FINANCIAL LITERACY AND COMPETENCY OF EXECUTIVE NURSING LEADERS: A MIXED METHODS STUDY

A DISSERTATION

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

IN THE GRADUATE SCHOOL OF THE

TEXAS WOMAN'S UNIVERSITY

COLLEGE OF NURSING

BY

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MAY 2019

ABSTRACT

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The aims of this study were to evaluate the reliability and validity of the Financial Management Competency Self-Assessment (FMCA) in executive nurse leaders (ENLs) and to determine how ENLs develop and apply financial knowledge. Financial literacy (FL) helps in planning, implementing, and evaluating fiscal decisions, but many ENLs report weaknesses in this core competency. An explanatory-sequential mixed-methods study was conducted to psychometrically test the FMCA and explore how ENLs with different levels of FL develop and apply financial knowledge. Eligible participants (n =178) were recruited from a population of ENLs across the United States. The test-retest reliability of the FMCA was good (mean difference, 6.80; 95% confidence). Correlations between domain scores ($p < 0.01$) and the overall score (Cronbach's alpha = 0.99) demonstrated the reliability and validity of the instrument. The cutoff scores were fair indicators of different levels of FL in ENLs ($p < 0.001$). Self-awareness, gaps in hospital and graduate nursing education, application of financial knowledge and a micro versus macro view emerged as important themes in the qualitative analysis.

In conclusion, the FMCA reliability and validity was established. FMCA cutoff scores were established to determine FL level, and the ENL lived experience described in financial knowledge development and application.

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CHAPTER I

INTRODUCTION

Within hospital systems, executive nurse leaders (ENLs) are key stakeholders in reducing cost and optimizing the quality of health services. As healthcare delivery continues to evolve, the ENL role will assume greater financial decision-making responsibilities in hospital systems. According to the American Organization of Nurse Executives (AONE), nursing leaders are expected to comprehend business models in healthcare finance, analyze financial statements, solve disparities between patient care decisions, and minimize financial repercussions through budgeting concepts and cost-benefit analyses (Conway-Morana et al., 2005). A high aptitude for financial management positions ENLs to lead transformative economic changes in healthcare delivery as the shift from episodic, provider-based, fee-for-service care to team-based, patient-centered care focusing on improvements in the patient experience, outcomes, and overall per capita cost reductions (Blumenthal Abrams, & Nuzum, 2015; Salmond & Echevarria, 2017).

The Affordable Care Act (ACA) outlines a progressive framework to move away from fee-for-service (quantity) toward a reimbursement structure that is focused on outcomes (quality) (Blumenthal et al., 2015; Rambur, 2017; Rosenberg, 2014). As part of the ACA, the Medicare and CHIP Reauthorization Act (MACRA) is a complex reimbursement mechanism that incentivizes healthcare entities for high-quality, low-cost healthcare services and penalizes low-quality high-cost health services. The ACA and MACRA promote a shared-risk strategy for hospital systems to drive accountability for the quality of health services supplied to consumers (Blumenthal et al., 2015; Henderson, Princell, & Martin, 2012; Rosenberg, 2014). For example, the ACA and MACRA provide incentives for health services that concentrate on reductions in hospital

readmissions or hospital acquired conditions. If a patient is readmitted into the hospital within 30 days of discharge, no additional reimbursement is provided for the entire readmission (Blumenthal et al., 2015; Rambur, 2017). These new reimbursement strategies can positively or negatively impact the financial stability of hospital systems (Blumenthal et al., 2015; Rambur, 2017). Hospital leadership requires a high level of financial knowledge and skills to ensure high-quality low-cost healthcare services and positively influence a hospital system's economic stability. A question pertinent to this proposed research was, are ENLs ready to meet current financial challenges within the healthcare industry? In 2006, the American Association of Colleges of Nursing (AACN) *Essentials of Doctoral Education* for advanced nursing practice required nursing education programs to "employ principles of business, finance, economics, and health policy to develop and implement effective plans for practice-level and/or system-wide practice initiatives" (AACN, 2006, p. 11). More recently, the Institute of Medicine (IOM) Future of Nursing report gave nurses a call to action to "integrate leadership theory and business practices across education curriculum" (IOM, 2010, p. 5). Studies have found that ENLs identify financial management as essential to their role as organizational leaders, but they also concede that finances were their weakest leadership competency (Eddy et al., 2009; Sherman, Bishop, Eggenberger, & Karden, 2007). Omoike, Stratton, Brooks, Ohlson, and Storfjell (2011) report that 83% of nurse leaders felt unprepared in the area of healthcare finance. While there were numerous studies in the nursing literature that apply to the application of financial skills such as cost benefit analysis (CBA) or cost effectiveness analysis (CEA), only one study was identified that described financial elements important for ENLs to possess (Noh & Lim, 2016). Also missing in the literature was research on how ENLs acquired and developed financial knowledge and skills, and then applied that knowledge in their role.

Problem of Study

To assist healthcare organizations in meeting the goal of integrating patient outcomes with healthcare finance, healthcare executives, including ENLs, must be able to make good fiscal decisions. The purpose of this proposed study was to identify the most critical and impactful financial elements and skills needed by ENLs to effectively respond to the fiscal challenges they confront daily. The study focused on ENLs to address the following aims:

- Identify the key financial knowledge and skills essential to the ENL role.
- Test the self-assessment Financial Management Competency Assessment (FMCA) for reliability and validity as a tool for assessing financial literacy in ENLs. The tool was tested for convergent validity for known groups, as well as test-retest reliability.
- Identify a tool, such as the FMCA, that can discriminate between level of financial literacy (i.e., novice, competent, and expert).
- Identify the most effective methods ENLs utilize for acquiring and developing financial knowledge or knowledge acquisition.
- Identify how financially literate ENLs apply financial knowledge in their role.

Rationale for the Study

Legislators and policy makers are challenging the entire healthcare industry. The ACA and MACRA outline a new strategy for reimbursement, which is based on shared risk for high-quality cost-effective healthcare services (Haycock, Edwards, & Stanley, 2016; Pryor, Pizzo, & York, 2016). Reimbursement through MACRA ensures accountability by healthcare systems and providers (Haycock et al., 2016; Pryor et al., 2016). ENLs are pivotal in making financial decisions for healthcare systems. ENLs possess an important role in mitigating financial risk by ensuring high-quality cost-effective health services across hospitals. Traditionally, nursing has been viewed

as a cost to hospital systems. Hospital administrations are realizing nurses actually impact revenue loss prevention strategies because nursing has always emphasized quality of care (Pizzi, 2011). ENLs possess an opportunity to align quality of care strategies with the appropriate financial tools to optimize reimbursement through quality care (Pizzi, 2011). Muller (2013) suggested financial knowledge is the next challenge nurses must overcome to be effective decision-makers in hospital systems. Therefore, ENLs must possess the financial skills and knowledge to implement quality nursing services and appreciate the fiscal impact on reimbursement to the hospitals overall financial stability. For example, since 2010, 83 rural hospitals closed across the United States (Ellison, 2018). Hospital systems operating on very narrow budgets risk closing if key decision makers, such as ENLs, do not understand the financial reimbursement consequences outlined by MACRA. According to Patrician, Oliver, Miltner, Dawson, and Ladner (2012), ENLs must fulfill role expectations, such as fiscal accountability.

In 1981, the National Commission on Nursing (US) held a series of public hearings across the country. One of their findings was ENLs lack advanced fiscal education (Flanagan, 1981). Other findings identified as issues contributing to ENLs limitations in financial knowledge included a lack of ENLs with graduate degrees, promotion to the ENL role based on clinical tenure, and insufficient nursing instructors qualified to teach financial management courses (Flanagan, 1981). The role ENLs play in hospitals is complex and demanding, requiring strong fiscal management skills, and "incompetence cannot be tolerated" (Flanagan, 1981, p. 39-40). Moreover, the American Nurses' Association Appropriations Fact Sheet for Advanced Nurse Training Programs identified only 28% of ENLs as masters prepared or higher, the same individuals who are responsible for more than half of a hospital's overall budget and one-third of hospital personnel (Evers, Porter-O'Grady, George, & Lewis, 1989). Lemire (2000) reported three challenges with

graduate level financial management curriculum: (a) graduate nursing faculty not possessing the depth of expertise in financial management; (b) graduate non-nursing faculty who do not understand the ENL role; and (c) financial course development specific to the emerging ENL role. Currently, many emerging ENLs develop financial skills and knowledge through graduate education, on-the-job experience, mentorship, continuing education, and fellowship programs designed to provide the knowledge needed in decision making and reporting financial information (ACHE, 2014; AONE, 2016; Sherman & Bishop, Eggenberger, & Karden 2007). Despite the abundance of channels for developing financial skills, ENLs still identified financial knowledge acquisition and application as a gap (Arnold et al., 2006; Goetz, Janney, & Ramsey, 2011; Muller, 2015; Omoike et al., 2011; Scoble & Russell, 2003). The nursing literature confirmed the financial knowledge gap has continued for more than three decades and documents the multiple methods for developing fiscal management knowledge and skills. Current nursing research was missing the perceptions of the ENL on the best methods for developing financial knowledge and skills, identifying the most important financial elements for the ENL role, and finance application.

A core standardized list of financial management elements required for high functioning ENLs does not exist in the nursing literature. The financial assessment tools, developed by different nursing organizations, possess variations between each tool, resulting in a non-standardized approach to developing financial competency (AACN, 2019; ACHE, 2017; AONE, 2016). A study conducted by Omoike et al. (2011) revealed a limitation in published competency tools for evaluating ENLs. According to Lim and Noh (2015), a review of the nursing literature resulted in no articles identified addressing financial statement analysis or financial competency elements for nurses. Cleveland and Smith (2016) identified ENLs fiscal competencies lack consistency across organizations and throughout the nursing literature. There is a need for research

that validates a single list of financial skills for ENLs and ascertain from ENLs what fiscal abilities they perceive as important for their role.

The ENL is impacted and challenged in many ways by the ACA and MACRA. ENLs must be able to translate clinical conditions and outcome metrics into fiscal implications (Rosenthal & Stilgenbauer, 2015). Many studies throughout the nursing literature identified developing ENLs as lacking the depth and breadth of financial knowledge and the ability to apply financial principles (Cleveland & Smith, 2016; Rosenthal & Stilgenbauer, 2015). ENLs with low levels of financial literacy are prone to commit financial mistakes, less likely to participate in suggested financial practices, or be able to manage new emerging economic challenges (Arnold et al., 2006; Douglas, 2010; Lemire, 2000; Lim & Noh, 2015; Omoike et al., 2011). Research is needed to identify and validate a consistent list of financial principles and tools for ENLs to navigate the financial challenges presented by the ACA and MACRA. Finally, research should incorporate the perspective of the ENL to help substantiate a standardized core set of financial tools, methods for financial knowledge development, and fiscal application.

Conceptual Framework/Philosophical Underpinnings

The proposed study was a mixed methods explanatory sequential design. This approach offered an enriched understanding of financial management in ENLs. Qualitative and quantitative data offered judicious triangulation of the phenomena of interest (Polit & Beck, 2017). The quantitative phase involved ENLs completing a financial management assessment tool called the modified HLA Financial Management Competency Assessment (FMCA). The qualitative portion consisted of interviews with selected ENLs. The combined quantitative and qualitative approaches were complimentary and practical for exploring the complexity of the phenomena, financial literacy, in ENLs. This section presents the overarching conceptual framework that assisted in

defining the phenomena of interest, financial literacy in ENLs, as well as the philosophical underpinnings relevant to the interpretive phenomenological approach proposed.

Conceptual Framework

The financial gap identified in ENLs required a conceptual framework to help guide the understanding of fundamental relationships between financial knowledge and tools, financial knowledge acquisition, and financial application. The nursing literature lacked research on a conceptual framework for finance in healthcare, validated tools for measuring financial knowledge in ENLs, well-established causal links between conceptual dimensions for finance, ENL education in financial literacy, or ENL behaviors in financial application. The conceptual framework developed for this study was adapted from two sources outside of nursing and healthcare.

Research focusing on financial knowledge has wide variability outside of healthcare. One reason for the variability in financial research is due to multiple non-uniform definitions of financial management and the lack of distinguishing financial literacy from the conceptual dimensions that define the overall concept financial literacy (Hung, Parker, & Yoong, 2009). Hung et al. (2009) developed a financial literacy conceptual model from a conceptual analysis of definitions retrieved from a literature review. The four core financial literacy dimensions that emerged from the conceptual analysis were: (1) financial knowledge, (2) financial skills, (3) perceived knowledge, and (4) financial behavior (Hung et al., 2009). The dimensions financial knowledge and financial skills were relevant to the ENL role and a core focus of the study. These two dimensions were incorporated into the conceptual framework for the study.

Huston (2010) also reported the terms financial literacy, financial knowledge, and financial education were incorrectly used interchangeably throughout the existing literature. A review of 71 studies, Huston (2010) identified 72% (n = 51) of studies did not define financial literacy, 13% (n =

8) provided a formal definition for the operational construct, and 42% (n = 30) utilized financial literacy and financial knowledge interchangeably. Huston (2010) suggested constructs, such as financial literacy and financial knowledge, used interchangeably indicated a potential problem since the terms were conceptually very different. Huston (2010) conceptualized financial literacy as having two dimensions, financial knowledge and financial application. Knowledge acquisition is the stock of knowledge acquired through education and/or experience specifically related to essential financial skills (Huston, 2010). Knowledge application is the ability and confidence to effectively apply or use knowledge related to financial concepts and skills (Huston, 2010). Financial application is also important to the ENL role, and one of the study aims.

The conceptual framework for this study was therefore adapted from Huston (2010) and Hung et al. (2009). The framework was based on three dimensions: (1) financial knowledge and skills, (2) knowledge acquisition, and (3) knowledge application (see Figure 1). Both Hung et al. (2009) and Huston (2010) identified financial knowledge and skill as a critical dimension in conceptualizing financial literacy. In nursing leadership, financial knowledge and skills is a core dimension. The dimension financial knowledge acquisition occurs through different modalities, such as education and experience. Financial application, the third dimension, is the effective application of acquire financial knowledge and skills to make financial decisions. Financial literacy requires an individual to possess the financial knowledge and ability to apply the knowledge to make financial decisions (Huston, 2010). An individual may acquire knowledge and skills, but appropriate application must occur to exhibit financial literacy. In the ENL role, it is important to understand each dimension and how each dimension interrelates to one another within the conceptual framework.

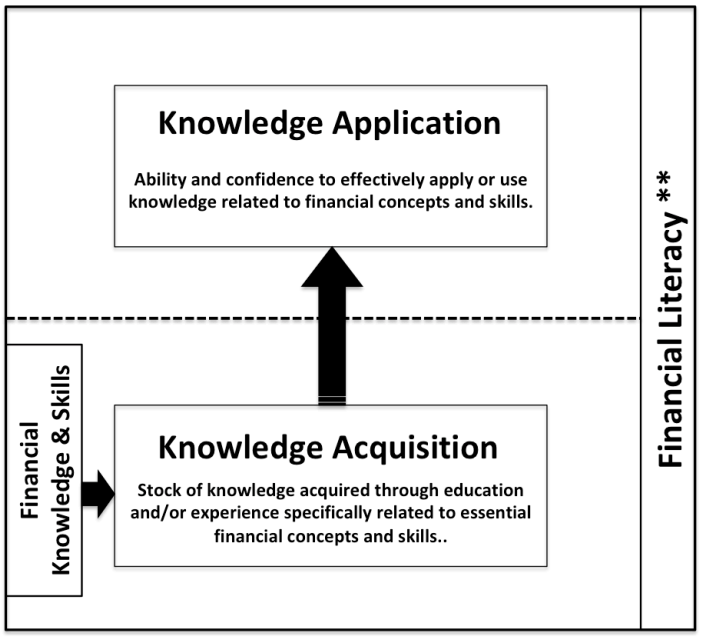


Figure 1. Conceptual model: Financial literacy for executive nurse leaders. *Adapted from Huston (2010) and Hung, Parker and Yoong (2009). **Financial literacy – the knowledge of basic economic and financial concepts, as well as ability to use that knowledge and other financial skills to manage financial resources effectively (Hung, Parker, and Yoong, 2009).

Descriptive Phenomenology

Descriptive phenomenology focuses on describing forms of intuition (Drummond, 2007). The goal of phenomenological research was entry into another person's world to explore the practical wisdom or understandings found in another's life and uncover the something that lies hidden (Seigfried, 1976). According to Moustakas (1994), the lived experience is described carefully, then the raw data is analyzed within the perspective of phenomenological reduction to epoch or the knowledge present in an individual's consciousness (Brentano, Mueller, & Mueller, 1995; Moustakas, 1994).

Descriptive phenomenology emphasizes a richness, breadth, and depth of the lived experience of the phenomenon. The literature review provided the basis for the research questions in Phase II, focusing on maximal perceptive presentation of the ENLs experiences

specific to the important facets of financial knowledge, methods of knowledge acquisition, and their application of financial knowledge (Streubert & Carpenter, 2011).

An important component of descriptive phenomenology was the researcher's ability to approach the investigational study with *priori knowledge* of the phenomenon under study (Natanson, 1973). Without descriptive phenomenological inquiry, we were unable to fully explore the phenomena financial literacy, what makes financial literacy, and what constitutes financial literacy from the ENL's realm (Klaskow, 2018). Through descriptive phenomenological analysis, we can describe and identify the cognizant awareness of financial competencies, depth and breadth of knowledge, and optimal applications of financial principles an ENL must possess to remain or be recognized as financially literate (Heidegger, 1982). The descriptive phenomenological approach was the method for understanding ENL's perspectives on the phenomenon of financial literacy, which was absent in the nursing literature.

Assumptions

In this study, the research has the following assumptions:

1. ENLs developing fiscal abilities within the conceptual model had evidence of literacy through the application of financial knowledge and tools in the ENL's leadership role.
2. ENLs acquired the knowledge and experiences in accordance with the conceptual framework to effectively perform fiscal responsibilities in the ENL role.
3. ENLs described their proficiency within the three dimensions of the conceptual framework. Thus, the ENL effectively applied financial knowledge and skills acquired through education or experience.
4. The assessment tool and interview obtained data to answer the research questions, specific to the three dimensions outlined by the conceptual framework.

Research Questions

The purpose of this mixed method explanatory study was to identify the financial knowledge and skills, methods of knowledge acquisition, and knowledge application important to the ENL role (see Figure 2) (Polit & Beck, 2017). The study was designed to answer the following research questions:

1. Upon confirmation of the FMCA tool as a psychometrically sound tool, how effective was the FMCA tool in discriminating between ENLs who were novice, competent, and expert in financial literacy?
2. Did the FMCA tool help describe ENL's perceptions on financial literacy?
3. What did it mean to ENLs to be financially literate quantitatively (knowledge/competency) and quantitatively (meaning)?
4. What financial knowledge and skills did effective ENLs perceive critical to their role?
5. What did effective ENLs perceive as the most productive methods to obtain financial knowledge and skills?
6. How did effective ENLs apply financial knowledge and skills within their role?

Definition of Terms

The definition of terms provides conceptual definitions for the phenomena under study and operationally defines measurable variables in the study.

1. Financial Management Competency Assessment (FMCA) Tool: The FMCA tool contains 33 items. ENL respondents were asked to rate each item based on a self-assessment of their level of competence in financial management, scored on a 5-point Likert-type scale (see Appendix B) (HLA, 2018).

2. Financial Knowledge Assessment (FKA) Tool: The FNA tool was a 20-item assess for financial knowledge. The respondents were asked to answer yes, no, or unsure to each item (Appendix C) (Finkler, Jones, & Kovner, 2013).
3. Executive nurse leader (ENL): the ENL sets vision for nursing practice in the delivery of safe, timely, efficient, equitable, and patient-centered care. The ENL works in a collaborative inter-professional environment to improve the patient care experience, health of populations, and reduce the per capita cost of health care (AONE, 2019). For this study, the ENLs were operationally defined by their leadership role as nurse manager or higher and financial responsibilities as part of their job function.
4. Dependent Variable: The dependent variable was the ENL's level of financial literacy.
5. Independent Variable: The independent variables were the FMCA and FKA tools used to assess ENL financial literacy.
6. Financial literacy: is the knowledge of basic economic and financial concepts, as well as the ability to use that knowledge and other financial skills to manage financial resources effectively (Hung et al., 2009, p. 12). Financial literacy was operationally defined by the summative scores achieved on FMCA and FKA tool.

Limitations

There were several limitations related to the study design.

- Generalizability of the study findings may have been limited due to inference quality, which was the believability and accuracy of inductive and deductive conclusions in mixed method study (Pilot & Beck, 2017). Inference quality was a criterion utilized for evaluating the quality of conclusion and interpretations of mixed method findings (Polit & Beck, 2017).
- Lack of validity and reliability for the FMCA tool.

- ENLs completing the FMCA tool may have under or over rated the degree of their financial knowledge and skills.
- Data authenticity could have been a limitation when the research did not describe the range of realities in the results. Therefore, the results may not demonstrate the sensitivity of the issues identified in the lived experiences in financial literacy. The authenticity of qualitative data incorporated criticality and integrity (Polit & Beck, 2017).

