification, 2015).

Construct validity. As noted previously, a principal components analysis was conducted with varimax rotation (Abdi & Williams, 2010; Nunnally & Bernstein, 1994). Based on the Eigen values of >1.0, nine distinct components and 35 items were identified to measure role competencies for CNL practice. The individual items, Eigen values, and Cronbach's coefficient alphas for each index are presented in Table 2. The CNLSES indices are: (a) population-based care (9 items), (b) care planning (6 items), (c) unit-based strategic leadership (4 items), (d) managing financial resources (6 items), (e) team management (2 items), (f) continuing education (2 items), (g) mobilizing others (3 items), (h) professional leader (1 item), and (i) mentor (2 items).

The population-based care index identifies competencies related to identifying and using information about population health needs to resolve health problems and inform activities directed toward improving population-level clinical quality and safety. The care planning index identifies competencies related to designing and implementing care plans for both individuals and populations. The unit-based strategic leadership index identifies competencies to align the organization's mission and strategic objectives with unit activities. Similarly, the managing financial resources index identifies competencies to promote clinical cost efficiency and financial analyses to support clinical practice change. The team management index identifies competencies to promote interdisciplinary team management and the mobilizing others index focuses on marshaling human resources including the support of managers and informal leaders. The final three indices – continuing education, professional leader, and mentor – identify competencies related to lifelong learning and professional membership.

Discriminant validity. To assess the discriminant validity of the CNLSES, that is, the extent to which its indices measure distinctive aspects of self-efficacy, the pattern of zero-correlations among the nine indices were examined (see Table 3). The results in Table 3 show moderate-to-high levels of correlation among the indices, with coefficients ranging from 0.46 to 0.72. In other words, the percentage of variance shared by any two indices ranges from approximately 25% to 50%. This is an acceptable, though somewhat high, degree of overlap among the indices (Nunnally & Bernstein, 1994). The indices are expected to overlap to some degree, while still measuring separate aspects of self-efficacy.

Limitations

This study has several limitations. First, of the population of certified CNLs, the final sample of respondents is relatively small. Yet, from the perspective of practical significance, there is a sufficient sample size for PCA analysis (Hair et al., 1998), and the use of the more stringent criterion of 0.60 item loading (vs. 0.40) on dimensions increases confidence in the results. Due to the size of the sample, researchers were unable to use confirmatory factor analysis/structural equation modeling (Mulaik, 2009) to assess the reliability and validity of the CNLSES. As noted, the sample size was large enough to analyze the data using PCA, a standard, widely accepted approach to assess the key measurement properties of the CNLSES (Brown, 2006; Hair et al., 1998; Hinkin, 1998; Nunnally & Bernstein, 1994; Osborne & Costello, 2004).

The sample reflects the demographic characteristics of the population of nurses credentialed as CNLs at the time the survey was in

Table 2.
Results from Principle Components Analysis with Varimax Rotation: Item Loadings

In your practice as a Clinical Nurse Leader, how confident are you that you can:	Factor								
	1	2	3	4	5	6	7*	8	9
1. Assume accountability for the welfare of client populations served in your unit?		0.740							
2. Identify client population risks based on a comprehensive assessment?		0.732							
3. Collaborate with cohorts of clients in designing a total care plan?		0.719							
4. Collaborate with clients in gaining their endorsement for the total care plan?		0.754							
5. Consult appropriately with other health professionals to design a total plan of care your clients?		0.731							
6. Communicate a total plan for clients with other members of the intervention team?									
7. Delegate aspects of a total plan of care to other members of the intervention team?									
8. Advocate effectively on behalf of the client with the intervention team?		0.803							
9. Advocate on behalf of the client with the client's network?									
10. Acquire information about the population through information systems?	0.638								
11. Seek knowledge about specific populations from the research literature?	0.796								
12. Identify population-level health problems?	0.714								
13. Use information systems to track population-level clinical outcomes?	0.652								
14. Resolve population-level health problems?	0.606								
15. Engage the intervention team in evaluating progress in achieving desired clinical outcomes?									
16. Meet regularly with the intervention team?					0.740				
17. Evaluate the intervention team's performance with achieving patient care outcome goals?					0.799				
18. Communicate changes in clients' care plan with the members of the intervention team?									
19. Share knowledge from the literature with other members of the intervention team to improve care?									
20. Appropriately deploy human resources to improve outcomes?									
21. Evaluate how your unit fits with the work of the larger organization?							0.571		

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Table 2. (continued)
Results from Principle Components Analysis with Varimax Rotation: Item Loadings