Summary

The ACA and MACRA will challenge the financial acumen of the ENL. ENLs must possess financial knowledge and effectively apply financial knowledge and skills with the implementation of quality health programs. Although ENLs recognize the importance of financial literacy in their role, many continue to report finances as one of their lowest competencies. The study focused on identifying the core financial knowledge elements and effective financial applications that were central to the ENL role. Research exploring financial literacy in ENLs will drive increased opportunities in developing a common list of tools and financial elements important to the ENL role. The study aimed to develop a better understanding for financial literacy for ENLs to help navigate the fiscal challenges created by the ACA and MACRA. The conceptual framework guiding the study of financial literacy focused on three domains: financial knowledge and skills, method of knowledge acquisition, and application. Financial literacy was operationally defined through the FMCA tool, as novice, competent, or expert. Research on the FMCA tool required an assessment for reliability and validation with ENLs. The phenomena, financial literacy in ENLs, was explored through interpretative phenomenology which incorporated the perspective of the ENL. Phenomenological approaches to solicit the ENL perspectives on core financial tools, optimal methods of knowledge acquisition, and application offered an increased understanding of the ENL role. Consistent with the conceptual framework, this mixed methods explanatory study

made several assumptions to answer the six research questions. The study contributes to the ENL's body of knowledge and drives more research in financial literacy providing new insights into the phenomenon. There was a need to better understand financial literacy in the ENL role and this study was a response to that need.

CHAPTER II

REVIEW OF LITERATURE

This contains a manuscript of an article that has been submitted for publication in the Journal of Professional Nursing. This article provides a complete description of the importance of financial literacy in ENLs.

Financial Literacy: The Nurse Executive's Challenge

The Affordable Care Act (ACA), and attempts to repeal or replace the ACA, are legislative strategies to control the cost and quality of healthcare delivery. The ACA outlines a framework that moves away from fee-for-service (quantity) toward a reimbursement structure that is outcomes focused (quality) (1). As part of the ACA, the Medicare and CHIP Reauthorization Act (MACRA) is a complex reimbursement mechanism incentivizing high-quality low-cost healthcare services and penalizes healthcare entities for low quality high cost health services. For example, MACRA provides reimbursement incentives for health services resulting in reduced hospital readmissions and hospital acquired conditions. Conversely, patient hospital readmission within 30 days of discharge results in no additional reimbursement for the entire readmission (1). These reimbursement strategies impact the financial stability of many hospital systems (1). Current reimbursement and health policy trends require hospital leaders possess a high level of financial literacy to navigate these new reimbursement strategies, ensuring high-quality low-cost healthcare delivery.

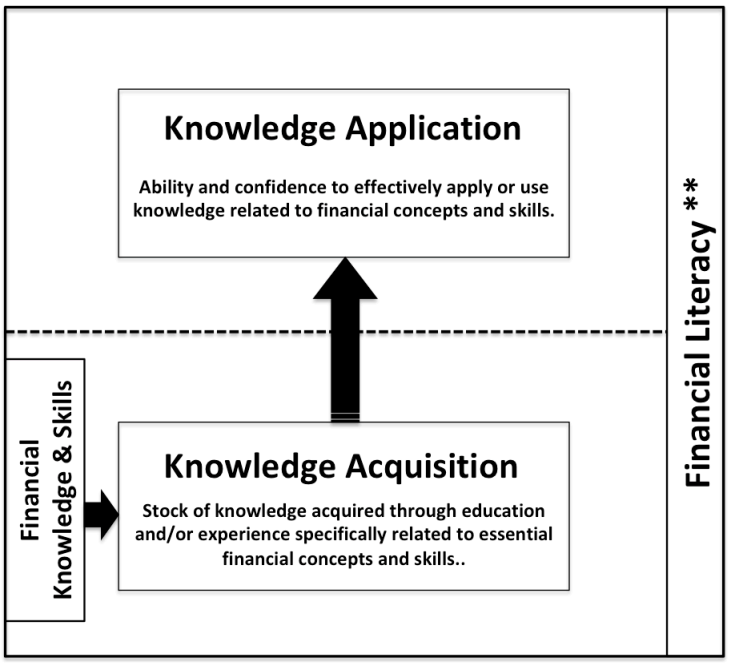
In 2014, the American College of Healthcare Executives (ACHE) conducted an annual survey ranking financial challenges first on the list of hospital chief executive officer's (CEO) concerns (2). In hospitals, nursing departments have the largest percentage of hospital budget,

illuminating the importance executive nursing leaders play in organizational financial outcomes (3-7). As executive nursing leaders are experiencing expanding responsibilities in hospital financial decision-making, some executive nursing leaders concede that financial literacy is their weakest competency (3, 6-14). These financial decision-making trends require nursing leader's, as key stakeholders, participation to safeguard optimal financial health for hospital systems.

Executive nursing leaders (ENL) are in an ideal position to positively impact the financial direction of healthcare systems. ENLs have identified financial literacy as a key to success within their organization (3,5,8-10,12,15-18). A qualitative study interviewing executive nursing leaders (n = 35) referenced strong financial performance as the main platform for success as an executive nursing leader (3). Another qualitative study surveyed executive nursing leaders (n = 43) who identified financial literacy as a high priority competency for executive nursing leaders (7). Study participants responded to questions about the ideal nursing leader with statements such as "needing to be able to function in the business world", "having a strong business acumen", and "possessing financial competencies in budgeting" (7). In another qualitative study, executive nursing leaders (n = 130) acknowledged the importance of a strong foundation in financial literacy (14). However, executive nursing leaders identified financial literacy as their weakest competency, which limits a transition into executive leadership roles for those executive nursing leaders unable to demonstrate an expertise in financial literacy (14). A cross-sectional study of nurse administrators (NA) (n = 25) and CEOs (n =14) from a random sample of hospitals across the United States rated the importance of financial literacy as 3.72 on a 4-point Likert scale, but rated their own knowledge and skills as marginal (2.34) (15). Ten years later, another study identified similar results in a survey of executive nursing leaders (n = 43) rating financial performance monitoring as important (4.27), and their own financial literacy as 2.96 on a 5-point Likert scale (11). Experts in financial literacy validate these findings, suggesting executive nursing leaders must demonstrate high levels of

proficiency in financial knowledge, which impacts decision-making, confidence, and overall credibility within an organization (10). The problem is executive nursing leaders realize the importance in developing financial literacy as an expert competency. However, despite decades of identifying financial literacy as an executive nursing leader weakness in the literature, the weakness still persists and limits executive promotional opportunities within healthcare organizations.

The focus of this review of the literature is to identify the elements of financial literacy relevant to executive nursing leaders (financial knowledge and skills), how financial literacy is acquired (knowledge acquisition), and how executive nursing leaders use financial literacy elements in their practice (knowledge application). The term financial literacy is most commonly used when describing basic elements needed to manage personal financial resources. For purposes of this paper, financial literacy has been expanded to include "the knowledge of basic economic and financial concepts, as well as the ability to use that knowledge and other financial skills to manage financial resources effectively" (19). The conceptual framework, as shown in Figure 1, used to organize this review is an adaptation of two models, each focused on defining and measuring financial literacy as it pertains to personal knowledge and skills needed to make financial decisions (19-20).



*Adapted from Huston (2010) and Hung, Parker & Yoong (2009)
**Financial literacy – the knowledge of basic economic and financial concepts, as well as ability to use that knowledge and other financial skills to manage financial resources effectively (Hung, Parker, & Yoong, 2009).

Figure 1. Conceptual Model: Financial Literacy for Executive Nurse Leaders

The review of the literature used CINAHL, PubMed, and Business Source Complete databases to identify research on financial literacy specific to executive nursing leaders. The keywords and/or combinations searched included executive nursing leader, economics, financial literacy, financial, and management. The search identified articles (n = 564) published between 1995 and 2017, but the vast majority did not address financial literacy in terms of knowledge or skills acquisition. After reviewing the identified articles, 53 were selected for inclusion. Of these, 31 were research studies and 22 theoretical articles. Nursing organization websites were also reviewed for standards and competencies specific to executive nursing leader's financial literacy.

Financial Knowledge and Skills

The Table of Contents of any financial management textbook can identify specific elements relevant to financial literacy. Research is limited on what financial elements are applicable to the executive nursing leader role. Three professional healthcare organizations developed assessment tools and competency directories outlining financial literacy elements relevant to healthcare leaders. The American Organization of Nurse Executives (AONE) outline seven essential executive nursing leader core competencies in financial management including operating budgets, long-term capital expenditure planning, business models and economic principles, financial statement interpretation, charge capture, financial decision analysis, and contract negotiations (21). In a conversation with Dr. MT Meadows, an AONE employee, (May 2015), the validity of the core competency elements was established by periodic job analysis and a 2014 national practice analysis study of executive nursing leaders. The American College of Healthcare Executives (ACHE) published the ACHE Healthcare Executive 2017 Competencies Assessment Tool, containing 21 financial literacy elements specific to healthcare executives (22). The ACHE assessment includes additional elements, such as: asset management, financial controls and auditing, risk analysis, coding and reimbursement policy, and tax law compliance (22). The AONE and ACHE financial literacy assessments are subsets of the Healthcare Leadership Alliance (HLA) competency directory (23). Content validity for the HLA competency directory was established by experts from the ACHE, American Association of Physician Leadership, AONE, Healthcare Financial Management Association, Healthcare Information and Management Systems Society, and the Medical Group Management Association (23). These assessment tools operationalize the construct financial literacy, but no published studies could be located in the healthcare literature validating each financial literacy element.

Prior to 2003, the nursing literature primarily referred to financial management and budgeting concepts broadly without defined subsets of financial literacy elements important to executive nursing leaders (7). The American Association of College of Nurses (AACN) identify core financial literacy elements in the essential's documents for master and doctoral nursing education, which should be incorporated into graduate programs preparing advanced practice nurses (37). These elements include developing and monitoring budgets, cost-effectiveness analysis of practice initiatives, and the employment of business, finance, and economics. As shown in Table 1, the AACN financial literacy elements are consistent with AONE and/or the ACHE assessments.

Table 1.

Financial Competencies for Executive Nurse Leaders Identified by Organizations and Published Research

Financial Competency	Organizations*	Research Studies
Basic accounting principles (e.g., accounts receivable, cash flow, chart of accounts, cost accounting, GAAP)	ACHE; AONE; AACN	Foley, 2005; Fralic & Morjikian, 2006; Lemire, 2000; Lim & Noh, 2015; Russell & Scoble, 2003
Financial Statement Analysis	ACHE; AONE	Foley, 2005; Fralic & Morjikian, 2006; Kleinman, 2003; Lemire, 2000; Lim & Noh, 2015; Russell & Scoble, 2003; Sullivan et al. 2003
Cost Analysis (ROI, BEA)	ACHE	Foley, 2005; Fralic & Morjikian, 2006; Lemire, 2000; Lim & Noh, 2015; McBryde-Foster, 2005
Operating budgets (e.g., fixed vs. flexible, zero-based)	ACHE; AONE; AACN	Arnold et al., 2006; Foley, 2005; Fralic & Morjikian, 2006; Goetz et al., 2011; Lemire, 2000; Patrician et al., 2012; Scoble & Russell, 2003; Valentine, Kirby & Wolf, 2011
Revenue Budgets	ACHE; AONE; AACN	Fralic & Morjikian, 2006; Kleinman, 2003; Lemire, 2000; Scoble & Russell, 2003; Sullivan et al., 2003
Performance Budgets	ACHE; AONE; AACN	Arnold et al., 2006; Fralic & Morjikian, 2006; Kleinman, 2003; Lemire, 2000; Omoike et al., 2011; Scoble & Russell, 2003
Variance Analysis	ACHE	Fralic & Morjikian, 2006; Lemire, 2000; Valentine, Kirby & Wolf, 2011
Benchmarking; Productivity; Cost-Benefit and Cost-effectiveness Analysis	ACHE; AONE; AACN	Foley, 2005; Fralic & Morjikian, 2006; Fuller & Anderson, 2009; Goetz et al. , 2011; Jones, 2008; Lemire, 2000; Valentine, Kirby & Wolf, 2011
Forecasting (seasonality, linear regression)	ACHE	Fralic & Morjikian, 2006; Jones, 2008; Lemire, 2000; Scoble & Russell, 2003
Financial Resource Management (Short-term & Long-Term)	ACHE; AONE	Lemire, 2000; Omoike et al., 2011; Patrician et al., 2012; Sullivan et al., 2003

*AONE = American Organization of Nurse Executive/ ACHE = American College of Healthcare Executives/ AACN = American Association of Colleges of Nursing

Note. Adapted from American College of Healthcare Executives (ACHE). (2014). American college of healthcare executives announces top issues confronting hospitals: 2013. Retrieved from:

http://ache.org/pubs/Releases/2014/top-issues-confronting-hospitals-2013.cfm American Organization of Nurse Executives (AONE). (2016). Nurse director fellowship. Retrieved from: http://www.aone.org/aone_foundation/Nurse_Director%20_Fellowship.shtml

Table 1 demonstrates similarities and differences between the three organizations. Studies retrieved for the review of the literature support each of the 10 elements listed by at least one of the three professional organizations as core financial literacy elements for executive nursing leaders. A study of graduate nursing student participants (n = 11) using a nominal group technique identified 55 key financial literacy elements, which were validated with content validity index scoring by experts consisting of nursing-management professors, nurse executive, nurse managers, and an accountant (n = 12) (16). The key elements were eventually reduced to six financial literacy elements important for executive nursing leaders: knowledge and application of financial analysis, balance sheets, income statements, financial ratios, and financial ratio analysis (16). Another quantitative descriptive study identified nine financial literacy elements important to executive nursing leaders, including: major financial reports, financial analysis, cost accounting, forecasting, budget preparation, budget analysis, variance analysis, and financial reporting (15). Both studies identified financial statement analysis and resource management as drivers for understanding financial relationships in the decision-making process (15-16). In a descriptive qualitative study, focused in grounded theory, executive nursing leaders (n = 22) were surveyed to identify critical competencies for executive nursing leaders (3). Financial literacy was found to account for 20% of the executive nursing leader's responsibilities focusing on budgeting, cost reduction, nursing resource management, and cost-quality programs as the highest priority in their role (3). Study participants identified financial literacy as an expectation for executive nursing leaders but acknowledged executive nursing leaders possess a wide range of financial acumen and lack many elements of financial literacy (3). Other important financial literacy elements identified in the

review of the literature included cost analysis, benchmarking and productivity, budgeting, accounting, financial forecasting, and finance (3, 5, 7-9, 11-12, 15, 18, 24-28).

The Institute for Nursing Healthcare Leadership conducted a qualitative survey consisting of four open-ended questions aimed at identifying ideal characteristics of future executive nursing leader. The study participants (n = 43), identified financial literacy as the third most important executive nursing leader competency with budgeting and finance as the most important elements (7). The study found executive nursing leaders possess large gaps in financial skills, knowledge acquisition, and application. In a qualitative participatory action study, executive nursing leader graduates (n = 20) from the Robert Wood Johnson executive nurse fellowship program were interviewed about financial literacy application through business plan development. One participant stated that business plan development is a "must do, extremely challenging, yet gratifying" (8). Another participant identified financial literacy application as "needed to move up to the next level in leadership roles", demonstrating the importance of financial literacy in the executive nursing leader's role as a precursor to collaborating and influencing financially driven hospital executives (8).

A grounded theory qualitative study of executive nursing leaders (n = 94) explored leadership development needs for executive nursing leaders identifying business practices, financial management, and budgetary expertise as the greatest education need for emerging executive nursing leaders. Executive nursing leaders unable to generate business plan or articulate the cost and quality impact of care may remain ineffective within healthcare organizations (28). These findings are consistent with the findings throughout the review of the literature.

Knowledge Acquisition

Five articles identified executive nursing leaders having responsibility for multi-million-dollar budgets throughout a wide range of healthcare organizations. Executive nursing leaders

deficient in financial literacy risk losing their "voice at the table" with other organizational executives (10, 16-17, 29-30). Prior to the 1980s executive nursing leaders were not formally trained in financial management despite their increasing fiscal responsibilities within hospitals (33). In the late 1980s, executive nursing leaders recognized the need to enhance their financial literacy. In response to executive nursing leader financial literacy opportunities, graduate nurse administration programs redesigned curriculum by incorporating financial management and business courses (15). In an effort to enhance financial literacy in education programs for executive nursing leaders, the Commonwealth Fund provided $1 million in start-up funds to 10 universities across the United States to develop dual MBA-nursing programs (32). The additional MBA preparation resulted in 88% of the executive nursing leader graduates receiving expanded financial responsibilities in their workplace (32). The innovative fellowship program was instrumental in executive nursing leader's acquiring financial knowledge.

A study explored executive nursing leaders' type of preparation for financial knowledge acquisition, finding 27% of executive nursing leaders surveyed possessed an MBA or MHA, 57% a master's in nursing administration, and 16% promoted to an executive nursing leader position based on clinical expertise without formal education (9). The findings revealed some executive nursing leaders lacked the business knowledge and financial skills essential to the executive nursing leader role (9). A qualitative study of executive nursing leaders (n = 39), 54% identified a PhD or MSN/MBA is the ideal education preparation for executive nursing leaders (7). In a review of the Commission on Collegiate Nursing Education (CCNE) website, only 40 MSN/MBA dual degree programs and five MSN/MHA dual degree accredited programs exist today (38). The limited graduate programs focusing on financial literacy (knowledge acquisition) is a consistent finding in the review of the literature.

Professional, philanthropic, and business corporations have partnered with nursing organizations creating programs focusing on developing executive nursing leader's business acumen. In 1998, the Robert Wood Johnson Foundation developed the executive nursing leader fellowship program (31). The program provided education in basic leadership skills, business plan development, financial literacy development, and increasing executive nursing leader confidence in financial literacy (31). The program found the second highest-ranking derailment factor for executive nursing leaders is failure to meet business objectives within healthcare organizations (31). Another nursing partnership with Johnson & Johnson created a nurse leadership certification program aimed at developing financial knowledge and business skills applicable to healthcare systems. The program eventually merged with the Wharton executive nursing leader program expanding the executive nursing leader's focus in healthcare finance (32). In early 2000, AONE developed the nurse director fellowship program focusing on executive nursing leader financial literacy development (21). Other executive nurse fellowship programs offered through non-profit organizations include the ACHE fellowship program (21-22, 31-33). These programs combined continuing education, mentorship in acquiring financial knowledge, and collaborative projects in financial application, which are important to acquiring financial literacy.

The literature identifies "On-The-Job" training as the most common method executive nursing leaders acquire financial literacy (6, 9-11, 13, 15, 29, 34). A qualitative study exploring executive nursing leader's method of knowledge acquisition in financial literacy, discovered 94% (n =115) of executive nursing leader respondents acquire 88% of their financial knowledge and skills through continuing education and/or "On-The-Job" training (13). Despite the prevalence of "On-The-Job" training and continuing education, one study does not support "On-The-Job" methodologies in developing financial literacy due to fragmented learning and limitations to developing a solid financial knowledge base (15).

A quantitative study explored leadership development through succession planning as a measure of business knowledge development, defined by continuing education, degree-related programs, and/or advanced financial leadership programs (35). From the participating hospitals (n = 2068), 27.4% (n = 567) did not have succession planning in place for developing executive nursing leaders, resulting in executive nursing leader's developing financial literacy through "On-The-Job" methods (35). Hospitals with succession planning programs in place were statistically significant ($p<0.01$) for high profitability (35). The results reinforce the importance of developing financial literacy through a structured combination of "On-The-Job", degree related education (i.e. MBA or MHA), and continuing education (35).

Knowledge Application

A 20-year review of the literature in CINAHL reveals hundreds of examples of how executive nursing leaders apply financial tools and knowledge. Financial ratio analysis such as return on investment (ROI), break-even analysis (BEA), cost benefit analysis (CBA), cost effectiveness analysis (CEA), and other forms of cost analysis are core financial literacy elements for executive nursing leaders, which is consistent with the elements identified in Table 1. Effective financial knowledge application impacts the executive nursing leaders' scope of practice in decision-making and programmatic evaluation. For example, a study performed a ROI analysis for a nurse-run walk-in clinic compared to a non-urgent emergency department utilized by uninsured patients (39). The results demonstrated an ROI of $34 for each dollar invested in a nurse-run walk-in clinic, an overall $1.28 million reduction in future healthcare costs (39). Other studies use CBA ratios to make financial decisions (40-41). These studies include performing a CBA for bedside electronic reference system that realize a $360,899 in savings and a nurse residency program implementation resulting in $50 per patient day savings due to reduced employee turnover and contract labor costs (40-41). Another study demonstrated the value of financial knowledge

application in the decision-making process of executive nursing leaders by quantifying communication speed, service volume, and labor cost with new communication technology (36). The ROI calculation comparing pre-and post-technology implementation demonstrated a 6.9% service volume increase, 2.5% increased personnel utilization, and 5.6% labor cost reduction (36). Executive nurse leaders exhibiting effective financial literacy demonstrate strong financially based decisions resulting in high quality cost-effective programmatic planning, but the literature identifies a significant gap continues to exist for decades.

Discussion

The review of the literature identified several important financial literacy elements for executive nursing leaders (21-22, 37). The financial literacy elements identified in Table 1 possess expert content validity, but lack testing for reliability and validity in the literature. Combining these assessments resulted in a more comprehensive list of core financial literacy elements important for executive nursing leaders. Each financial literacy element shown in Table 1 was validated in the review of the literature through identified quantitative and qualitative research specific to each financial literacy elements. The next step needed is identify the importance of each financial literacy element relevant to the ENL's role and perception of their own level of financial literacy.

Many avenues exist to acquire the knowledge and skills needed to develop effective financial literacy. The AACN *Essentials* for both master and doctoral programs include some core financial elements. Alternatively, dual MSN/MBA programs are an option to acquire comprehensive financial knowledge but the percentage of executive nursing leaders pursuing this option remains low. The literature points out the most frequent method of acquiring financial knowledge as an executive nursing leader has been through "On-The-Job" training, workshops, or continuing education. The concern with "On-The-Job" training and continuing education is fragmentation in financial knowledge acquisition (13, 15-17). The review of the literature is absent

for research on the most effective methods for executive nursing leaders acquiring the financial knowledge and skills needed for their role. Further nursing research should focus on the most effective modalities for acquiring financial knowledge.

Despite the gaps in financial literacy, many successful executive nursing leaders have overcome the challenges in acquiring and applying financial literacy. A common theme throughout the review of the literature is the importance of strong collaborative relationships with the CEO, CFO, and financial departments. These collaborative relationships serve as a valuable resource to supplement formal financial education in nursing programs (18). Identifying and understanding the methods successful executive nurse leaders have utilized in developing and applying financial literacy could serve as a framework for emerging nurse leaders and educators.

Summary

Strong foundations in financial literacy enable executive nurse leaders to play pivotal roles as key decision-makers in hospital systems. A qualitative study quoted a participant confronting financial challenges within their organization stating, “I know why I wasn’t getting what was needed. I didn’t know the right way to present a business case” (8). Financial literacy is an increasingly important competency for executive nurse leaders. This review of the literature provides insight into key financial literacy elements, challenges to knowledge acquisition, and application. Expanding the body of financial literacy knowledge for executive nurse leaders is important for nursing educators, emerging nursing leaders, and existing executive nursing leaders. Further research on highly financially literate executive nurse leaders can help identify the most important financial knowledge, skills, method of knowledge acquisition, and knowledge application for emerging executive nurse leaders. Also, research focusing on the executive nursing leader’s perspective and experience is important to addressing these gaps in financial literacy and ensuring nurses remain as an integral part of the decision-making for healthcare organizations.

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CHAPTER III

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

The proposed study used a mixed-method explanatory sequential design to examine ENLs expertise on financial literacy, an understudied phenomenon within nursing leadership. The study design was ideal for quantitative and qualitative data collection allowing the researcher to develop a more thorough understanding of the phenomena (Creswell & Plano Clark, 2011).

Quantitative and qualitative analysis of the data gathered from ENLs possessing a range of financial literacy provided information about the challenges, barriers, and opportunities ENLs confront in developing financial literacy. This chapter furnishes information on the setting, population and sample, instrument descriptions used in the study, data collection, and treatment of data. The pilot study and its results are described, which provided the guidance for the study.

Setting

The study focused on ENLs from across the United States. In Phase I (quantitative), the survey was completed online. The study setting in Phase I was conducted in a setting selected by the participant, which included their work office computer, home computer, or personal mobile device. In Phase II (qualitative), the interviews were conducted face-to-face or by telephone. The proposed study setting in Phase II was conducted in the participant's setting including office, conference room, location of participant's choice, or a scheduled conference call when unable to meet face-to-face.

Population and Sample

The accessible population consisted of more than 10,000 ENLs who were members of AONE (AONE, 2016), as well as additional ENLs identified through personal contacts, internet searches, and social media (i.e., LinkedIn, Facebook pages). ENLs invited to participate in the proposed study had diverse practice experiences ranging from small rural hospitals to large urban for-profit and non-profit hospitals to challenge any emerging conceptualizations and enrich the understanding of the phenomena of financial literacy in ENLs (Polit & Beck, 2017). The inclusion criterion was any ENL with financial responsibilities as part of their job function. The exclusion criterion was ENLs that do not practice in the United States.

A power analysis was performed using G*Power 3.1.9, setting an alpha of .05 and an effect size of 0.8 resulted in an estimated sample size of 119 (Durlak, 2009; Polit & Beck, 2017). However, to perform the exploratory factor analysis (EFA) on the FMCA tool a minimum sample of 150 participants was required to perform the statistical calculation that is a common criterion in performing EFA (Durlak, 2009; Hutcheson & Sofroniou, 1999; Polit & Beck, 2017).

At the conclusion of Phase I, the subjects were asked if they were willing to participate in the next phase, which involved a personal interview. A purposeful sampling methodology was used to recruit participants possessing varying levels of financial literacy (novice, competent, and expert) based on the simple summative scores attained on the FMCA tool (Polit & Beck, 2017). A minimum of five participants were interviewed for each group or until saturation was met. Data saturation occurred when information redundancy or a lack of new information emerged (Corbin & Strauss, 2008). The diversity of individual ENL experiences was essential to fully explore the phenomenon of financial literacy.

Protection of Human Subjects

The researcher will obtain approval from the Institutional Review Board (IRB) of Texas Woman's University (see Appendix D). There were two separate consent forms required for each phase of the study.

Phase I (Quantitative)

In Phase I (quantitative), the intent of the proposed study was explained to each potential participant contacted in an e-mail recruitment letter; if the individual agreed to participate, an e-mail link was sent to confirm participation and then prompted to continue and complete the on-line tools. The e-mail contact list was retrieved from an AONE contact roster, personal contacts, internet searches, and social media platforms (e.g., LinkedIn®). All data for each participant was coded with unique identifiers, which was only traceable to the participant by the researcher. Once subjects agreed to continue, they were instructed to open the link directing them to a screen containing the participant demographics questionnaire. Immediately following the demographic tool, participants were taken to the FMCA tool and then request the participant to complete the financial knowledge tool. The total time for completion of each of the three tools took approximately 15 to 30 minutes (total of 45-90 minutes). The software interface provided a percent completion indicator, so the participant knew the amount of progress they made toward completion of Phase I. The software provided a save and return feature for the participant to come back and complete Phase I. All completed tools were securely stored, and data analysis was executed on a secure server with password protection and encryption.

At the conclusion a thank you for participation screen appeared with the researchers contact information should the participant have had any questions. The last screen allowed the participant to download a Starbucks gift card valued at $5.00 and asked if they were willing to participate in Phase II. If they indicated 'yes' then additional contact information was obtained.

Phase II (Qualitative)

Individuals agreeing to participate in phase II received an email with a consent form. The consent form (see Appendix E) addressed the purpose of the proposed study, explaining the intent of the interview, eligibility criteria, time commitment, data that was collected, potential risks and benefits, measures to ensure confidentiality, a statement as to the participant's right to decline participation at any point during the study, and that they received a $5 Starbucks card at the conclusion of the interview. The interview lasted 30 – 60 minutes, and follow-up for interview clarification may took up to an additional 30 minutes. Instructions directed the participant to complete the consent electronically and sign with a secure digital signature. The consent acknowledgement was electronically routed to the researcher's e-mail. The interviews were recorded on an encrypted voice recorder. The interview transcribed, coded for confidentiality, and removed any unique participant identifiers. Both, recorded interviews and transcripts were securely stored in safe and password protected and encrypted computer. The researcher's e-mail was password protected and the information transmission to the e-mail account was encrypted. Consents for participants and all identifiable data collected such as: audio recordings of interviews, transcripts of interviews, informed consent agreement, field notes, and other notes and records related to the study was stored in a locked safe or password protected and encrypted on the researcher's computer and stored in the researcher's office when not in use. Participants completing Phase II received a Starbucks gift card valued at $5.00. A note thanking the research participant was given at the conclusion of the interview.

Upon completion of the proposed study and dissertation, all identifiable data: informed consent agreement, demographic data, survey data, interview recordings, transcribed interview manuscripts, all completed tools, electronic communication, and field notes were destroyed on or before December 31, 2020. The method for destroying electronic media (i.e., digital recordings and

e-mails) was deleted through “multi-pass” deletion software. All identifiable data on paper was destroyed through a confetti cross-cut shredder.

Instruments

The proposed study used four instruments, three tools in phase I and one in phase II. In phase I (quantitative), the tools include a demographic form, 33-item FMCA tool, and a 22-item financial knowledge tool. A demographic questionnaire (see Appendix A), modified self-assessment Financial Management Competency Assessment (FMCA) tool (see Appendix B), and financial knowledge assessment tool (FKA) (see Appendix C) was used to collect the quantitative data. The FMCA and financial knowledge tool was tested for validity and reliability. In Phase II (qualitative), the tool consisted of a three question semi-structured interview guide.

Demographic Data Tool

All participants in the study completed a short demographic tool. Elements included in the tool were gender, race, hospital type, years in ENL role, type of ENL role, highest education level, completion of a financial fellowship program, and financial management continuing education. These demographic data were important not only to describe those who participate in the study but also because some define variables that contributed to the ENL developing financial literacy.

Financial Management Competency Assessment (FMCA) Tool

The FMCA tool was a 33-item self-assessment tool (see Appendix B) with each item rated on a 5-point Likert-type scale. This instrument was developed by Healthcare leadership Alliance (HLA) and published as a guide for individuals to assess their own level of financial management knowledge and skills (HLA, 2018). Although the instrument had not been tested for subscales each of the questions were identified as addressing one of the major components of financial management: cost analysis, economics, financial accounting, financial resource management, and planning and

control (Finkler, Jones, & Kovner, 2013). The overall cumulative score on all 33 items was operationalized as novice (score 33-77), competent (78-121), and expert (122-165) (HLA, 2018).

The FMCA tool was validated for content by a panel of subject experts from the ACHE, American College of Physician Executives (ACPE), AONE, Healthcare Financial Management Association (HFMA), Medical Group Management Association (MGMA), and Healthcare Information and Management Systems Society (HIMSS) (Stefl, 2008). Additional reliability and validity of the FMCA tool had not been established. One of the aims of this study was to test this tool for convergent validity for known groups, as well as test-retest reliability.

Financial Knowledge Assessment Tool

The financial knowledge assessment tool, developed by the researcher, was a 22-item assessment of the ENLs knowledge specific to elements in the FMCA tool. The individual taking the test responded 'yes, no, or unsure' to each item. The tool was reviewed by content experts and test-item writer specialist and then pilot tested (see Appendix C). The elements were a combination of correct and incorrect statements about specific financial management concepts mapped to specific items on the FMCA tool. The content for developing the items was from core financial management textbooks for nurse managers and nurse executives (Finkler & McHugh, 2008; Finkler et al., 2013). Like the FMCA tool, the financial knowledge tool was divided into 5 subscales: cost analysis, economics, financial accounting, financial resource management, and planning and control (Finkler et al., 2013).

The scores attained were segmented into three categories: novice (0-7 correct answers), competent (8-14 correct answers), and expert (15-22 correct answers) and responses compared to those obtained with the FMCA tool guided the interpretation of variances between self-assessment and actual knowledge.

Semi-structured Interview Guide

The interview guide consisted of semi-structured questions designed to obtain a deeper understanding of ENLs development and application of financial literacy in their leadership role (see Appendix F). The current questions were structured to determine what financial skills and knowledge were critical to their ENL role and how ENLs effectively apply financial knowledge and skills. The results of Phase I determined the specific final questions that were used.

Data Collection

A series of interrelated activities (Creswell, 2013) were used to collect data for the quantitative and qualitative phases in order to answer the research questions posed for this study. The study proceeded in two phases. In Phase I, quantitative data was collected through on-line surveys and examined using non-experimental descriptive statistics to assess ENLs level of financial literacy. The researcher retrieved a purchased contact information from the AONE and sent a recruitment e-mail describing the purpose of the study, eligibility criteria, time commitment, phases of data collection methods, and requesting their participation in the study.

Phase I (Quantitative)

After obtaining human subjects' approval through the TWU Institutional Review Board participants were recruited into the proposed study. A convenience sample of ENL participants agreeing to enter the proposed study, received an e-mail link acknowledging participation and then a professional demographic tool, FMCA self-assessment tool, and a financial knowledge tool. From the 150 participants, 20 participants were asked to complete the FMCA and financial knowledge tools 1 week prior to completing the tools again, known as test-retest for instrument reliability. The 20 participants were contacted directly to ask for participation in the test-retest for Phase I in the study. These 20 participants received an additional incentive, Starbucks $5 gift card

at the end of the initial test. The remaining 158 participants entered into the study without test-retesting. The total testing time for the 20 participants participating in the test-retest was estimated to be 120 minutes and for the remaining 158, 60 minutes. Participants were able to take breaks while completing the tools, however the session timed out after 15 minutes.

The consent and data from all the tools were collected through an online survey software tool (i.e., Survey Monkey, PsychData, or Qualtrics). The data was imported through secure data authentication and encryption from the online survey software tool to secure file formats on the researcher's computer for data analysis and encryption storage. Phase I (quantitative) was fully analyzed before proceeding to Phase II (qualitative).

Phase II (Qualitative)

Phase II used a phenomenological qualitative approach to explore, analyze, and describe the experiences of ENLs exhibiting financial literacy (Sandelowski, 2000; Streubert & Carpenter, 2011). The investigator for this research, possessed an extensive academic and professional background applying financial knowledge and skills in the workplace as an administrative executive, independent clinician in healthcare, and national experience with federal healthcare reimbursement programs. Bracketing was used to ensure the researcher remained neutral with respect to the opinions of ENLs about the phenomena of financial literacy (Polit & Beck, 2017; Streubert & Carpenter, 2011).

The researcher called or sent an email to invite those subjects who agreed to participate in Phase II. A meeting date, time, and a mutually agreeable location with auditory privacy was identified. In some cases, when a face-to-face interview was not possible, some interviews were conducted by telephone by the researcher. The researcher sent an email confirmation to the participant 72 hours before the meeting dates and a telephone confirmation 24 hours before the meeting date.

On the day of the interview, the researcher obtained and reviewed the consent form and clarified the data on the demographic tool. The participating ENL received a thorough explanation of the interview process. The one-on-one interviews were conducted using a semi-structured interview guide with three open ended questions with follow-up probing questions used to guide the interview. As the participant shared their responses to each initial question, additional feedback was solicited to expand on and gain more in-depth insight about particular topics related to financial literacy. The anticipated length of interview was be estimated at 30 - 60 minutes.

Each interview was audio recorded with 2 Olympus DS700 encrypted Digital Voice Recorders and field notes taken by the researcher for data transcription accuracy and validation. Each interview was coded for confidentiality, and unique identifiers removed. The audio recordings, demographic data forms, informed consent forms, field notes, and financial literacy tools were assigned codes (e.g., ENL001, ENL002, etc.) to protect and ensure participant anonymity. Each interview recording was transcribed verbatim by the researcher in a private setting. The transcription did not include any identifying information. Only the researcher knew the identification codes corresponding to the participant. The researcher re-reviewed the transcription while listening to the recording to confirm the accuracy of the transcription. If there were any questions related to the transcription, the researcher contacted the participant by telephone to clarify content accuracy. For example, an inaudible part of the interview recording, or an ambiguous statement was clarified for content accuracy. The interview recordings were maintained in the double-locked home office safe in the researcher's home until the completion of data analysis. Maintaining the interview recordings allowed the researcher to reassess a participant's tone or permit double-checking transcription accuracy.

The researcher maintained a personal reference log in order to perform bracketing throughout the interview process. Bracketing allowed the research to separate his perceptions from the participants experience during data collection. This process controlled for the beliefs, assumptions, judgements, presuppositions, experience and knowledge, perceptions, and presuppositions of the researcher (Hamill & Sinclair, 2010). A reflective journal and audit trail was performed through data collection, treatment of data, discussion, and conclusion phases of the study. The qualitative data was used to explicate the meaning of quantitative financial literacy data and provided a more global view of the phenomena financial literacy in ENLs (Polit & Beck, 2017).

A follow-up interview was required in some cases for data confirmation. The interview was in-person or telephone in a private setting at a location convenient to the participant ensuring privacy, comfort, and confidentiality. Date, time, and interview location was based on the participant availability and took up to thirty (30) minutes.

Pilot Study

A pilot study was conducted during the time period of September to November 2015 to assess appropriateness of FMCA tool and the seven semi-structured interview questions related to financial literacy. A convenience sample of ten ENL from three major academic hospitals were recruited. Due to the limited sample size, validity and reliability testing as well as factor analysis of the FMCA tool was not possible. One limitation discovered in the pilot study was ENLs who scored themselves as competent or expert on the FMCA self-assessment tool were found to be at the novice level regarding financial literacy during the interview process. This finding resulted in changes to this proposed study design with inclusion of additional psychometrics to examine the validity and reliability of the FMCA tool and including participants from all three groups (novice, competent, and expert) in Phase II of the study.

Treatment of Data

The quantitative data was coded and transferred to Statistical Package for Social Sciences (SPSS version 25.0) for analysis. Descriptive statistics were used to describe the participant demographics and findings from the FMCA and financial knowledge tool, providing a more in-depth understanding of ENLs level of financial knowledge. Frequencies and percentages were used for nominal and ordinal data and means and standard deviations for interval/ratio data. For this study, Likert scale data was treated as interval/ratio data. In order to answer the research question, how effective was the FMCA tool in discriminating between ENLs who were novice, competent, and expert in financial literacy? Inferential statistics (ANOVA) were used to determine if there was any significant differences between the three groups' (novice, competent, and expert) level of financial literacy as determined by scores on the FMCA and financial knowledge tools. If significance was found a Tukey post-hoc test was performed.

Psychometrics

To answer the research questions regarding the reliability and validity of the FMAC and financial knowledge tools several inferential and psychometric tests were used.

1. Upon confirmation of the FMCA tool as a psychometrically sound tool, how effective was the FMCA tool in discriminating between ENLs who are novice, competent, and expert in financial literacy?
    a. Validity: content and convergent:
        - Exploratory factor analysis to examine the structure of the FMCA tool.
        - Pearson's correlation was used to test the relationship for each FMCA sub-category: cost analysis, economics, financial accounting, financial resource management, and planning and control.

b. Reliability: Test-retest and internal consistency.

- Cronbach's alpha was used to examine internal consistency for each of the subscales: economics, financial accounting, cost analysis, managing financial resources, and planning and control for both the FMCA and financial knowledge tool.
- Test-Retest was examined for score variation through paired t-test and correlation significance between test and retest.
- Cross tabulation using Pearson's chi-square test was conducted to examine the relationship between the three financial literacy groups (novice, competent, and expert) on both tools. A tool comparison grid was used to map the FMCA tool items to the items on the financial knowledge tool, which was grouped into financial accounting, cost analysis, economics, managing financial resources, and planning and control (see Appendix G).

2. Did the FMCA tool help describe ENL's perceptions on financial literacy?

a. This research question was assessed through both, Phase I (Quantitative) Phase II (Qualitative) of the study.

3. What does it mean to ENLs to be financially literate quantitatively (knowledge/competency) and quantitatively (meaning)?

a. This research question was assessed through both, Phase I (Quantitative) and Phase II (Qualitative) of the study.

4. What financial knowledge and skills do effective ENLs perceive critical to their role?

a. This research question was assessed through Phase II (Qualitative) of the study.

5. What do effective ENLs perceive as the most productive methods to obtain financial knowledge and skills?

a. This research question was assessed through Phase II (Qualitative) of the study.

6. How do effective ENLs apply financial knowledge and skills within their role?

a. This research question was assessed through Phase II (Qualitative) of the study.

Descriptive phenomenology including: intuiting, analyzing, and describing was be the approach for qualitative inquiry (Streubert & Carpenter, 2011). In descriptive phenomenology, the data was analyzed using the seven steps of Colaizzi's method (Colaizzi, 1978). Colaizzi's method of data analysis was an inquisitive approach to the researcher's premises leading to the identification of common themes that provide a better understanding about the phenomenon. The Colazzi phenomenological analytic method contained seven steps to analyze the data. The steps included: (1) reading transcripts to develop a feeling for the content, (2) extracting significant statements, (3) formulate meanings for each statement, (4) organize the meanings into clusters, (5) integrate results into a description of the phenomena financial literacy, (6) develop a description and statement that identifies the phenomena, and (7) solicit participants feedback on the findings as validation (Colazzi, 1978; Polit & Beck, 2017).

Multiple strategies were employed to ensure rigor and the trustworthiness of the findings. These included dependability, confirmability, transferability, credibility, and authenticity (Polit & Beck, 2017). Dependability was achieved through careful documentation during interviews and maintaining an audit trail (Polit & Beck, 2017). During the transcription process, the transcript content was validated for accuracy and essence of meaning through member checking. Finally, dependability was achieved through triangulation or utilizing multiple data sources to validate the phenomena financial literacy.

Confirmability was achieved through careful documentation, audit trails, developing a codebook for data analysis, triangulation, and peer reviewing of the identified themes or concepts (Lincoln & Guba, 1985). Transferability of findings from the research was achieved through comprehensive description of the sample, setting, field notes during the interviews, and study

findings. Transferability was achieved through data saturation. Finally, transferability was met when the reader of the study findings determined the information was transferrable.