In your practice as a Clinical Nurse Leader, how confident are you that you can:	Factor								
	1	2	3	4	5	6	7*	8	9
22. Evaluate the capacity of resources available to your unit to accomplish its work?									
23. Mobilize managers to deploy resources?							0.569		
24. Mobilize informal leaders to deploy resources?							0.587		
25. Deploy unit resources effectively to improve aggregate clinical outcomes?									
26. Identify waste in your unit?				0.644					
27. Identify opportunities for cost savings in your unit?				0.731					
28. Use technology to reduce costs?				0.615					
29. Use technology to enhance clinical outcomes?									
30. Set priorities to work efficiently without compromising quality?									
31. Identify opportunities for revenue enhancement to benefit clients?				0.639					
32. Create proposals to modify your unit using alternative business models?				0.760					
33. Create proposals to modify your unit incorporating return on investment analyses?				0.736					
34. Mentor other CNLs?									0.686
35. Act as a preceptor for other CNLs?									0.674
36. Translate clinical research to improve clinical practice routines?	0.736								
37. Review your unit's performance to assess risk to client safety?	0.619								
38. Review your unit's performance to assess risks to the quality of care?	0.661								
39. Use evidence to challenge existing clinical practices?									
40. Incorporate evidence-based practice changes into clinical information systems?	0.664								
41. Communicate evidence-based practice modifications to other health professionals?									
42. Provide clinical leadership within your unit?									
43. Promote the professional development of the team members?									
44. Assure the continuing education of the team members?						0.617			
45. Educate your unit's staff on innovative practices?						0.601			

Table 2. (continued)
Results from Principle Components Analysis with Varimax Rotation: Item Loadings

In your practice as a Clinical Nurse Leader, how confident are you that you can:	Factor								
	1	2	3	4	5	6	7*	8	9
46. Participate in the performance evaluation of intervention team members?									
47. Assume leadership in organizational governance activities?									
48. Represent your unit on organizational committees?			0.729						
49. Act as a leader in relevant professional organizations?								0.615	
50. Disseminate your unit's successes in care management to the larger nursing community?									
51. Know the organization's mission?			0.802						
52. Apply the organization's strategic plan to guide practice on your unit?			0.760						
53. Practice in accordance with the values of the organization?			0.733						
54. Participate in the development of the organization's strategic plan?									
55. Advocate for social justice in your unit's activities?									
56. Engage in professional development activities?									
Eigen Value	27.69	3.11	2.29	1.83	1.71	1.47	1.30	1.17	1.15
Cronbach Coefficient Alpha	0.93	0.93	0.89	0.92	0.83	0.91	0.86	N/A	0.98

* Items in this factor failed to reach the 0.600 threshold for item loading. Because of the preliminary nature of this project, these items are included here and should be subjected to further testing.

the field. Among the studies examining aspects of CNL role implementation, this study is one of the few empirical assessments of CNL role competencies using a national sample of certified Clinical Nurse Leaders working in clinical and higher-education settings. The response rate is acceptable for a nonsolicited online survey (Cook, Heath, & Thompson, 2000).

Because the CNLSES is a new instrument, the results reported here are preliminary and should be interpreted with caution. The researchers realize the sample size increases the chance of both Type I and Type II errors associated with

the results (Alii, 2010). Therefore, new analyses based on a larger, nationally representative sample using confirmatory factor analysis approaches with structural equation modeling are warranted to bolster confidence in the measurement properties of the CNLSES (Alii, 2010; Kline, 1998; Mueller & Hancock, 2008).

Finally, the inter-correlations among the indices range between 0.72 and 0.46. Of the 36 possible correlations among the nine indices, 27 range between 0.46 and 0.56 (see Table 3). Although the inter-correlations among the indices are somewhat higher than the tradi-

tional 0.50 cut-off (Nunnally & Bernstein, 1994), they are acceptable for the early stages of scale development. Further testing with larger samples is warranted to establish the discriminant validity of the CNLSES.

Discussion

This study contributes to the development of evidence-based approaches to support efforts to implement the CNL role by offering a tool to measure individuals' confidence with performing the core practice competencies associated with the role. To promote efforts to implement the role, the CNLSES

Table 3.
Pearson Correlation Coefficients for Indices

	Population Care	Care Planning	Strategic Leader	Financial Resources	Team Management	Continuing Education	Mobilizing Others	Professional Leader	Mentor
Population Care	1.0								
Care Planning	0.58	1.0							
Strategic Leader	0.51	0.51	1.0						
Financial Resources	0.72	0.54	0.50	1.0					
Team Management	0.54	0.58	0.50	0.54	1.0				
Continuing Education	0.71	0.60	0.46	0.57	0.49	1.0			
Mobilizing Others	0.65	0.54	0.53	0.65	0.56	0.56	1.0		
Professional Leader	0.51	0.48	0.57	0.53	0.47	0.56	0.52	1.0	
Mentor	0.57	0.57	0.52	0.51	0.61	0.57	0.49	0.50	1.0

could be used as a tool for performance appraisal, professional development activities, and curriculum design so that new and experienced CNLs are skilled in the nine practice areas identified in this analysis.