CHAPTER IV

CHAPTER SUBMITTED FOR PUBLICATION

A Paper Submitted For Publication in the

Journal of Nursing Administration

Garry Brydges

Assessing Executive Nurse Leaders' Financial Literacy Level: A Mixed Method Study

Introduction

Studies have found that while Executive Nurse Leaders (ENL) identify financial management as essential to their role as organizational leaders, they concede financial literacy (FL) as their weakest leadership competency (1-2). Omoike et al. (3) reported that 83% of nurse leaders feel unprepared in the area of healthcare finance. The critical need to enhance nurse leaders' FL is accentuated by the anticipated impact of 2019 Medicare reimbursement changes on the financial stability of healthcare organizations (4). While there are existing checklists of financial skills and knowledge needed by the ENL, there is no tool which has tested reliability and validity to assess an individuals' level of FL. The purpose of this study was focused on validating the Financial Management Competency Self-Assessment (FMCA) and elucidating differences between novice and expert ENLs (5).

Aims

- Test the FMCA tool for reliability and validity as a tool for assessing FL in ENLs
- Determine whether the FMCA can discriminate between levels of FL in ENLs
- Identify the methods used by ENLs to improve their FL

- Describe how financially literate ENLs apply their knowledge and skills in their professional roles.

Literature Review

In 2018, the American College of Healthcare Executives (ACHE) conducted an annual survey ranking financial challenges first on the list of hospital chief executive officers (CEO) concerns for the fifth consecutive year (6). Nursing can account for as much as 50% of a hospital's budget (6). This translates into ENLs having a substantial responsibility for an institution's operating margin. The necessity of a strong FL background has been acknowledged as essential by numerous government and consumer organizations including the institute of medicine (IOM), Robert Wood Johnson Foundation (RWJF), Commonwealth Fund, Kellogg Fellows Leadership Alliance, and American Nurses Credentialing Center (ANCC).

A review of the literature identified over 53 articles which addressed different financial skills needed by ENLs. Arnold et al. (7) identified budgeting, cost reduction, nursing resource utilization, and cost-quality programs as some of the highest financial priorities for an ENL. Schoville et al. (8) performed a cost benefit analysis (CBA) on bedside electronic reference systems resulting in reduced labor costs. Sullivan et al., (9) performed a qualitative study of ENLs (n = 94) exploring leadership development needs for ENLs and identified business practices, financial management, and budgetary expertise as the greatest education need for emerging ENLs. ENLs unable to generate business plans or articulate the cost and quality impact of care possess limited influence on organizational financial outcomes (9). The Healthcare Leadership Alliance (HLA), American Organization of Nurse Executives (AONE), and ACHE identify core FL elements for executive leaders (5, 16-17). Although FL assessment tools exist, they have only been tested for content validity, and none were tested for reliability. The lack of psychometrically

tested FL assessment tools offers an opportunity to contribute to the nursing knowledge and further explore how ENLs develop and apply FL.

Conceptual Framework

FL requires possessing financial knowledge and skills in order to make financial decisions. The conceptual framework for this study was adapted from studies by Huston (2010) and Hung et al. (13) and was based on three dimensions: (1) financial knowledge and skills, (2) knowledge acquisition, and (3) knowledge application (Figure 1). Both Hung et al. (13) and Huston (12) identified the first of these, financial knowledge and skills, as a critical dimension of FL. The second dimension is knowledge acquisition through education and experience. The third dimension, knowledge application, refers to the effective application of acquired financial knowledge and skills to make financial decisions.

Methods

This mixed-method explanatory-sequential study was conducted in two Phases. In Phase I (quantitative), data were collected on ENLs' level of FL using the FMCA and Financial Knowledge Assessment (FKA) tools. Phase II (qualitative) was a descriptive phenomenological exploration of FL in ENLs using semi-structured interviews. The study was approved by the university Institutional Review Board (IRB) and was designed to minimize risk to participants and ensure confidentiality. Participants provided consent acknowledging their rights, the risk to participation, and the option to withdraw from the study at any time. At the end of Phase I and II, participants received a $5 Starbucks® gift card for their participation.

Sample

The participants for this study were a convenience sample of ENLs recruited from the AONE contact roster, personal contacts, internet searches, and social media platforms (e.g. LinkedIn®). For inclusion, an ENL had to have financial responsibilities as part of the leadership

role and be employed by a healthcare organization in the United States. A power analysis (confidence level of 95%, power of 80%, and an effect size of 0.80) determined an estimated minimal sample size of 119. To ensure a large enough sample to conduct the psychometrics of the FMCA tool, this sample size was increased to 150.

Study Procedures

Participants who agreed to participate were given a link to the online PsychData® website where they completed a short demographic tool and two measurements for FL (FMCA and FKA). For Phase I, subjects were allowed to interrupt their sessions, but the average time spent was 27 minutes. A ranking of novice, competent, and expert was then assigned based on the FMCA summative score. At the completion of Phase I, participants were asked if they would be willing to participate in Phase II. If they agreed they submitted their names and email addresses. From those who agreed (n = 49) a purposive sample of subjects from each of the three levels of FL (novice, competent, and expert) were identified and approached to identify a time when a telephone or in-person interview could be scheduled. The semi-structured interviews conducted by the principal researcher consisted of three questions with prompts and were designed to explore and validate findings from Phase I. Interviews lasted 45 to 60 minutes and were recorded and transcribed. Field notes were maintained to provide additional information when analyzing the data.

Instruments

Four instruments were used in the study: a demographic form, the FMCA, the FKA, and a semi-structured interview guide. The demographic questionnaire asked subjects to report their gender, race, employment status, educational status, ENL title, and number of years employed as an ENL. The questionnaire also asked about the size and annual budget of the healthcare organization where the subject was employed.

The FMCA is a 33-item tool which is comprised of elements contained in the 70 item-HLA tool and includes each of the professional competencies found in the AONE and ACHE lists (5-6, 10). Content validity was established each of the items contained on the organization's tools using feedback provided by expert focus groups. A thorough review of research conducted for this study confirmed the relevance of the 33 items and the five major categories of financial knowledge (financial accounting, cost analysis, economics, managing financial resources, planning and control) that were selected for inclusion within the tool (14). One of the aims of this study was to establish construct, convergent, and discriminant validity. Prior to the study, test-retest reliability was established using a convenience sample of 20 ENLs who completed the FMCA twice, two weeks apart. A paired-sample established no statistically significant difference in FMCA scores from the initial test (mean [M] = 75.35, standard deviation [SD] = 37.42) to the retest (M = 68.55, SD = 36.01), and $t(19) = 1.44$, $p = .167$ (2-tailed). The mean decreases in FMCA scores from the first to the second test was 6.80 points (95% confidence interval [CI], -3.09 to 16.69). The eta squared statistic (0.05) indicated a small effect size, with 5.17% of the difference in the FMCA scores explained by time. The pair-samples correlations for each of the 33 items on the test-retest were all significant ($p = < 0.05$). The paired-samples correlation for the overall score was $r = 0.84$ ($p < 0.001$).

Similar to the AONE and ACHE tools, the FMCA asks the participants to rate their knowledge levels for each item using a 5-point Likert-type scale, 1 (minimal) through 5 (expert) (10-11). These ratings are then summed to yield an overall level of FL. Initial cutoff scores were arbitrarily divided into three categories: novice (33-77), competent (78-121), and expert (122-165). The ability of the FMCA to discriminate between novice, competent, and expert ENLs was a second aim of the study.

The FKA is a 22-item financial knowledge assessment quiz developed by the principal researcher to test convergence validity of the FMCA. The questions cover basic concepts which address each of the five theoretical domains assessed by the FMCA with response options of "yes," "no," or "unsure" for each question. Content validity was confirmed by faculty members with extensive financial education and experience as well as by a researcher who specializes in test construction. Prior to the study, test-retest reliability was established using a convenience sample of 20 ENLs who completed the FKA twice, two weeks apart. A paired-sample established no statistically significant difference in FKA scores from the initial test (M = 8.70, SD = 4.82) to the retest (M = 9.85, SD = 5.99), and $t(19) = -0.94$, $p = .359$ (2-tailed). The mean decreases in FKA scores from the first to the second test was -1.15 points (95% CI = -3.71 to -1.41). The eta squared statistic (0.02) indicated a small effect size, with 2.1% of the difference in the FKA scores explained by time. The pair-samples correlations for each of the 22 items on the test-retest were all significant ($p = < 0.05$). The paired-samples correlation for the overall score was r = 0.51 ($p = 0.023$). A semi-structured interview guide consisting of three questions including prompts was used in Phase II to explore the lived experience of the ENL developing and applying FL. Each question was driven by the FL conceptual model. These included questions related to financial knowledge and skills, acquisition, and application. The questions and prompts were reviewed, and input was solicited from members of the primary researcher's dissertation committee.

Data Analysis

In Phase I, all subject responses were evaluated for any missing data. Descriptive analyses of the quantitative data were performed using SPSS software version 24. Means, standard deviation (SD), and frequency scores were used to characterize demographic variables. Reliability was tested using inter-item correlation (parallel forms) and internal consistency

(Cronbach's alpha) between scores on the FMCA and FKA. Convergent validity was assessed using Pearson chi-square and Cramer's V tests to examine the relationship between the five levels of the FMCA and FKA. Construct validity was assessed using principal component analysis (PCA), which included Bartlett's test of sphericity and Kaiser-Meyer Olkin (KMO). To determine if the FMCA could discriminate between novice, competent, and expert levels of FL in ENLs, receiver operating characteristic (ROC) analysis, including a Youden Index, was performed to determine cutoff scores for three levels of FL.

Transcripts from the interviews of novice, competent, and expert ENLs (Phase II) were imported into MAXQDA Analytics Pro software. The steps of the Colaizzi's methodology, extraction of significant statements, adding and organizing meanings into clusters, and assigning narratives that described the phenomenon FL were followed. All transcripts were read by a second researcher and consensus reached on themes.

Results

Demographics: A total of 287 ENLs were recruited into Phase I. The attrition rate was 38% (n = 109), exclusions included incomplete responses and voluntary withdrawal, resulting in 178 ENLs completing Phase I. These participants were predominately white females employed full time in acute care facilities. Sixty-five percent (n = 115) worked for a hospital with a bed capacity exceeding 250 and an operating budget over $500 million. A breakdown of years of experience, level of education, and specific ENL role is detailed in Table 1. At the conclusion of Phase I, 49 subjects provided contact information indicating their interest in participating in Phase II. Ten of these ENLs were interviewed and mirrored the characteristics of the total sample (Table 1).

The psychometrics used to assess the inter-item correlation reliability of the FMCA with the FKA (parallel form) was r = .55, n = 178, p = 0.000. The overall internal consistency using

the Cronbach's alpha reliability was r = .99. All of the inter-item correlations were positive and ranged between 0.34 to 0.90 (averaged 0.68). The reliability within each subscale was strong, with all Cronbach's alpha coefficients exceeding 0.80.

The validity of FMCA was tested using both construct and convergent validity parameters. For construct validity, Bartlett's test of sphericity was found to be significant ($p <$ 0.001) and the KMO of 0.97 exceeded the recommended minimum value of 0.60. The five subscales of the FMCA tool explained a total of 82.3% of the variance, with financial accounting contributing 69.72%, planning and control contributing 4.97%, economics contributing 3.03%, managing financial resources contributing 2.45%, and cost analysis contributing 2.12%. PCA with oblimin rotation was performed revealing the presence of simple structure, with the components showing a number of items with strong loading (16). A Pearson product-moment correlation coefficient was used to estimate convergent validity for the intercorrelations between the FMCA and FKA. The results showed a moderate positive correlation between FMCA and FKA total scores, r =.56, $n = 178$, $p = 0.000$ (Table 2).

To address whether the FMCA could discriminate between levels of FL in ENLs (novice, competent and expert), crosstabulations using Pearson's chi-square and Cramer's V tests were conducted. A chi-square test for independence (with Yates' continuity correction) indicated a significant association and a moderate effect size between FMCA and FKA levels of FL, χ^2 (2, $n = 178$) = 46.03, $p < 0.001$, Cramer's V = 0.36, and Kappa = 0.21. A ROC analysis was performed to determine FMCA cut scores for the 3 levels of FL. The ROC curve analysis results indicated that a higher FMCA score was significantly associated with expert levels of FL (area under the curve [AUC] = .704, $p < .001$). Evaluation of the Youden index J indicated that specificity and sensitivity for expert ENLs were maximized at FMCA scores > 115.5 (sensitivity = 62.12,

specificity = 24.00), 91.5 to 115.4 for competent and scores less than 91.5 were associated with novice levels of FL (Figure 2).

Interview Findings

While each of the ten participants interviewed in Phase II described FL as an important competency for ENLs, there were distinct differences noted between each of the groups on the four themes that emerged: (1) approaches to addressing a self-awareness for improving FL, (2) gaps in hospital and graduate nursing education, (3) application of financial knowledge, and (4) micro versus macro views.

Approaches to Addressing a Self-awareness for Improving FL

While the novice ENLs were aware they did not possess the skills and knowledge of others, competent and expert leaders understood the importance of FL in their role and moved to obtain identified knowledge and skills.

> Novice: I think it's [FL] very important, especially as healthcare is evolving, it involves a lot of business... I felt insecure when it comes to those topics because really, I never got any formal training. I wasn't really motivated enough to take classes to advance or gain that knowledge (P5005786).
>
> Competent: I would say the first time when the "aha" moment happened is when they said, "Okay, develop a budget." And you're going, "Well, what?" Nobody ever told me how to develop—except for my own personal—budget. . . . So, that's when I went back to school for my MBA (P5006080).
>
> Expert: I quickly realized that there were gaps in my knowledge and therefore pursued other educational opportunities to develop my scope of leadership skills. I was very self-aware as to my weaknesses and felt the appropriate

action was to pursue formal education to strengthen those weaknesses (P5007508).

Expert: I started spending time with the CFO and the accountants, because I really wanted to understand the finances of the organization. I checked my ego to the side, and I scheduled time with the Director of Accounting, and I had them walk me through the budget process, the accounting. . . and that was time well spent (P5005052).

Gaps in Hospital and Graduate Nursing Education

Participants at each level identified gaps in their preparation for their leadership roles. Examples shared included lack of specific content related to FL in both hospital-based leadership training courses as well as graduate level nursing programs. When asked about FL content, participants responded:

Novice: . . . someone coming from the institution and speaking on or just touching on the budget of the institution . . . just a brief overview (P5006838).

Competent: Even in my [nursing] doctorate, no! It was only leadership (P5006080).

Expert: Nurses that have an interest in leadership are with a disadvantage. . . and the Master of Nursing Administration degree was limited by comparison to the other forms of education I attained (i.e. MBA and ACHE Board of Governors Examination) (P5007508).

Application of Financial Knowledge

All participants referred to how they used financial knowledge in their respective ENL role. ENLs from the novice group spoke to basic application of financial knowledge, such as calculating personnel costs and overtime use.

> Novice: The biggest application is planning and control of personnel expenses, controlling overtime, scheduling available staff (5005786).

ENLs from the expert group were more focused on reimbursement and overall cost of production compared to staffing and budgeting tasks.

> Expert: A solid grasp on the reimbursement challenges for an organization, strategic charge capture setting, cost pricing are some examples on a local level. It is also important to recognize within an ENL role, one really needs to understand the organization's payer mix from third-party payers, Medicare, and Medicaid (P5007508).

Micro versus Macro Views

When asked about the importance of economics to their roles there was a wide gap between novice and expert's perceptions.

> Novice: Economics is least important FL domain. . . planning and control it is the most important because shifts or how many nurses we need in the morning, afternoon, or night, call shifts, level of nursing experience impact the budget (P5005356).
>
> Expert: There is no question that healthcare economics is the most important factor in my leadership role. In today's healthcare marketplace, organizations will not be successful without translating healthcare economics or healthcare finance into your decision-making for day-to-day operations and future forecasting (P5007508).

Discussion

The conceptual model of FL guiding this study was based on three dimensions, the first of these being knowledge and skills needed to make financial decisions (Figure 1). The primary purpose of this study was to determine if the FMCA was a valid and reliable tool for assessing the financial knowledge and skills of ENLs. The results confirmed that, in addition to content

validity previously established, the tool demonstrated both convergent and construct validity (5). The relationship between scores of the FMCA with the FKA was found to be moderate (r = .56) with each of the five domains contributing to the tool's total score (Bartlett's test of sphericity; p < .001). The results of the analysis support the use of the five separate subscales as suggested by the theoretical categories in the literature (17). The inter-item correlations averaged 0.68, with a strong Cronbach's alpha for each subscale exceeding 0.80 confirmed the reliability of the tool. Test-re-test reliability was confirmed prior to the study (M of 75.35 versus 68.55; p = .167).

Also, of interest was whether or not the tool could discriminate between different levels of FL (Aim 2). Initially scores were arbitrarily divided into three categories, but ROC analysis determined exact cut-scores for the FMCA, novice (score < 91.4), competent (score 91.5 to 115.4), or expert (score > 115.4). Additional findings that support the FMCA's ability to distinguish between FL levels included cross tabulations using Pearson's chi-square (46.03), p < 0.001), Cramer's V (0.36), and Kappa (0.21) findings. Responses of novice, competent, and expert ENLs who participated in Phase II confirmed distinctly different perspectives between levels of financial literacy adding to the validity of the FMCA.

Knowledge acquisition is the second step in the FL conceptual module and the third aim of the study focused on the acquisition of knowledge (12-13). Findings from the demographic data showed competent and experts in FL possessed a combination of doctorate and/or master's in business or healthcare administration and ENL experience exceeding 11 years compared to novice ENLs (Table 1). From the literature, Kleinman (14) found 61.3% of ENLs possessed a graduate degree in nursing and 29.0% in non-nursing (i.e. MBA or MHA). In addition, ENLs had 3.87 ± 3.56 years in an executive role (14). The novice ENL who participated in the interviews for Phase II mirrored the total sample regarding educational preparation. While there was not a lot of distinction in formal education between the competent and expert ENLs, there was a distinct

difference noted in their response to the open-ended question about describing the methods utilized in developing financial management competency and ENL's perception of the most productive methods to obtain financial knowledge and skills.

Similar to research reported in the literature, developing FL through on-the-job experience was acknowledged as being very common by all those interviewed. Expert ENLs were proactive and sought out avenues to gain the knowledge and skills needed. Similar to the nursing literature, those interviewed identified an array of strategies for acquiring their knowledge and skills: nursing and/or management formal education; collaboration with experts; and participation in professional association continuing education.

Interviews with ENLs identified multiple ways expert ENLs applied or used their knowledge (Step 3 of the FL conceptual module and the fourth aim of the study). In response to the open-ended question on how ENLs apply financial knowledge and skills within their ENL role, all those interviewed identified a range of financial application. However, there was very clear distinction between the novice and competent ENLs and the expert ENL. The former's focus was on budgeting and staffing and reports related to variances. Expert ENLs had a more system view and described using the impact of economics such as healthcare policy shifts and reimbursement changes in relation to overall organizational health.

There was a deliberate effort to recruit individuals from across a broad spectrum, however, the sample was fairly homogenous, consisting of ENLs (n = 115) from larger urban hospitals in the southern US. This can possibly impact the reliability of the tool for the broader population of ENLs. Another limitation was the attrition rate. A total of 287 subjects agreed to participate in the study but 38% (n = 109) only finished Part A of Phase I. While the remaining 178 participants was larger than the minimal sample needed to complete the psychometrics of the FMCA, there exists an attrition bias. One possible explanation might be requiring the FKA, a

knowledge test. A review of all 109 subjects found that they discontinued participation at the completion of the FMCA and prior to taking the FKA. Another limitation of the study was nine of the ten participants who were interviewed in Phase II worked in institutions located in urban areas, thus limiting the generalizability of the qualitative findings.

Implications and Conclusions

As declining reimbursement and financial constraints place financial pressure on healthcare organizations, ENLs are experiencing expanding roles in financial decision-making (4, 18). The FMCA is a valid and reliable tool ENLs can use to assess their individual level of financial literacy and what they should consider strengthening in developing a crucial leadership competency. The FMCA can also be utilized by organizations to screen perspective ENL candidates during the hiring process. The AACN standards for both master's and doctoral programs in nursing include essentials that address each of the domains included in the FMCA but results from this study confirm the relevance of ensuring that these specific items are included in the graduate nursing programs' curriculum (19). In conclusion, the study contributes to the nursing knowledge on FL in ENLs. Further research will be required to ensure that the FMCA tool is applicable across a more culturally diverse population of ENLs and those working in healthcare settings located outside of urban acute care hospitals.

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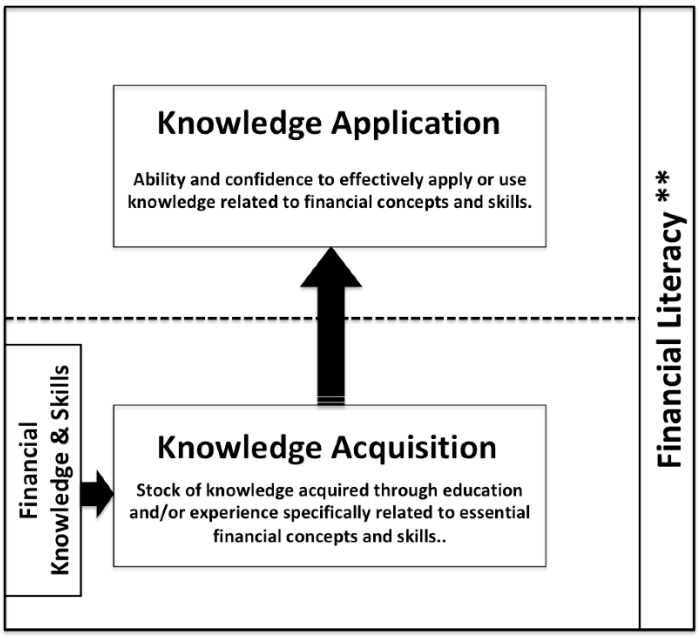
Figure 1

Conceptual model: Financial literacy for executive nurse leaders *



* Adapted from Huston (2010) and Hung, Parker and Yoong (2009).

** Definition: the knowledge of basic economic and financial concepts, as well as the ability to use that knowledge and other financial skills to manage financial resources effectively.

Table 1

ENL Leadership Role and Education (n = 178)

	Phase I			Phase II		
	Novice	**Competent**	**Expert**	**Novice**	**Competent**	**Expert**
Years of ENL Experience	**(*n* = 30)**	**(*n* = 100)**	**(*n* = 48)**	**(*n* = 3)**	**(*n* = 4)**	**(*n* = 3)**
0-10 years	28	70	10	3	1	1
11-20 years	1	26	22	0	0	0
> 20 Years	1	4	16	0	3	2
Leadership Role						
Nursing Manager	2	10	2	3	1	0
Nursing Supervisor	12	15	2	0	0	0
Nursing Director	16	42	9	0	3	0
Dean of Nursing	0	1	1	0	0	1
Chief Nursing Officer	0	29	32	0	0	1
Chief Executive Officer	0	3	2	0	0	1
Education						
BSN	2	7	2	0	0	0
BSN/MBA/MHA	0	3	2	0	0	0
MSN	21	33	12	3	1	0
MSN/MBA/MHA	0	20	9	0	0	0
Doctorate	7	34	12	0	1	0
Doctorate/MBA/MHA	0	3	11	0	2	3

Table 2

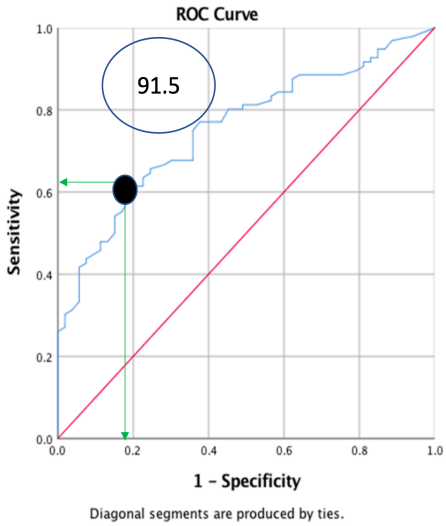
Pearson Correlation for Sum Total Between FMCA and FKA and Sub-Domains

		Financial Management Competency Self-Assessment (FMCA)				
		Financial Accounting	**Economics**	**Cost Analysis**	**Planning & Control**	**Managing Financial Resources**
Financial Knowledge Assessment (FKA)	**Financial Accounting**	.444*				
	Economics		.211*			
	Cost Analysis			.419*		
	Planning & Control				.512*	
	Managing Financial Resources					.354*

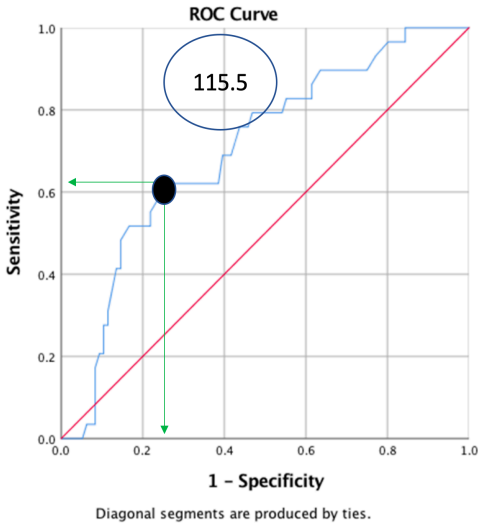
* Correlation is significant at ≤ 0.01 level (2-tailed).

Figure 2

Receiver Operating Characteristic (ROC) Curves Showing FMCA Cutoff Scores for Competent (left) and Expert (right) Levels



FMCA Cut Off Score: Competent = 91.5



FMCA Cut Off Score: Expert = 115.5

CHAPTER V

SUMMARY OF STUDY

The mounting financial pressures impacting organizational decision-making in healthcare systems, a desire for high levels of financial literacy in ENLs, and nursing literature documenting low levels of financial knowledge in ENLs were the drivers for this mixed method explanatory study. Now, more than ever, it is essential for ENLs to have strong fiscal knowledge and skills they can draw on to ensure their organization remains financially viable. A review of the literature revealed a 30-year history of financial literacy challenges in ENLs, and a growing need to increase financial knowledge. In the literature, three financial self-assessment tools created by the HLA, AONE, and ACHE were identified (ACHE, 2019; AONE, 2019; HLA, 2019). While the tools were found to be representative of elements from each of the five domains of FL, psychometric analysis was limited to content validity. There was an absence of a tool that not only identified essential financial competencies for ENLs, but also was psychometrically tested that could discern an individual's strengths and weaknesses, thus pinpointing an ENL's area for development in FL. The literature reviewed also identified the most common method of developing FL was through on-the-job experience, continuing education offered by institutions and to a lesser degree financial knowledge, and skills provided through formal graduate education (Lemire, 2000; Lim & Noh, 2015; Muller, 2013; Russell & Scoble, 2003). This study sought to clarify how ENLs obtained their fiscal knowledge and skills and how they used them in their role.

Summary

The purpose of this mixed methods explanatory study was focused on validating the FMCA and elucidating differences between novice and expert ENLs (HLA, 2018). The study aims included:

- Test the FMCA tool for reliability and validity as a tool for assessing FL in ENLs.
- Determine whether the FMCA can discriminate between levels of FL in ENLs.
- Identify the methods used by ENLs to improve their FL.
- Describe how financially literate ENLs apply their knowledge and skills in their professional roles.

This chapter presents a summary of the study conclusions, implications for practice, and recommendations for further research. A convenience sample of 178 ENLs completed Phase I of the study, which was designed to test the FMCA tool for reliability and validity as a tool for assessing FL and determine whether the FMCA can discriminate between levels of FL in ENLs. The sample was large enough to allow extensive psychometric analysis to test the reliability and validity of the FMCA instrument. The following tests were used to test for validity and reliability (Aim 1).

- Content validity identified from the literature.
- Construct validity through principal component analysis.
- Convergent validity using Pearson chi-square and Cramer's V test on the FMCA and FKA to test financial literacy.
- Test-retest reliability on the FMCA and FKA through parallel forms inter-item correlations.

- Test-retest reliability tested FMCA consistency over time using paired t-test and inter-item correlation.
- Internal consistency using Cronbach's alpha tested reliability across items and FL domains.

The five domains for FL were identified from the literature using financial management textbooks for ENLs (Finkler et al., 2013). The FKA was developed from textbooks and cross walked to each FL domain. The domains were confirmed with committee faculty experts and then tested for convergent validity using Pearson chi-square correlation and internal consistency (reliability) using Cronbach's alpha for the FMCA and FKA.

Level of FL (novice, competent, and expert) for the FMCA was examined using Pearson's chi-square test to determine whether the FMCA can discriminate between levels of FL in ENLs (Aim 2).The FMCA cutoff scores were initially arbitrarily divided into thirds; novice (33-53), competent (54-107), and expert (108 or above). However, after the study sample was attained a ROC analysis was performed to plot the sensitivity against 1-specificity to evaluate the performance of the FMCA. These results determined the FMCA scores to be as follows; novice (< 91.5), competent (91.5 to 115.4), and expert (> 115.4).

A purposeful sample of 10 novice, competent, and expert ENLs were selected to be interviewed for Phase II to answer the last two aims of the study: identify methods used by ENLs to improve their FL (Aim 3) and describe how financially literate ENLs apply their knowledge and skills in their professional roles (Aim 4). The four themes that emerged from the semi-structured interviews were approaches to addressing self-awareness for improving FL, gaps in hospital and graduate nursing education, application of financial knowledge, and micro versus macro views. The responses from participants also served to confirm the ability of the FMCA to discriminate between novice versus competent versus expert ENLs.

The expert ENLs interviewed developed their FL through a multifaceted approach such as on-the-job training, informal and formal education, partnerships with experts, and mentors in finance. One expert ENLs stated "I think being intentional about getting that exposure whether it's a degree program or through a certificate or some kind of educational modality, I would recommend strongly" (P5007508). In addition, the participant stated "I found myself needing to be a little more knowledgeable on various aspects of administration and the finances of a healthcare organization" (P5007508). These methods for developing FL were also identified in the review of the literature, but the study provided a more comprehensive understanding of how ENLs developed FL. How expert ENL's applied their financial knowledge and skills was found to be quite different than that of the novice or competent ENL (Aim 4). Novice ENLs identified economics as the least important FL domain and personnel expenses and budgets as most important to the ENL role. In contrast, experts ENLs identified economics and finance as critical to their role in order to make forecasting and day-to-day operational decisions. One expert ENL stated "forecasting, we've done a little bit of forecasting with new programming and how long we think it would take to breakeven, then and/or become profitable" (P5020280). In addition, expert ENLs stated they used managerial accounting, short-term and long-term financing for the organization, capital investments, daily in their role as an ENL. ENLs shared how their knowledge and skills enabled them to translate clinical care and outcomes into the fiscal impact on the overall organization. Some examples discussed by expert ENLs included patient falls, skin breakdown, length of stay, urinary tract infections and ventilator associate pneumonia. One expert ENL addressed the importance of cash flows: "how long does it take for us to provide health services to reimbursement. How do you shorten that cycle? The shorter you get it, the better it is financially for the organization because that money can be used or invested in different ways" (P5005052).

Discussion of Findings

The guiding conceptual framework for financial literacy (Hung et al., 2009; Huston, 2010) served as the basis for exploring the phenomenon in ENLs. This framework incorporates three core dimensions: (1) financial knowledge and skills; (2) knowledge acquisition (acquired through education and/or experience); and (3) knowledge application (ability to effectively apply or use the knowledge and skills).

The key elements identified as essential financial knowledge and skills for ENLs represent five theoretical domains: financial accounting; cost analysis; planning and control; managing financial resources; and economics (Finkler et al., 2013). The FMCA tool, which was developed and tested for reliability and validity in this study, addresses each of these domains. Each specific element under each of the domains was included based on a thorough review of literature, managerial textbooks, and professional competency tools developed by AONE, ACHE, and HLA.

The vast majority of nursing literature focused on budget preparation and managing financial resources. For example, budget preparation and variance analysis (Arnold et al., 2006; Foley, 2005; Fralic & Morjikian, 2006; Lemire, 2000; Omoike et al., 2011), managing personnel, capital equipment, and programmatic resources (Lemire, 2000; Omoike et al., 2011; Patrician et al., 2012; Sullivan et al., 2003). These paralleled the knowledge and skills novice and competent ENLs perceived they were competent with and used in their role. The domain of cost analysis was not mentioned as frequently in the literature but there were studies which addressed financial ratio analysis and benchmarking (Foley, 2005; Fralic & Morjikian, 2006; Fuller & Anderson, 2009; Goetz et al. , 2011; Jones, 2008; Lemire, 2000; Valentine et al., 2011). Those ENLs who perceived themselves as competent or expert with this content, identified in the interviews "…challenged my finance team is to, not to just give me the numbers but give me the analysis

with the numbers" (P5005052). Another expert in the interviews stated "… in my role are a combination of financial analysis, really looking at how healthcare reform impacts the overall direction of the organization, resource allocation" (P5007508). Finally, the financial domains of economics and planning and control were addressed less frequently in the literature, for example a few studies on forecasting or short versus long-term financing (Fralic & Morjikian, 2006; Jones, 2008; Lemire, 2000; Omoike et al., 2011; Patrician et al., 2012; Sullivan et al., 2003). But it is important to note that these domains were considered relevant to the role of the ENL by each of the professional organizations. Expert ENLs interviewed in Phase II identified economics and planning and control domains as the most important domains in their leadership role.

A number of studies addressed how nurses have acquired financial knowledge, the second dimension of the conceptual model. The majority of the nursing literature identified "on-the-job" training as the most common method ENLs develop FL (Kleinman, 2003; Kohlbrenner, Whitelaw & Cannaday, 2011; Lemire, 2000; Muller, 2013; Omoike et al, 2011; Russell & Scoble, 2003; Seifert, 2012; Talley, Thorgrimson, & Robinson, 2013). Other learning resources mentioned in the literature included informal and formal education, continuing education, networking, mentoring, and collaboration with experts like the CFO (Kim, 2012; Lemire, 2000; Russell & Scoble, 2003). Participants in the study identified these same strategies for obtaining the financial knowledge and skills they needed to do their job effectively. The majority of the ENLs who participated in Phase I of the study (94%) had a graduate degree either in business or nursing. Of those who were identified as expert ENLs (n = 48), almost half (48%) held a doctoral degree and of those interviewed they emphasized the importance of "… investing in growing that expertise [FL]. And, I would start with your immediate areas where you have oversight, working diligently to make sure that you do understand the finances and where the opportunities for improvement exist, whether it is on the expense side or revenue side. It is imperative that an ENL

get some kind of certificate-based education or degree where it gives you a foundation. Start spending time with the CFO and the accountants… to understand the finances of the organization. Schedule time with the [CFO] and the director of accounting and have them walk through the budget process, the accounting, where is the money going, where is the money coming from. Being intentional about getting that exposure whether it's a degree program or through a certificate or some kind of educational modality, I would recommend strongly" (P5005052).

The third domain of the financial literacy conceptual model was knowledge application. The review of the literature had a number of examples of how financial knowledge and skills could be used to support the cost effectiveness or viability of projects or interventions or new programs. For example, one study described how a return-on-investment analysis was performed on a nurse-run walk-in clinic compared to a non-urgent emergency department for uninsured patients, demonstrated a $1.28 million cost reduction in healthcare expenditures (Bicki et al., 2013). Expert ENLs interviewed in Phase II of the study identified the importance of focusing attention on collection periods, days cash on hand, average payment, profitability metrics such as operating margin, total margin, return on net assets, capital structure metrics such as net asset financing, long term debt to capitalization, and cash flow to debt.

Conclusions and Implications

As healthcare delivery continues to experience financial pressures, ENLs are expected to make increasingly complex financial decisions. This mixed method explanatory study was designed to test the reliability and validity of a tool to evaluate the financial literacy of ENLs. Conclusions derived from this study include:

1. The FMCA is a valid and reliable self-assessment tool for assessing financial literacy levels of ENLs.

2. The FMCA can address an individual's strengths and weaknesses in each of the financial literacy domains: financial accounting, cost analysis, planning and control, managing financial resources, and economics.
3. The FMCA is able to reliably discriminate between novice, competent, and expert ENLs in financial literacy.
4. Financial literacy of expert ENLs was obtained via a combination of mentorship, on the job experience, collaboration, networking, continuing education, and formal graduate studies.
5. Expert ENLs incorporated a broad range of fiscal knowledge and skills in their role. They noted the importance of having a macro versus a micro view of how nursing contributes to the operating margin of the organization.

While the sample size was large enough to complete the psychometrics needed to test the reliability and validity of the tool, the majority of the convenience sample for Phase I (24.7%) and Phase II (60%) were from large urban hospitals in the southern United States, limiting the generalizability of the findings. A second limitation was the 38% attrition rate in Phase I. Those electing to complete both of the instruments used could possibly impact the internal validity of the study. The last point to consider is the FMCA cut-scores defining level of FL was calculated with only those who completed both tests (FMCA and FKA) and therefore limits generalizability to a larger population.

Based on the findings of this study, there are a number of potential implications for practice:

1. The FMCA can be utilized by individuals to determine their strengths, weakness, and overall financial knowledge.

2. Organizations can utilize the FMCA for screening ENL candidates for hiring into executive leadership roles.
3. Multiple avenues can be explored to develop financial literacy including formal and informal education, mentorship, professional association resources, and developing a peer network.
4. Graduate nursing programs preparing nurse leaders can utilize the FMCA tool to ensure all five domains of financial literacy are included in the program's curriculum.

Recommendations for Further Study

Based on the findings of this study, recommendations for further research include:

1. Quantitative studies that repeat the psychometrics of the FMCA with different samples of ENLs.
2. Confirm the scores on the FMCA that identify novice, competent, and expert ENLs.
3. Explore how emerging ENLs and organizations utilize the FMCA.
4. Explore different educational preparation (MBA, MHA, MSN, DNP) and the impact of each on financial literacy levels.
5. Explore ENLs motivation to increase their financial literacy.
6. Explore the correlation between ENL FMCA score and their organizational annual performance evaluation score.

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APPENDIX A

Demographic Data Collection Form

Demographic Questionnaire: Demographic Information Form

Sex: □ Male □ Female

Race:

□ White
□ Black
□ Hispanic
□ Asian
□ American Indian
□ Pacific Islander
□ Other _____

Hospital:

Greater than 250 bed capacity: □ Yes □ No
Organizational Budget > $500 Million: □ Yes □ No

Years in Nurse Leader Role: _____ Years

Do you have budgetary controls as part of your job function? □ Yes □ No

Nurse Leader Role:

□ Nurse Manager
□ Assistant Nursing Supervisor
□ Nursing Supervisor
□ Assistant Nursing Director
□ Nursing Director
□ Assistant Chief Nursing Officer
□ Chief Nursing Officer
□ CEO
□ Director Anesthesia (CRNA-Chief)
□ Director Advanced Practice (APRN)
□ Other: _____

Work Status:

□ Full-time (> 40 hours/week)
□ Part-time (< 40 hours/week)
□ Unemployed
□ Retired

Highest Education Level:

(Check All That Apply)

□ Nursing Diploma
□ Bachelors Degree, nursing
□ Masters Degree, nursing
□ Masters degree, other_____
□ PhD, Nursing
□ DNP, Nursing
□ Doctorate, other _____
□ Nurse Leader Fellowship

Have you participated in one of the following sponsored fellowship programs on improving financial management? □ Yes □ No

□ The Commonwealth Fund Fellowship
□ Robert Wood Johnson Foundation Fellowship
□ Duke-Johnson & Johnson Fellowship
□ Wharton Nursing Leaders Program
□ Other: _____

Have you completed Continuing Education focused on financial management?