The CNLSES role competencies identified in this empirical analysis align exactly with the nine role competencies prescribed by the AACN (2007), with only two minor variations associated with the clinical leader and information manager competencies. According to the AACN (2007), in the idealized clinical leader role competency, the CNL acts as a boundary-spanner to coordinate and integrate service activities across units. In contrast, the results of the current study suggest that, in practice, the clinical leader domain comprises a narrower set of activities focused on unit-level (clinical microsystem) strategic leadership. The four items in Index 3 (see Table 3), labeled unit-based "Strategic Leader," measure the extent to which a CNL translates the organization's mission and values into unit-level activities.

Second, according the AACN (2007), the information manager

role competency emphasizes technology and data for improving clinical performance. In contrast, Index 4, managing "Financial Resources" (see Table 3), suggests a narrower set of unit-level activities associated with reducing costs, increasing revenue, and using financial-analysis techniques to support clinical practice change.

In sum, the empirical results indicate CNLs function in accordance with the nine components of the CNL role outlined by the AACN (2007), further substantiating qualitative studies examining CNL role implementation (Poulin-Tabor et al., 2008; Sherman, 2010; Stanton et al., 2011). Because this is the first empirical analysis of CNL practice, variations from the ideal role are to be expected. Although items contained in the index measuring unit-based strategic leadership and the index measuring the management of financial resources are more focused than the idealized CNL role competencies described by AACN (2007), these results are consistent with the emphasis of CNL practice at the unit or clinical microsystem level (McKeon et al., 2009).

Over time, it will be important

to understand how the nine CNL role competencies identified in the CNLSES vary to address differences associated with clinical and quality improvement needs in different clinical settings (Stanton et al., 2011). Sherman (2010) and Stanton and colleagues (2011) suggested the CNL role is implemented differently across organizations and practice areas. Stanton and colleagues' (2011) exploratory study, based on the experiences of eight CNLs employed in the southeast region of the United States, found the role of the clinical nurse leader conforms to the nine practice competencies defined by the AACN and that different role competencies are emphasized in different practice settings. For example, the CNLs employed in hospital settings spent the majority of their time on outcomes management, care coordination, and integrating evidence-based practices into patient care routines. In contrast, the CNL employed in public health focused mainly on project development, implementation, and evaluation. Similarly, Sherman's (2010) study of CNL role transition found variation in how the role was imple-

mented among units in the same hospital and across hospitals.

Second, the structure of the CNLSES reported here adds empirical support for the alignment of the CNL graduate program curricula with the prescribed content for preparing unit-based (microsystem) generalists. Fifty-percent of the respondents in this sample graduated from a CNL program in 2009 or 2010 (range 2005-2011). The participants' assessments of their ability to perform effectively in the CNL role may be a reflection of their educational and clinical immersion experiences constructed around the prescribed role competencies.

Finally, the CNLSES could be used as a self-assessment tool to gauge changes in CNL practice patterns and as a foundation for tailored continuing professional development activities. For individuals, for managers, and for organizational development, the CNLSES could be used to identify specific learning activities as part of comprehensive orientation programs and to develop relevant curricula or annual performance improvement activities to gain the full benefits of CNL practice. Moreover, self-assessment tools, such as the proposed CNLSES, contribute to the enhancement of programs for evidence-based career transitions in nursing to promote clinical leadership development and succession planning (Carriere, Muise, Cummings, & Newburn-Cook, 2009; Kim, 2012).

Conclusion

To date, this study, based on a national sample of 147 RNs certified as CNLs, is the largest empirical analysis of CNL practice (Moore & Leahy, 2012; Ott et al., 2009; Sherman, 2010; Stanton et al., 2011). Preliminary psychometric analyses assessing the construct validity, reliability, and discriminant validity for a state-specific self-efficacy scale that assesses nurses' perceptions of their ability to function effectively as a

CNL are reported. The proposed Clinical Nurse Leader Self-Efficacy Scale (CNLSES) includes 35 items in nine indices and demonstrates promising measurement properties. This analysis contributes to the development of evidence-based approaches to support efforts to implement the CNL role by offering a tool to measure individuals' confidence with performing the core competencies associated with the role. Because self-confidence is a key predictor of successful role transition, job satisfaction, and job performance, measuring individuals' self-confidence with the core competencies associated with the CNL role over time will be important to gain the full benefit of this innovative, unit-based advanced generalist role. $

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