□ Yes □ No

□ American Organization of Nurse Executives
□ The Advisory Board Council Nurse Executive Center
□ Other: _____

APPENDIX B

Financial Management Competency Assessment

Healthcare Leadership Alliance: Financial Management Competency Assessment

Competency Item	Competency Level				
	Novice		Competent		Expert
Basic accounting principles (e.g., accounts receivable, cash flow, chart of accounts, GAAP)	1	2	3	4	5
Financial management and financial analysis principles (e.g., balance sheets, income & cash flow statements, ratio analysis)	1	2	3	4	5
Operating budget principles (e.g., fixed vs. flexible, zero-based, variance analysis)	1	2	3	4	5
Capital budgeting principles	1	2	3	4	5
Reimbursement methodologies and ramifications	1	2	3	4	5
Fundamental productivity measures (e.g., hours per patient day, cost per patient day, units of service per man hour)	1	2	3	4	5
Financial controls and auditing principles	1	2	3	4	5
Capital funding sources	1	2	3	4	5
Revenue generation	1	2	3	4	5
Asset management, including facilities, equipment, etc.	1	2	3	4	5
Cost accounting	1	2	3	4	5
Financial planning methodologies	1	2	3	4	5
Financial statements	1	2	3	4	5
Outcomes measures and management	1	2	3	4	5

Prepare and manage budgets, including annual operating budgets, project budgets and capital budgets	1	2	3	4	5
Fundamental productivity measures	1	2	3	4	5
Analyze financial reward versus risk	1	2	3	4	5
Apply financial planning methodologies to organizational objectives	1	2	3	4	5
Develop accounting and financial control systems	1	2	3	4	5
Develop and use performance monitoring metrics	1	2	3	4	5
Develop coding and reimbursement policies and procedures	1	2	3	4	5
Establish business relationships with financial advisors	1	2	3	4	5
Maintain compliance with tax laws and filing procedures	1	2	3	4	5
Provide stewardship of financial resources	1	2	3	4	5
Articulate business models for healthcare organizations and fundamental concepts of economics	1	2	3	4	5
Describe general accounting principles and define basic accounting terms	1	2	3	4	5
Analyze financial statements	1	2	3	4	5
Manage financial resources by developing business plans	1	2	3	4	5
Establish procedures to assure accurate charging mechanisms	1	2	3	4	5
Educate patient care team members on financial implications of patient care decisions	1	2	3	4	5

Articulate federal and state payment systems and regulations, as well as private insurance issues, which affect organization's finances	1	2	3	4	5
Understand and articulate individual organization's payer mix, CMI and benchmark database	1	2	3	4	5
Read and interpret benchmarking, financial and occupancy data	1	2	3	4	5

APPENDIX C

Financial Knowledge Assessment

Financial Knowledge Questions

	Knowledge Element	Yes	No	Not Sure
Cost Analysis	The use of limited resources such as education programs and documentation results in increased reimbursement revenue.			
Cost Analysis	The equation: cost per RVU = (Total nursing hours) per FTE is a form of cost accounting.			
Cost Analysis	In strategic planning, every effort should be made to avoid zero-based budget methodologies because it allows budgets to become "fat" over time.			
Cost Analysis	A unit is authorized for 20 full-time equivalent RN positions. It is sufficient to base financial and budgeting decisions on 20 FTEs at the historical RN salary, adjusted for the average salary increase authorized for the coming year.			
Cost Analysis	The Primary importance we're developing the prospective payment system was due to the passage of the health maintenance organization act of 1973.			
Economics	Economic order quantity is a method to determine a balance between ordering costs and carrying costs.			
Economics	When considering supply and demand healthcare is considered elastic.			
Financial Accounting	The accounting balance sheet is expressed as Assets = Liabilities + Expenses			
Financial Accounting	Break-Even Analysis = Variable Cost/Price - Fixed Cost per Patient			
Financial Accounting	An income statement is expressed as Net Income = Revenue – Expenses			
Financial Accounting	The variable cost of each additional unit of healthcare service or product is marginal cost.			
Managing Financial Resources	Delphi and nominal group techniques are used in forecasting for budgetary planning.			
Managing Financial Resources	Indirect costs are not typically allocated to a single cost center.			
Managing Financial Resources	Medicare Part B (supplemental medical insurance) covers services for inpatient care, critical access hospitals, and long-term care hospitals.			
Managing Financial Resources	Benchmarking is unrelated to process improvement strategies such as total quality			

	management (TQM) and continuous quality improvement (CQI).			
Planning and Control	The budget projects a 5.0% reduction in errors with an expenditure of $22,000. Actual data show a 4.5% reduction in errors at a cost of $19,000. The volume variance is $2,200 favorable.			
Planning and Control	In capital budget proposal evaluations, payback, present cost, net present value, and internal rate of return are approaches used in developing a capital budget.			
Planning and Control	One common way to measure an organization's productivity is to compare the organization's actual productivity against a standard productivity.			
Planning and Control	True productivity improvements are those that enable an organization to use fewer resources for each unit of service, without a significant decrease in the quality of service.			
Planning and Control	Sensitivity analyses are analyses by which risk to a proposed endeavor can be recognized.			
Cost Analysis	The accounting balance sheet is expressed as Assets = Liabilities + Expenses			
Cost Analysis	Break-Even Analysis = Variable Cost/Price - Fixed Cost per Patient			

APPENDIX D

Institutional Review Board

Institutional Review Board
Office of Research
6700 Fannin, Houston, TX 77030
713-794-2480
irb-houston@twu.edu
https://www.twu.edu/institutional-review-board-irb/

DATE: July 12, 2018

TO: Mr. Garry Brydges
Nursing - Houston

FROM: Institutional Review Board (IRB) - Houston

Re: Approval for Financial Literacy and Competency of Executive Nursing Leaders: A Mixed Methods Study (Protocol #: 20166)

The above referenced study has been reviewed and approved by the Houston IRB (operating under FWA00000178) on 7/10/2018 using an expedited review procedure. This approval is valid for one year and expires on 7/10/2019. The IRB will send an email notification 45 days prior to the expiration date with instructions to extend or close the study. It is your responsibility to request an extension for the study if it is not yet complete, to close the protocol file when the study is complete, and to make certain that the study is not conducted beyond the expiration date.

If applicable, agency approval letters must be submitted to the IRB upon receipt prior to any data collection at that agency. A copy of the approved consent form with the IRB approval stamp is enclosed. Please use the consent form with the most recent approval date stamp when obtaining consent from your participants. A copy of the signed consent forms must be submitted with the request to close the study file at the completion of the study.

Any modifications to this study must be submitted for review to the IRB using the Modification Request Form. Additionally, the IRB must be notified immediately of any adverse events or unanticipated problems. All forms are located on the IRB website. If you have any questions, please contact the TWU IRB.

cc. Dr. Ainslie Nibert, Nursing - Houston
Dr. Rebecca Krepper, Nursing - Houston
Graduate School

APPENDIX E

PHASE II: Consent

TEXAS WOMAN'S UNIVERSITY
CONSENT TO PARTICIPATE IN RESEARCH

Title: Financial Literacy and Competency of Executive Nursing Leaders: A Mixed Methods Study

Investigator:
Garry Brydges, DNP.....gbrydges@twu.edu (713) 203-3482

Advisor:
Rebecca Krepper, PhD.....rkrepper@twu.edu (713) 794-2106

Explanation and Purpose of the Research

You are being asked to participate in a research study for Mr. Brydges's dissertation at Texas Woman's University. The purpose of this research is to evaluate financial literacy in nurse leaders. You completed Phase I a financial literacy survey on-line to explore successful financial decision-making behaviors and confidence in financial literacy. You have been asked to participate in Phase II of the study to explore financial literacy development and application in your role.

Description of Procedures

As a participant in this study you will be asked to spend 60 minutes in a telephone or face-to-face interview will occur at a convenient location for the participant in a private setting or by telephone. The PI will ask you questions aimed at describing the methods you developed over time in the successful application of financial knowledge and financial skills to make financial decisions.

The PI will assign you a code name for you to use during the interview, and will remove all personal identifiers for the study. The interview will be audio recorded and then transcribed for data analysis. The recording procedure ensures content accuracy during the data analysis. It might be necessary to follow up with you after the interview to clarify information you provided, lasting approximately 15-30 minutes. The total time for Phase II will require 60 minutes.

Potential Risks

The PI will ask you questions about what methods you utilized over your career in developing financial literacy. A possible risk in this study is some questions may incite discomfort. If you become tired or upset you may take breaks as needed. You may also stop answering questions at any time and end the interview.

Another risk in this study includes loss of confidentiality. Confidentiality will be protected to the extent that is allowed by law. The interview will be held at a private location that you and the PI have agreed upon. A code name, not your real name, will be used during the Interview. Only the PI will know your actual name. The interview recordings and transcripts will be stored in a locked cabinet in the researcher's office or password protected and encrypted network cloud for all electronic components of the study. Only the PI or his advisor will hear the recordings or read the interview transcript. The interview transcripts will be shredded within 5 years after the study is completed. The digital recordings will be deleted with multi-pass deletion software, The results of the study will be reported in scientific journals; however, no personal identifying information will be included.

Initials

There is a potential risk of loss of confidentiality with any email, downloading, and Internet transactions. The PI will attempt to prevent any confidentiality issues with electronic transmission through the use of password protection and encryption, but still remains a risk with the research study. The PI will try to prevent any problem that could happen because of this research. You should let the researchers know at once if there is a problem and they will help you. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research. Confidentiality will be protected to the extent that is allowed by law. All data from the study will be destroyed within 5 years from the end of the study.

Another potential risk is loss of time. You may take a break at any time or withdraw from the study without question or penalty. The PI will make sure to be prepared so that no additional time is taken from you, the participant. You may pause or stop at any point during the interview.

Finally, the participant may develop fatigue. The participant may take a break at any time or withdraw from the study without question or penalty. The PI will make sure to be prepared so that no additional time is taken from the participant. The participant may pause or stop at any point during any phase of the study.

Participation and Benefits

Your involvement in this study is completely voluntary and you may withdraw from the study at any time without penalty. If you would like to know the study results, they can be mailed or e-mail to you. At the completion of Phase II, you will be e-mailed a $5 Starbucks gift card for you participation.

Questions Regarding the Study

You will be given a copy of this signed and dated consent form to keep. If you have any questions about the research study you should ask the researchers; their phone numbers are at the top of this form. If you have questions about your rights as a study participant or the way this study has been conducted, you may contact the Texas Woman's University Office of Research at 713-794-2480 or via e-mail at IRB@twu.edu.

_____ _____

Signature of Participant *Date*

Would you like a copy of the results of this study? Yes ☐ No ☐

Email: _____

Or Printed Name/Address:

_____

_____

_____

Approved by the
Texas Woman's University
Institutional Review Board
Approved: July 10, 2018

APPENDIX F

Semi-Structured Interview Guide

Semi-Structured Interview Guide

Research Question: What does it mean to ENLs to be financially literate quantitatively (knowledge./competency) and quantitatively (meaning)?

1. How did you determine, in your nursing leadership role, a need to develop financial management competency?
2. In your nursing leadership role, describe the methods you utilized in developing financial management competency? Or What do effective ENLs perceive as the most productive methods to obtain financial knowledge and skills?
3. Through examples, what are the most important financial management skills in your leadership role.
4. Describe how you determined financial management competency achievement.

Research Question: What financial knowledge and skills do effective ENLs perceive critical to their role?

Research Question: How do effective ENLs apply financial knowledge and skills within their role?

1. In your nursing leadership role, describe the methods you utilize to incorporate financial knowledge into your current leadership responsibilities.
2. Through examples, elaborate more about the processes you utilized in the application of financial management competencies.
3. Explain what financial management outcome measures you utilize or track in your leadership role.

APPENDIX G

Tool Comparison Grid

Tool Comparison

Sub-Scale	FMCA Item #	FMCA Tool	Financial Knowledge Tool	Answer	Reference
Cost Analysis	5	Reimbursement methodologies and ramifications	The use of limited resources such as education programs and documentation results in increased reimbursement revenue.	Answer: Yes	Baker, L., & Marquis, B.. (2003). Nursing administration: Review and resource manual. Institute for Research, Education, and Consultation at the American Nurses Credentialing Center: Washington, DC P. 122
Cost Analysis	11	Cost accounting	The equation: cost per RVU = (Total nursing hours) per FTE is a form of cost accounting.	Answer: No	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders. P. 163
Cost Analysis	15	Prepare and manage budgets, including annual operating budgets, project budgets and capital budgets	In strategic planning, every effort should be made to avoid zero-based budget methodologies because it allows budgets to become “fat” over time.	Answer: No	Finkler, S. A., & McHugh, M. (2008). Budgeting concepts for nurse managers (4th ed.). St. Louis, MO: Elsevier/Saunders. Chapter 7 Page 147-148.
Cost Analysis	30	Educate patient care team members on financial implications of patient care decisions	A unit is authorized for 20 full-time equivalent RN positions. It is sufficient to base financial and budgeting decisions on 20 FTEs at the historical RN salary, adjusted for the average salary increase authorized for the coming year.	Answer: No	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders. P. 194

Cost Analysis	31	Articulate federal and state payment systems and regulations, as well as private insurance issues, which affect organization's finances	The Primary importance we're developing the prospective payment system was due to the passage of the health maintenance organization act of 1973.	Answer: No	Baker, L., & Marquis, B.. (2003). Nursing administration: Review and resource manual. Institute for Research, Education, and Consultation at the American Nurses Credentialing Center: Washington, DC P. 122
Economics	25	Articulate business models for healthcare organizations and fundamental concepts of economics	Economic order quantity is a method to determine a balance between ordering costs and carrying costs.	Answer: Yes	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders.
Economics			When considering supply and demand healthcare is considered elastic.	Answer: No	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders.
Financial Accounting	1	Basic accounting principles (e.g., accounts receivable, cash flow, chart of accounts, GAAP)	The accounting balance sheet is expressed as Assets = Liabilities + Expenses	Answer: No	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders. Chapter 6 Page 97
Financial Accounting	2	Financial management and financial analysis principles (e.g., balance sheets, income & cash flow statements, ratio analysis)	Break-Even Analysis = Variable Cost/Price - Fixed Cost per Patient	Answer: No	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders. Chapter 8 Page 145
Financial Accounting	7	Financial controls and auditing principles			

Financial Accounting	8	Capital funding sources			
Financial Accounting	9	Revenue generation			
Financial Accounting	13	Financial statements	An income statement is expressed as Net Income = Revenue – Expenses	Answer: Yes	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders. Chapter 6 Page 97
Financial Accounting	23	Maintain compliance with tax laws and filing procedures			
Financial Accounting	26	Describe general accounting principles and define basic accounting terms	The variable cost of each additional unit of healthcare service or product is marginal cost.	Answer: Yes	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders. Chapter 1 Page 8 and p. 134
Financial Accounting	27	Analyze financial statements			
Financial Accounting	33	Read and interpret benchmarking, financial and occupancy data			
Managing Financial Resources	10	Asset management, including facilities, equipment, etc.			
Managing Financial Resources	12	Financial planning methodologies	Delphi and nominal group techniques are used in forecasting for budgetary planning.	Answer: Yes	Finkler, S. A., & McHugh, M. (2008). Budgeting concepts for nurse managers (4th ed.). St. Louis, MO: Elsevier/Saunders. Chapter 6 Page 130.
Managing Financial Resources	14	Outcomes measures and management			

Managing Financial Resources	18	Apply financial planning methodologies to organizational objectives	Indirect costs are not typically allocated to a single cost center.	Answer: Yes	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders. Chapter 8 Page 133
Managing Financial Resources	19	Develop accounting and financial control systems			
Managing Financial Resources	21	Develop coding and reimbursement policies and procedures	Medicare Part B (supplemental medical insurance) covers services for inpatient care, critical access hospitals, and long-term care hospitals.	Answer: No	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders. Chapter 2
Managing Financial Resources	22	Establish business relationships with financial advisors			
Managing Financial Resources	24	Provide stewardship of financial resources			
Managing Financial Resources	28	Manage financial resources by developing business plans			
Managing Financial Resources	32	Understand and articulate individual organization's payer mix, CMI and benchmark database	Benchmarking is unrelated to process improvement strategies such as total quality management (TQM) and continuous quality improvement (CQI).	Answer: No	Finkler, S. A., & McHugh, M. (2008). Budgeting concepts for nurse managers (4th ed.). St. Louis, MO: Elsevier/Saunders. Chapter 18 Page 422.
Managing Financial Resources	20	Develop and use performance			

		monitoring metrics			
Planning and Control	3	Operating budget principles (e.g., fixed vs. flexible, zero-based, variance analysis)	The budget projects a 5.0% reduction in errors with an expenditure of $22,000. Actual data show a 4.5% reduction in errors at a cost of $19,000. The volume variance is $2,200 favorable.	Answer: Yes	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders. Chapter 17
Planning and Control	4	Capital budgeting principles	In capital budget proposal evaluations, payback, present cost, net present value, and internal rate of return are approaches used in developing a capital budget.	Answer: Yes	Finkler, S. A., & McHugh, M. (2008). Budgeting concepts for nurse managers (4th ed.). St. Louis, MO: Elsevier/Saunders. Chapter 10 Page 262-265.
Planning and Control	6	Fundamental productivity measures (e.g., hours per patient day, cost per patient day, units of service per man hour)	One common way to measure an organization's productivity is to compare the organization's actual productivity against a standard productivity.	Answer: Yes	Finkler, S. A., & McHugh, M. (2008). Budgeting concepts for nurse managers (4th ed.). St. Louis, MO: Elsevier/Saunders. Chapter 11 Page 292-296.
Planning and Control	16	Fundamental productivity measures	True productivity improvements are those that enable an organization to use fewer resources for each unit of service, without a significant decrease in the quality of service.	Answer: No	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders. P. 340

Planning and Control	17	Analyze financial reward versus risk	Sensitivity analyses are analyses by which risk to a proposed endeavor can be recognized.	Answer: True	Finkler, S. A., Jones, C. B., & Kovner, C. T. (2013). Financial management for nurse managers and executives (4th ed.). St. Louis, MO: Elsevier/Saunders. P. 462

APPENDIX H

Manuscript Acceptance for Review

From: **Journal of Professional Nursing** eesserver@eesmail.elsevier.com
Subject: Your Submission
Date: June 12, 2018 at 1:00 PM
To: gbrydges@me.com

Ms. Ref. No.: JPN-D-18-5
Title: Financial Literacy: The Nurse Executive's Challenge
Journal of Professional Nursing

Dear Dr. Brydges,

Thank you for your interest in publishing an article in the Journal of Professional Nursing.

The review process for your manuscript,
"Financial Literacy: The Nurse Executive's Challenge," has been completed. At this time, we ask that you consider making revisions in your paper in accordance with the reviewers' recommendations, which are below.

Please consider this request to revise your paper and notify our managing editor, Bill O'Connor, of your intentions. If you have any questions regarding the revision process, please contact Mr. O'Connor at AACN headquarters in Washington, D.C. (jpn@aacn.nche.edu).

The revised version of your submission is due by Aug 11, 2018.

NOTE: Upon submitting your revised manuscript, please upload the source files for your article. For additional details regarding acceptable file formats, please refer to the Guide for Authors at: http://www.elsevier.com/journals/journal-of-professional-nursing/8755-7223/guide-for-authors

When submitting your revised paper, we ask that you include the following items:

Response to Reviewers (mandatory)

This should be a separate file labeled "Response to Reviewers" that carefully addresses, point-by-point, the issues raised in the comments appended below. You should also include a suitable rebuttal to any specific request for change that you have not made. Mention the page, paragraph, and line number of any revisions that are made.

Manuscript and Figure Source Files (mandatory)

We cannot accommodate PDF manuscript files for production purposes. We also ask that when submitting your revision you follow the journal formatting guidelines. Figures and tables may be embedded within the source file for the submission as long as they are of sufficient visual quality. For any figure that cannot be embedded within the source file (such as *.PSD Photoshop files), the original figure needs to be uploaded separately. Refer to the Guide for Authors for additional information.

Highlights (mandatory)

Highlights consist of a short collection of bullet points that convey the core findings of the article and should be submitted in a separate file in the online submission system. Please use 'Highlights' in the file name and include 3 to 5 bullet points (maximum 85 characters, including spaces, per bullet point). See the following website for more information
http://www.elsevier.com/highlights

Graphical Abstract (optional)

Graphical Abstracts should summarize the contents of the article in a concise, pictorial form designed to capture the attention of a wide readership online. Refer to the following website for more information: http://www.elsevier.com/graphicalabstracts

Please note that this journal offers a new, free service called AudioSlides: brief, webcast-style presentations that are shown next to published articles on ScienceDirect (see also http://www.elsevier.com/audioslides). If your paper is accepted for publication, you will automatically receive an invitation to create an AudioSlides presentation.

Sincerely,

Patricia Morton
Editor
Journal of Professional Nursing

Reviewers' comments:
FROM THE EDITOR:

I regret the time taken to review your manuscript and apologize for any inconvenience the delay may have caused.

Thank you for sending a well written paper.

From: **Karen S. Hill** em@editorialmanager.com
Subject: JONA submission
Date: March 30, 2019 at 10:45 AM
To: Garry Brydges gbrydges@me.com

KH

RE: Assessing Executive Nurse Leaders' Financial Literacy Level: A Mixed Method Study

Hi Garry,

Thanks for your submission to JONA. The manuscript will be sent to April reviewers tomorrow and they have up to 30 days to review. Depending on the volume of submissions, I will take between 30-90 days after that so don't expect to hear until around August. It may be sooner but I wanted you to know the process. If accepted, we immediately place the manuscript into a plan and it us usually published within 10 months of submission.

FYI, the title page was not in the right format and some information is missing so if it is accepted, expect to have to revise it. Don't do now because the next step is blinded peer review.

Sincerely,
Karen

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Karen S. Hill, RN, DNP, NEA-BC, FACHE, FAAN, Editor-in-Chief

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APPENDIX I

Curriculum Vitae

Garry J. Brydges DNP, MBA, ACNP-BC, CRNA, FAAN

XXXX **** ********• ********, Texas 77030 • XXX.XXX.XXXX • E-Mail: gbrydges@twu.edu

EDUCATION

Doctorate of Philosophy in Nursing (PhD) 2012-Current
Texas Woman's University – College of Nursing, Houston, TX
Dissertation Focus: "*Healthcare Economics: Financial Literacy in Executive Nursing Leadership*"
Expected Graduation: May 2019

Executive Masters of Business Administration (E-MBA) 2012-2014
Texas Woman's University – School of Management, Houston, TX

Doctorate of Nursing Practice (DNP) 2009-2011
Texas Christian University – College of Nursing & Health Sciences, Fort Worth, TX
Capstone: "*Anesthesia Preoperative Considerations in the Heart Failure Patient with Cardiac Resynchronization Therapy*"

Masters of Nursing in Nurse Anesthesia (CRNA) 1999-2002
University of Texas at Houston Health Science Center – School of Nursing, Houston, TX
Thesis: "Effect of Beta-Blocker Treatment on Mortality in Mexican American Males and Females Post-Myocardial Infarction"

Masters of Nursing in Acute Care Nurse Practitioner (ACNP) 1997-1999
University of Texas at Houston Health Science Center – School of Nursing, Houston, TX
Thesis: "*Mexican American gender differences in medical management post myocardial infarction*"

Bachelor of Science in Nursing (BScN) 1991-1994
University of Alberta - Faculty of Nursing, Edmonton, Alberta, Canada
- Graduate with Distinctions
- Dean's Honor List (1991-1994)

Critical Care Certification Program 1993-1994
University of Alberta - Faculty of Nursing, Edmonton, Alberta, Canada
- Worked with Faculty of Nursing on curriculum development for a pilot program in critical care certification.
- First non-RN graduate to complete the pilot certification program for non-RN graduates.

CAREER HISTORY

University of Texas MD Anderson Cancer Center, Houston, TX 2002-Current
Chief Nurse Anesthetist 2005-Current
- Oversee 107 direct report APRN Clinicians, 6 direct report APRN Anesthesia Managers
- Manage an operational budget exceeding $50 million in anesthesia services.
- Manage a $18.7 million personnel budget for direct patient care services: achieved aggressive personnel expense targets within +/- 3% budgeted expenses.

- Collaborative leadership in deploying the **APRN/CRNA Opioid Sparing initiative for Enhanced Recovery after Surgery (ERAS) Program**.
- Led these **APRN/CRNA Opioid Sparing initiatives for Enhanced Recovery after Surgery (ERAS) Program** nationally and globally through presentations, publications, media interviews, and collaborative leadership in professional organization and national committees
- Mentored over 60 CRNAs in creating an evidence based resource document on opioid-sparing practice initiatives for case specific procedures resulting an **opioid-sparing resource manual**
- 2014, 2010 & 2006 through leadership collaboration, successfully empowered employees to attained **Nursing Magnet Accreditation**. As APRN Chair Advance Practice Nurse (APRN) Credentialing Committee, provided leadership in the discussion on screening APRN applicants, overseeing thorough background checks, compliance with all Texas State Board of Nursing Practice Acts (Rules & Regulations), National Credentialing/Recredentialing compliance, and enforcement of State & Institutional APRN Standards of Practice.
- **2012 Primary Investigator: Grant for Graduate Nursing Education (GNE) Demonstration Project** sponsored by CMS (Project specific funding exceeded $500,000). Performed collaborative leadership with the University of Texas School of Nursing to develop a simulation project for MD Anderson Cancer Center APRNs, utilizing the GNE funds to fund the project. The partnership resulted in the Nursing School expanding faculty positions.
- 2011-2013 Doctoral Mentor: Mentored 6 doctoral students in conducting **Time-Dependent Activity-Based Costing (TDABC)** projects in Non-Operating Room Anesthetizing locations, demonstrating cost-effective, high quality healthcare delivery as measure by value-based outcomes and cost allocation through enhanced technical efficiency. Aggregate annual cost savings approached $1 million.
- **Joint Commission Accreditation Survey** and subsequent **Center for Medicare and Medicaid Services (CMS) Validation Survey**: Provided leadership in the areas of hospital credentialing, personnel file review, perioperative safety, and anesthesia documentation compliance for conditions of participation under CMS.
- Collaborative leadership in Improving patient throughput, trimming nearly one day of waste from system by participating in patient throughput process that mapped patient movement throughout perioperative system and enhancing patient-center customer care.
- Joint leadership as Quality and Regulatory representative on new electronic Medical Record Implementation Team and Clinical Informatics Council.
- Developed and Implemented Electronic Departmental Employee Profile software package.
- Effectively addressed increasing economic challenges resulting from decreased reimbursement and volumes without compromising quality patient care by actively participating in personnel restructuring process, assuming additional functions, implementing numerous new policies/procedures and change management initiatives.
- Recognized as proactive change agent and expert on Value-Based Purchasing and Inpatient/Outpatient Quality Reporting programs by collaborating with senior leadership and management team in preparing organization for future healthcare changes.
- Trimmed unnecessary variation in clinical practices and facilitated development of physician leaders by collaboratively working with them in review of quality / cost data, creation of relevant, balanced dashboard and performance improvement initiatives.

Certified Registered Nurse Anesthetist-Staff 2002 – 2005

- Provide anesthesia over a wide variety of settings: specialty areas include, but not limited to, awake craniotomies, spine surgery, radical nephrectomy with vena cava thrombus

resections, hepatic resections, pancreatoduodenectomy, thoracotomy, extra-pleural pneumonectomy, hemipelvectomy, plastic surgical procedures, Non-OR anesthesia.

- Clinical Preceptor for UT SON Nurse Anesthesia Program students

University of Texas School of Nursing: Nurse Anesthesia Program, Houston, TX 2001 – Current
Clinical Assistant Professor of Acute Care 2012 – Current
Clinical Coordinator 2002 – 2010

- Preceptor SRNA's during their clinical rotation at UT MD Anderson
- Set-up and coordinated onboarding for clinical rotations

University of Texas School of Nursing: DNP Advisory Board, Houston, TX 2014-Current

- Strategic think tank for collaborated in developing innovations in DNP programmatic development
- Develop marketing strategies for DNP clinical experiences across the Texas Medical Center
- Conduct Research on emerging trends for DNP graduates across the healthcare continuum

Baylor College of Medicine: Nurse Anesthesia Program, Houston, TX 2011-Current
Clinical Assistant Professor of Allied Health Sciences

Valley Baptist Medical Center, Harlingen, TX 1994-2000

Nurse Manager: Cardiovascular ICU, Surgical ICU, Medical ICU, Coronary Care Unit 1998 – 2000

- Provided leadership in the develop & implement preceptorship program for post-operative care of the cardiac surgery patient, CVVH/CVVHD, IABP, and BiVentricular Assist Device
- Monitor and control operational expenditures for critical care
- Responsible for scheduling staff and triaging patients within critical care and medical floors
- Responsible for collaborating physician/nurse issues related to clinical & patient care issues

Clinical Educator: Cardiovascular ICU, Surgical ICU, Medical ICU, Coronary Care Unit 1995 – 2000

- American Heart Association- Basic Life Support & Advanced Cardiac Life Support Instructor
- Authorized Kontron KAAT II Intra-Aortic Balloon Pump provider
- Authorized Abiomed BVS 500 Biventricular Assist Device Instructor
- Authorized HP/Medtronic Transcutaneous/Transvenous Pacemaker Instructor

Charge Nurse: Cardiovascular ICU, Surgical ICU, Medical ICU, Coronary Care Unit 1994 – 1998

- Responsible for intensive/trauma patient care, patient triaging, and air-vac transport
- Instructor/resource person for staff nurses taking care of the following patients: immediate post-operative cardiac bypass, valve replacements (aortic/mitral), carotid endarterectomies, femoral-popliteal bypasses, triple "A" repairs, cardiogenic shock patients on intra-aortic balloon pump, and transplant patients with Abiomed BVS 500 ventricular assist device
- Lead nursing staff in patient cardiac and respiratory resuscitation efforts
- Collaborate with physician and Chaplin in dealing with grieving families of dying patients

PROFESSIONAL ORGANIZATION MEMBERSHIP

American Academy of Nursing (AAN), Silver Spring, MD 2018-Current
American Association of Critical Care Nurses (AACN), Aliso Viejo, CA (#12481809) 2014-Current
American Association of Nurse Anesthetists (AANA), Park Ridge, IL (#53219) 2002-Current
American College of Healthcare Executives (ACHE), Chicago, IL (#764394) 2006-Current
American Nurses Association (ANA), Silver Spring, MD (#01380433) 2010-Current

American Nurses Credentialing Center (ANCC), Silver Spring, MD (#30252347)	1998-Current
American Organization of Nurse Executives (AONE), Chicago, IL (#8022580437)	2012-Current
Sigma Theta Tau International (STTI), Indianapolis, IN (#0338997)	1998-Current
Texas Association of Nurse Anesthetists (TxANA), Austin, TX	2002-Current
Texas Nurses Association (TANA), Silver Spring, MD	2010-Current

PROFESSIONAL ORGANIZATION ACTIVITIES

AANA Board of Director: President 2018 – 2019

- Director Term (2018-019): Elected Position (**Effective**: September 2018-August 2019)
- **Media Interview:** Stager, A. (2018). Nurse Anesthetists Learn Methods for Addressing National Opioid Crisis. Minnesota Daily. retrieved from: http://www.mndaily.com/article/2018/06/n-nurse-anesthetists-learn-methods-for-addressing-national-opioid-crisis
- **Media Interview**: Brydges, G. (2018). 3 Things States Need To Do To Ensure Patients Receive The Care They Need, According To New HHS Report. Becker's ASC Review retrieved from: https://www.beckersasc.com/anesthesia/3-things-states-need-to-do-to-ensure-patients-receive-the-care-they-need-according-to-new-hhs-report.html
- **Media Interview:** Stewart, A. (2018). Top Anesthesia Challenges, The Field's Future & How CRNAs Will Shape It – 5 Qs with AANA President. Becker's ASC Review retrieved from: https://www.beckersasc.com/anesthesia/top-anesthesia-challenges-the-field-s-future-how-crnas-will-shape-it-5-qs-with-aana-president.html
- **Media Interview:** Heath, S. (2018). Promoting Patient Choice, Consumer-Centered Care HHS Priorities. Patient Engagement HIT retrieved from: https://patientengagementhit.com/news/promoting-patient-choice-consumer-centered-care-hhs-priorities

AANA Board of Director: President-Elect 2017 – 2018

- Director Term (2017-018): Elected Position (**Effective:** September 2017-2018)
- Leadership Development & Strategic Planning: Paul Meyer & Tecker International
- **Opioid Crisis:** Led the development of a social media site CRNA-ERP [Enhanced Recovery Program] (March 2017) aimed at addressing the opioid crisis with new innovative practice strategies through Opioid-Sparing techniques. Currently, 1,840 members globally on the site collaborate to share evidence-based practice and outcomes, resource for students, and organizational collaboration.
- **Testimony:** FDA-Opioid Policy Steering Committee on The Opioid Crisis, Silver Spring, MD on January 30, 2018. Focused testimony on the Nationwide Prescription History Database and Clinical Applications the CRNA can leverage to optimize opioid-sparing strategies
- **Policy & Advocacy:** collaborated with Washington DC Lobbying firm: Posinelli on the Opioid Crisis and strategies for Advocacy
- **Education on Opioid-Sparing:** authored an AANALearn course: Enhanced Recovery After Major Abdominal Surgery focusing on techniques for opioid sparing offered to 52,000 CRNAs nationally
- **Education on Opioid-Sparing:** co-authored a Medscape course: The Importance of Neuromuscular Blockade Reversal for Enhanced Recovery of Surgical Patients offer in 5 languages globally
- Collaborator with multidisciplinary professionals leading discussions on clinical pathway, order set

development, team dynamic, and resource documents for clinicians to address the opioid crisis. Provided framework and infrastructure to over 150 clinical practices across the US on Opioid Sparing and Enhanced Recovery After Surgery (ERAS) programs

- **Media Interview:** Lund, D. (2017). Optimizing the patient experience with enhanced recovery and multimodal anesthesia. Mediaplanet retrieved from: http://www.futureofpersonalhealth.com/sponsored/optimizing-the-patient-experience-with-enhanced-recovery-and-multimodal-anesthesia
- **Media Interview:** Wood, E. (2017). Evidence-based practice supports adopting ERAS protocols. OR Manager. (33)5, 1-6. http://www.ormanager.com/evidence-based-practice-supports-adopting-eras-protocols/
- **Media Interview:** Edwards, J. (2017). Memorial using nurses for anesthesia. Retrieved from: http://dailysentinel.com/news/local/article_b241b7ed-3ee0-5dd7-940c-8da67e026922.html
- **Media Interview:** Fairley, J. (2018). New anesthesia methods fueled by AI and Opioid-Addiction. Retrieved from: https://www.huffingtonpost.com/entry/opioid-addiction-lowering-costs-and-ai-are-driving_us_5a56ec07e4b024fa0543b6b0
- Collaborated in leading group discussions with over 15 drug and device companies on optimizing innovative product integrations for Opioid Sparing Techniques
- **Policy & Advocacy:** Ohio APRN legislation on Prescriptive Authority, assist with strategy and testimony
- **Policy & Advocacy:** Novatos & CMS regulatory on APRN reimbursement language for pain management, assist with strategy on proposed regulation for provider non-discrimination

AANA Board of Director: Director Region 7 2014 – 2016

- Director Term (2014-016): Elected Position
- **Opioid Crisis:** Collaborated with organizational leadership in developing membership resources for opioid-sparing techniques.
- **Opioid Crisis:** provide leadership in lecture content translating clinical practice experience in developing opioid-sparing programs with outcomes, economics, reimbursement changes, and social policy directly related to the Opioid Crisis
- **Policy & Advocacy:** Mississippi APRN legislation on Collaborative Agreement, assist with strategy, legislative visits, and legislative dinners
- **Policy & Advocacy:** Alabama APRN legislation on radiological fluoroscopy, assist with strategy and testimony preparation
- **Policy & Advocacy:** California AA licensure, assist with strategy, testimony preparation, and legislative visits
- Provided **Testimony** on HB 2267 APN Licensure Anesthesiology Assistants before Texas House of Representatives: Public Health Committee April 7, 2015
- Provided **Testimony** on SB 1794 Licensure Anesthesiology Assistants before Texas Senate: Committee on Health and Human Services April 14, 2015
- Leadership Development & Strategic Planning: Mary Byers – "Race for Relevance"

AANA Foundation: Board of Directors 2017 – 2018

- Appointed Position

AANA Task Force on Innovation and Reimbursement 2017-2018

- Strategic Work on Alternative Payment Models
- Collaborate with Avalere – Washington, DC on perform risk analysis in anesthesia

AANA Executive Compensation Committee 2016-2019

- Develop and Implement Evaluation Tool for CEO Compensation
- Develop and Implement Quantitative & Qualitative Plan for CEO Incentive Plan
- Perform exhaustive Literature search on the CEO Scorecard and development of Scorecard

AANA Finance Committee 2016-2017

- Appointed Position – by AANA President
- Leadership on Finance team to oversee finances of the association, including budgeting, financial performance, investments in accordance with the strategic plan, advising and making recommendations to the Board of Directors on financial ramifications or impacts of special projects or initiatives as requested by the board.
- The Finance Committee serves as the Board of Directors for AANA Associations Management Services, Inc. (AAMS) whose primary function is operating AANA Insurance Services.

AANA Continuing Education Committee-Chairman 2016

- Appointed Position – by AANA President
- The formulation and/or revision of the AANA CE recommended criteria for eligibility for recertification to the NBCRNA consistent with the Continued Professional Certification program; supervise the continuing education projects conducted by the AANA; evaluate applications for program approval; approve refresher courses based upon established criteria; reconsider denials of application of CE credit by members or providers; accepts additional duties delegated to the Committee as deemed advisable by The AANA Board of Directors.

AANA Foundation 2013 – Current

- Poster Abstract Review Committee

AANA Resolutions Committee 2013 – 2014

- Elected Position
- The Resolutions Committee formulates recommendations on all resolutions, those duly submitted and those designated as emergency resolutions, and present its recommendations to the membership at the Business Meeting. The committee consists of five active members; committee members serve for one year.

AANA Practice Committee 2010 – 2013

- Appointed Position by AANA President
- Review and revise practice-related documents and resources using the AANA EB process for practice document creation; attend all committee meetings; continually conduct an enviroscan of nurse anesthesia practice seeking to identify emerging trends that may impact nurse anesthesia practice now and in the future; review and develop recommendations concerning external organizations' documents as requested by the AANA President; develop recommendations concerning issues of importance as requested by the AANA President; provide consultation to various AANA committees or staff regarding CRNA practice, as needed; and other activities as requested by the AANA President.
- Review & Update Policy: Unintended Awareness Under Anesthesia

AANA Government Relations Committee 2009 – 2010

- Appointed Position by the AANA President

- GRC responsibilities concern state government affairs; federal government affairs issues and priorities are addressed by the AANA Board of Directors. The GRC provides valuable input and practitioner perspective that assists the State Government Affairs (SGA) Division staff in their everyday interactions with state associations regarding state legislative and regulatory issues.
- The GRC supports the strategy pillar of the 50-State Service Strategy, including developing tools and processes for enviroscanning, state- and issue-specific tactics and research, and advocacy competence development. The GRC also works closely with other AANA committees to facilitate successful implementation of the 50-State Service Strategy.

National Board on Certification & Recertification for Nurse Anesthetists Park Ridge, IL 2014-2016
AANA BOD Liaison
- Appointed Position by Organization President in 2014-2015 and 2015-2016

The Joint Commission Oakbrook Terrace, IL 2014-Current
Professional and Technical Advisory Committee (PTAC)
- Recommendation by AANA Executive Leadership as Delegate to AANA
- Appointed by TJC Board of Directors
- Provide technical expert advice on accreditation standards for hospitals

Texas Department of Insurance – Commissioner of Insurance Austin, TX 2014-2016
Authorization of Prescription Drug Benefits Advisory Committee
- Appointed by the Texas Commissioner of Insurance
- Review regulations and make current recommendation to the commission on drug benefits

American Nurses Credentialing Center Silver Spring, MD 2013-Current
ANCC Nursing Skills Competency Program Surveyor
- Application Reviewer: Intrathecal Medication Administration

Oklahoma Foundation of Medical Quality, Oklahoma City, OK 2012-Current
Surgical Care Improvement Project (SCIP) Committee Member
- Recommendation by AANA Executive Leadership as Delegate to AANA
- Appointed by SCIP Board of Directors
- Review & Update Policy: On-Time Antibiotics in Surgery, anti-coagulation, performance metrics

American Nurses Association Silver Spring, MD 2009-2012
Congress on Nursing Practice and Economics
- Recommendation by AANA Executive Leadership as Delegate to AANA
- Appointed by ANA Board of Directors
- Member: Doctorate of Nursing Practice Position Statement Committee
- Member: Health Policy Committee-Defining Care Coordination
- Presented AANA Position Statement on Safe Injection Practice for recommendation and approval to the American Nurse Association Board of Directors, January 2011 (accepted on February 2011).
- Contributor to revisions of the textbook American Nurses Association. (2010). Nursing: scope and standards of practice (2nd ed.). Silver Spring, Md.: American Nurses Association.

- Contributor to revisions of the textbook American Nurses Association. (2010b). Nursing's social policy statement : the essence of the profession (3rd ed.). Silver Spring, MD: American Nurses Association.

TEXAS ASSOCIATION OF NURSE ANESTHETISTS, Austin, TX

Board of Director: President 2012 – 2013

- Texas Healthcare Policy Development and APRN scope of practice legislative bill discussion with:
  - Texas Public Health Committee Chairwoman Lois Kolkhorst
  - Texas Health & Human Service Committee Chairwoman Jane Nelson
  - Texas Lieutenant Governor David Dewhurst
  - Texas Medical Association Board of Directors
  - Team Texas Health Policy Advocacy
- **APRN-CRNA Advocacy Initiative,** developed YouTube video series for legislative advocacy:
  - "When Life Hurts": target audience is public, legislators, prospective students (Who are CRNAs, Who is their role)
  - "Luckenback to Lubbock": target audience is public, legislators, and opinion leaders (role of CRNA on access to care)
  - "The Road Ahead": target audience is public, legislators, and opinion leaders (CRNA as safe cost-effective providers)
- **Health Policy**: Led discussions with Senator Nelson's Office of HHSC on SB406 APRN Prescriptive Authority Bill
- **Health Policy**: Led discussions with Public Health Committee Chairwoman Lois Kolkhorst on HB2397 Licensure of Anesthesiologist Assistants and Senator Uresti's Office SB1787 Licensure of Anesthesiologist Assistants to defeat both bills. Mentored 5 executive leaders in the strategic advocacy resulting in both bills not receiving readings in the House or Senate.
- **Advocacy Award:** Implemented promotion and marketing strategies on the Value of Nurse Anesthetists in Healthcare Delivery: recipient of the AANA 2013 PR Award for CRNA Week. Advocacy strategy included the development of an advocacy video entitled "Touring the Capital & How to Advocate for Your Profession". Organized buses from Dallas, Fort Worth, and Houston to transport APRNs to the capital in Austin. Video was played for continuing education credits and live discussions on how to interact with legislators and their staff. The strategy resulted in a record number of APRNs attending the event to visit the capital (exceeding 100 members)
- Developed and implemented the first state PAC fund for the TxANA.
- Implemented organizational financial review and reinvestment strategies transforming the non-profit TxANA organization fiscal reserves exceeding $1 million.
- Reorganized organizational committee structure enhancing leadership development and mentoring through active appointment of committee Deputy Chairpersons, mentoring, and structured leadership development strategies.

Board of Director: President-Elect 2011 – 2012

- 3-Year Strategic Planning
- TxANA Government Relations Committee: Chairman
- TxANA Anesthesia Practice Committee: Member
- Lecturer: TANA 2012 Spring Meeting - Neurologic Disorders Influence on Anesthesia Delivery
- Lecturer: TANA 2012 Spring Meeting - Public Policy in Texas-Your Voice Counts!

- Texas Healthcare Policy Development: Texas HHCS Commissioner Tom Suehs

Board of Director: Vice-President 2010 – 2011

- TxANA Education Programs Committee: Chairman
- TxANA Anesthesia Practice Committee: Member
- Planned & Organized 2011 TxANA Spring Meeting & 2011 TxANA Fall Meeting
- Lecturer: TANA 2011 Spring Meeting - Anesthesia & Evoked Potentials
- Provided Testimony on HB 1893 Licensure Anesthesiology Assistants before Texas House of Representatives: Public Health Committee April 20, 2011

Board of Director: Director 2008 – 2010

- 3-Year Strategic Planning
- Lecturer: TANA 2008 Spring Meeting - Pacemaker & AICD
- TxANA Information Technology Committee: Chairman
- TxANA Communications Committee: Chairman
- TxANA Education Programs Committee: Member
- TxANA Anesthesia Practice Committee: Member
- **Health Policy**: Provided Testimony on HB1107 APN Delegated Prescriptive Authority before Texas House of Representatives: Public Health Committee April 14, 2009
- **Health Policy**: Provided Testimony on HB 3376 Licensure Anesthesiology Assistants before Texas House of Representatives: Public Health Committee April 28, 2009

College of Nurses of Ontario: Practice and Policy Department, Toronto, Ont., Canada 2006-2007

Nurse Anaesthesia Focus Group

- **Health Policy (Global):** Work to make provincial legislative amendments to the Nurse Practitioner specialty role inclusive of anaesthesia.
- The focus group made iterative changes to include anesthesia and scope of practice changes to each standard and controlled act.
- Additional dialogue with the Minister of Health and Long-Term Care – Hon George Smitherman and Premier of Ontario – Hon. Dalton McGuinty to support the extended class regulation for all nurse practitioners and open access to care for Ontarians.

RESEARCH EXPERIENCE

University of Texas MD Anderson Cancer Center, Houston, TX 2014-2015

PhD Student Practicum

- Principal Investigator: Dr. Lori Williams
- Project: United States Cancer Pain Relief Committee
- Aim: develop a detailed description of the experience of chemotherapy-induced peripheral neuropathy (CIPN) for patients with cancer using qualitative research methods
- Duties: Perform Qualitative Interviews, Data analysis, Thematic Analysis

University of Texas School of Public Health, Houston, TX 2000-2001

Research Assistant – Nurse Practitioner Data Collector

- Principal Investigator: Dr. Kay L. Bartholomew
- Partners in School Asthma Management Program

- National Heart, Blood, and Lung Institute Research Grant: $1.9 million
- Data Collection: performed initial demographic screening interviews and follow-up interviews
- Bartholomew, L. K., Sockrider, M., Abramson, S. L., Swank, P. R., Czyzewski, D. I., Tortolero, S. R., . . . Tyrrell, S. (2006). Partners in school asthma management: evaluation of a self-management program for children with asthma. Journal of School Health, 76(6), 283-290. doi: 10.1111/j.1746-1561.2006.00113.x

University of Alberta: Faculty of Nursing, Edmonton, Alberta, Canada 1993-1994

Research Assistant

- Principal Investigator: Dr. Jane Drummond
- Project: Paternal Support of Childbearing Families Infant Message
- Duties: Perform literature review and data entry using Pro-Cite
- Drummond, J.E., McBride, C., & Wiebe, C.F. (1993). The development of mothers' understanding of infant crying. Clinical Nursing Research, 2(4), 396-410, DOI: 10.1177/105477389300200403. Impact Factor: 0.87
- Drummond, J.E., Wiebe, C.F., & Elliott, M.R. (1994). Maternal understanding of infant crying: What does a negative case tell us? Qualitative Health Research, 4(2), 208-223, DOI: 10.1177/104973239400400205. Impact factor: 2.19

Research Assistant

- Principal Investigator: Dr. Terry Davis
- Project: Preparing Adult Patients for Cardiac Catheterization: Grant funded - Clinical Randomized Controlled Trial
- Duties: Literature Reviews, Data Analysis, and data entry using Harvard Graphics, Pro-Cite and WordPerfect 6.0
- Davis, T. M., Maguire, T. O., Haraphongse, M., & Schaumberger, M. R. (1994). Preparing adult patients for cardiac catheterization: Informational treatment and coping style interactions. Heart & Lung: The Journal of Critical Care, 23(2), 130-139.
- Davis, T. M., Maguire, T. O., Haraphongse, M., & Schaumberger, M. R. (1994). Undergoing cardiac catheterization: The effects of informational preparation and coping style on patient anxiety during the procedure. Heart & Lung: The Journal of Critical Care, 23(2), 140-150.

EDITORIAL BOARDS

Editorial Board Term: October 2016-2020

The Journal of Nursing and Inter-professional leadership in Quality & Safety (JoNILQS)
Site: http://digitalcommons.library.tmc.edu/uthoustonjqualsafe/
Responsibilities:

- Develop content for the journal each year
- Identify key contributed research, contributed workshops, or issues panel topics from meetings/congresses suitable for publication in JONILQS and invites presenters to submit an article
- Identify key topics to include in the journal and invites key authors on these topics to submit an article

- Review, edit, and approve the technical content of the journal
- Write feature articles or support an existing or new section of the journal

PUBLICATIONS

Peer Reviewed

Brassil, K., **Brydges, G.**, Abarado, C., & Dains, J. E. (2017). Health policy and special populations: implications. In K. A. Goudreau & M. C. Smolenski (Eds.), *Health policy and advanced practice nursing: Impact and implications* (pp. 275-294). New York, NY: Springer Publishing Company.

Abarado, C., Brassil, K., **Brydges, G.**, & Dains, J. E. (2013). Health policy and special populations: Implications. In K. A. Goudreau & M. C. Smolenski (Eds.), *Health policy and advanced practice nursing: Impact and implications*. (pp. 235-250). New York, NY: Springer Publishing Company.

Brydges, G. J., Atkinson, R, Perry, M. J., Hurst, D., Laqua, T., & Wiemers, J. (2012). Awake craniotomy: A practice overview. *AANA Journal, 80*(1), 1-8. Retrieved from: www.AANA.com

Brydges, G. J., Yacouby, S., & Eriksen, L. R. (2003). Comparison of mortality in mexican-american females and mexican-american males following acute myocardial infarction. *Online Brazilian Journal of Nursing, 2*(2). Retrieved from: http://www.objnursing.uff.br/index.php/nursing

Camicia, M., Chamberlain, B., Finnie, R. R., Nalle, M., Lindeke, L. L., Lorenz, L., Hain, D., Haney, K. D., Campbell-Heider, N., Pecenka-Johnson, K., Jones, T., Parker-Guyton, N., **Brydges, G.**, Briggs, W. T., Cisco, M. C., Haney, C., & McMenamin, P. (2013). The value of nursing care coordination: a white paper of the American Nurses Association. *Nursing Outlook, 61*(6), 490-501. Retrieved from: http://www.nursingoutlook.org

Kirsner, K. M., Sarkiss, M., & **Brydges, G. J.** (2010). Treatment of tracheal and bronchial tumors and tracheal and bronchial stent placement. *AANA Journal, 78*(5), 413-419. Retrieved from: www.AANA.com

Shander, A., Smentana, G.W., **Brydges, G.**, Lisco, S., Restrepo, R, & Kollef, M. H. (2011). Panel Discussion: postoperative pulmonary complication-What are they and what are the perioperative risks? *Essential Practices in Respiratory Care*, pp. 5-12.

Non-Peer Reviewed

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Brydges, G. (2013). President's Message. TANA Newsletter, Spring 2013, Retrieved from www.txana.org

Hartgerink, A., Barber, D., Brydges, G., Raskiewicz, & Schosky, C. (2013). Resolutions Committee, 2013-2014 AANA Annual Report-Standing Committees, Retrieved from www.aana.com

Brydges, G., Mazurek, D. (2013). The Joint Commission: Hospital professional technical advisory committee (PTAC), 2013-2014 AANA Annual Report-Standing Committees, Retrieved from www.aana.com

Brydges, G. (2013). President's Message. TANA Newsletter, Summer 2013, Retrieved from www.txana.org

Brydges, G. (2013). President's Message. TANA Newsletter, Fall 2013, Retrieved from www.txana.org

Brydges, G. (2012). Another opportunity for change. TANA Newsletter, Winter 2012, Retrieved from www.txana.org

Brydges, G. (2012). Update on legislative issues and your practice. TANA Newsletter, Summer 2012, Retrieved from www.txana.org

Neft, M., Arrives, K., Austin, P., Bonanno, L., Brydges, G., Dunnihoo, J., Winner, L. & Kwan, Y. (2012). Practice Committee Update, 2012-2013 AANA Annual Report-Standing Committees, Retrieved from www.aana.com

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Brydges, G. (2010). New anesthesiologist assistant program: Partnership with Case Western University & Memorial Hermann-Texas Medical Center, & Department of Anesthesiology, Fall 2010, Retrieved from www.txana.org

Brydges, G. (2009). Securing your future: Getting involved. TANA Newsletter, Summer 2009, Retrieved from www.txana.org

Brydges, G. & Rozner, M. (2009). Pacemaker therapy: The absolute basics. TANA Newsletter, Spring 2009, Retrieved from www.txana.org

Brydges, G. (2009). The certified registered nurse anesthetist: 150 years of unparalleled healthcare delivery. TANA Newsletter, Winter 2009, Retrieved from www.txana.org

Brydges, G. (2010).Update: 2010 AANA Mid-Year Assembly Washington, DC April 24-28, 2010. TANA Newsletter, Summer 2010, Retrieved from www.txana.org

Pearce, S., Barber, D., Brydges, G., Duell, M., Green, M., Mackin, B., & MacMillan. (2009). Government Relations Committee: Update, 2009-2010 AANA Annual Report-Standing Committees, Retrieved from www.aana.com

Brydges, G. (2009). American Nurses Association Congress on Nursing Practice and Economics: Liaison Update, 2009-2010 AANA Annual Report-Standing Committees, Retrieved from www.aana.com

AWARDS

2018 FAAN Induction into American Academy of Nursing Nov 2018

- The American Academy of Nursing's approximately 2,400 fellows are nursing leaders in education, management, practice and research. Fellows represent association executives; university presidents, chancellors and deans; elected officials; state and federal political appointees; hospital chief executives and vice presidents for nursing; nurse consultants; and researchers and entrepreneurs.
- Invitation to fellowship is more than recognition of one's accomplishments within the nursing profession. Academy fellows also have a responsibility to contribute their time and energies to the Academy, and to engage with other health leaders outside the Academy in transforming America's health system by
    - Enhancing the quality of health and nursing;
    - Promoting healthy aging and human development across the life continuum;
    - Reducing health disparities and inequalities;
    - Shaping healthy behaviors and environments;
    - Integrating mental and physical health; and
    - Strengthening the nursing and health delivery system, nationally, and internationally.

2017 AACN Circle of Excellence Recipient May 2017

- Relentlessly promote patient-driven excellence
- Model skilled communication, true collaboration, effective decision making and meaningful recognition
- Transform thinking, structures and processes to address challenges and remove barriers to advance patient-driven excellence
- Enrich their own and other organizations by influencing and mentoring others in achieving excellence
- Further AACN's mission and key initiatives at influential forums
- Achieve visible results that validate the impact of individual leadership contribution to organizational excellence

2014 Business Strategy Game Grand Master Industry Champion May 2014

Global Top 100 Performance of 5400 International Teams from Business Schools

- 1st Overall Ranking Worldwide
- 3rd Best EPS (Earnings Price Per Share) Performance
- 29th Best ROE (Return on Investment) Performance
- 45th Best Stock Price

2014 Phi Kappa Phi Honors Society: Academic Excellence May 2014

AANA 2013 PR Award for CRNA Week Recipient September 2013

- Developed and Implemented promotion and marketing strategies on the Value of Nurse Anesthetists in Healthcare Delivery
- Led a marketing and videographer team in developing 4 APRN Advocacy Videos that gain national attention. 6 other state organizations used or redeveloped the advocacy videos for APRNs within their state, including Kentucky, Georgia, Florida, Oregon, Ohio, and Maine.

2008 MD Anderson Cancer Center "Best Boss Award" Recipient

- Organization with over 20,000 employees, department employees nominate a leadership candidate
- An institutional selection committee reviews the typical 40-50 nominations to select 8 finalists
- Finalist are selected for their exemplary leadership within the organization

Agatha Hodgins CRNA Memorial Award: Outstanding Graduate Nurse Anesthetist May 2002
Sigma Theta Tau International Honor Society of Nursing Award May 1999
UT School of Nursing Outstanding Master's Award May 1999
Dr. H. Lamm Scholarship: Academic Excellence May 1998, 1999
Friends of Nursing Scholarship: Academic Excellence May 1998, 1999
Dr. P. Davenport Scholarship: Academic Excellence February 1994

PRESENTATIONS

University of Minnesota Nurse Anesthesia Program - Minneapolis, MN June 8-10, 2018
Opioid Conference

- Healthcare Policy on The Opioid Crisis: The Value of a CRNA
- Opioid Sparing Anesthesia: What Can We Learn To Address The Opioid Crisis?

Wayne State University Nurse Anesthesia Program - Keynote, Detroit, MI May 19-20, 2018

- AANA Update: The Value of Membership
- Pharmacogenomics
- Human Trafficking

Middle Tennessee Nurse Anesthesia Program - Keynote, Memphis, TN May 11-13, 2018

- ERAS Update: Defining The Value of a CRNA

South Dakota Association of Nurse Anesthetists Annual Meeting, Deadwood, SD May 4-6, 2018

- AANA Update: The Value of Membership
- 12 Lead EKG: Quick & Easy Interpretation
- Goal Directed Fluid Therapy
- ERAS Update: Defining The Value of a CRNA
- AAs: A CRNA Perspective
- Crystalloid versus Albumin: You Get What You Pay For

West Virginia Association of Nurse Anesthetists Annual Meeting, Roanoke, WV April 27-29, 2018

- AANA Update: The Value of Membership
- Sugammadex: How Much Are You Willing To Pay?
- Managing "Bad" Behavior
- The Things You Must Know About Recognizing and Preventing Diversion

Alabama Association of Nurse Anesthetists Annual Meeting, Destin, FL April 13-15, 2018

- AANA Update: The Value of Membership
- PONV: Risk Stratification and Management
- Sugammadex: How Much Are You Willing To Pay?

Ohio Association of Nurse Anesthetists Annual Meeting, Columbus, OH April 6-8, 2018

- AANA Update: The Value of Membership
- 12 Lead EKG: Advanced Interpretation
- 12 Lead EKG: Quick & Easy Interpretation

Colorado Association of Nurse Anesthetists Annual Meeting, Colorado Springs, CO March 23, 2018

- AANA Update: The Value of Membership
- Goal Directed Fluid Therapy
- ERAS Update: Defining The Value of a CRNA

California Association of Nurse Anesthetists Annual Meeting, Napa Valley, CA March 9, 2018

- AANA Update: The Value of Membership
- AAs: A CRNA Perspective
- Crystalloid versus Albumin: You Get What You Pay For
- Non-Opioid & Non-Gas Anesthesia: The Anesthesia Provider's Role

Hawaii Association of Nurse Anesthetists Annual Meeting, Honolulu, HI March 2-4, 2018

- AANA Update: The Value of Membership
- Non-Opioid & Non-Gas Anesthesia: The Anesthesia Provider's Role
- Workplace Bullying: Achieving Accountability

Mississippi Association of Nurse Anesthetists Annual Meeting, Jackson, MS January 26, 2018

- AANA Update: The Value of Membership
- ERAS for Total Joint Surgery
- Fraud & Abuse in Anesthesia: Could it be You?

Lourdes University – DNP Graduation Ceremonies Sylvania, OH December 9, 2017

- Keynote Speaker: APRNs – You Are the Future!

Global Conference on Perioperative Medicine: Care for the Cancer Patient – Bending the Acute Care Cost Curve & Improving Perioperative & Oncological Outcomes, Houston, TX December 1, 2017
Host: MD Anderson Cancer Center (15 Countries represented)

- What Are The Economics of Value Based Care?

Louisiana Association of Nurse Anesthetists Fall Meeting, New Orleans, LA November 17, 2017

- AANA BOD Update

- ERAS: The Anesthesia Provider's Role
- Technical Expert Panel: Economics and Reimbursement for CRNAs

2017 ASA Annual Meeting, Boston, MA October 20-22, 2017
- Abstract presented: Finnegan, T., Gottumukkala, V. & **Brydges, G**.Online medical education improves knowledge of neuromuscular blockade reversal in surgical setting.

New England Association of Nurse Anesthetists Fall Meeting, Mount Washington, NH October 20-22, 2017
- Shared Risk: Airway Management in EBUS/Tumor Debulking
- Pharmacoeconomics: Justifying Your Anesthesia Agents & Adjuncts

New Jersey Association of Nurse Anesthetists Fall Meeting, Hoboken, NJ October 13-15, 2017
- AANA Update: The Value of Membership
- Breath In Breath Out: Pulmonary Testing Review
- 12-Lead EKG: What Cardiologists Want You to Know
- 50 Shades of Gray: Radiographic Interpretation & Consultation
- Perioperative Testing: Do I Contribute to the High Cost of Healthcare

Minnesota Association of Nurse Anesthetists Fall Meeting, Plymouth, MN October 6-8, 2017
- Anesthesiologist Assistants: A CRNA's Perspective
- Endoscopy (Non-OR): Risk Versus Reward in Anesthesia Practice
- Radiation Therapy (Non-OR): True Remote Anesthesia

Iowa Association of Nurse Anesthetists Fall Meeting, Des Moines, IA September 29-30, 2017
- CMS: What is PQRS, MIPS, & MACRA?
- Business Case: Enhanced Recovery After Surgery
- AANA Update: The Value of Membership

LACES Anesthesia & Billing Update 2017, Perdido Beach, AL September 15-17, 2017
- Crystalloids Versus Albumin: You Get What You Pay For
- Liposomal Bupivacaine: Why Is It Not On My Hospital Formulary?
- Acetaminophen IV or PO: Which Gram is the Better Buy?
- Opioid Sparing Techniques: Are We Ripping Off the Patients?
- Sugammadex: How Much Are You Willing To Pay To Breath?
- Desflurane or Sevoflurane: Only Painter Thinner is Cheaper

AANA 84rd Annual Congress, Seattle, WA September 12, 2017
- Enhanced Recovery After Major Abdominal Surgery

Texas Association of Nurse Anesthetists Fall Regional Meeting, Houston, TX August 7, 2017
- Techniques in Maximizing Non-Opioids & Minimizing Opioids
- Crystalloids Versus Albumin: You Get What You Pay For

Oklahoma Association of Nurse Anesthetists Annual Meeting, Columbus, OH August 18-20, 2017
- Non-Opioid & Non-Gas Anesthesia Technique: Implications for Anesthesia Providers
- Anesthesiologist Assistants: A CRNA's Perspective
- 12 Lead EKG: Advanced Interpretation

Barry University: DNP Nurse Anesthesia Graduation, Hollywood, FL July 14-16, 2017
- Keynote Speech:

1ST Global Oncologic Critical Care Symposium, Houston, TX May 11, 2017
Host: MD Anderson Cancer Center (12 Countries represented)

- Techniques in Maximizing Non-Opioids & Minimizing Opioids

Ohio Association of Nurse Anesthetists Fall Regional Meeting, Columbus, OH April 22-23, 2017

- Non-Opioid & Non-Gas Anesthesia Technique: Implications for Anesthesia Providers
- Anesthesiologist Assistants: A CRNA's Perspective

Alabama Association of Nurse Anesthetists Fall Regional Meeting, San Destin, FL April 20-22, 2017

- Non-Opioid & Non-Gas Anesthesia Technique: Implications for Anesthesia Providers
- Endoscopy: Risk versus Reward in Anesthesia Practice
- Personalized Medicine: The Future is Now

New England Association of Nurse Anesthetists Fall Regional Meeting, Boston, MA April 1-2, 2017

- MRI: Dangers in Anesthesia Workflow
- Pharmacoeconomics: Justifying You Anesthesia Agents & Adjunct Anesthetics
- Post-Intubation Pulmonary Complications: The Role of Microaspiration

Colorado Association of Nurse Anesthetists Annual Meeting, Colorado Springs, CO March 24-26, 2017

- Enhanced Recovery: Patient & Provider Perspectives
- 12-Lead EKG Basics
- 12-Lead EKG Advanced
- 12-Lead EKB Bundle Branch Block

ERAS Advisory Group 2017, Dallas, TX February 18, 2017

- Enhanced Recovery After Surgery (ERAS) – Business Analytics & Acetaminophen

OR Business Management Conference 2017, New Orleans, LA January 31, 2017

- Enhanced Recovery After Surgery (ERAS) – The New Paradigm for Anesthesia

Interdisciplinary Summit on Orthopedic Value Based Care, Newport Beach, CA January 21-22, 2017

- Building Clinical Pathways & Order Sets
- Working as a TEAM

Mississippi Association of Nurse Anesthetists Fall Regional Meeting, Jackson, MS January 26-29, 2017

- Non Opioid & Non Gas Anesthesia
- Personalized Medicine
- Chemotherapy and radiation - Anesthesia Concerns

Medscape – Education Activity, Houston, TX December 19, 2016

- The Importance of Neuromuscular Blockade Reversal for Enhanced Recovery of Surgical Patients. Authors: Gottumukkala, V. & Brydges, G.

Preceptoring the Preceptor: A Workshop for Clinical Preceptors, Sylvania, OH October 15, 2016
Lourdes University

- Mentoring and Preceptoring Our Profession into the Future
- Critical Incident/Crisis Management in the OR: Your Response

7th Congress of the Professional Society for the Suppression of Pail, Pula, Croatia October 8, 2016

- Pain Management in Palliative Care (Skype Lecture)

Maine Association of Nurse Anesthetists Fall Meeting, Cape Neddick, ME October 8, 2016

- Non-OR Procedures: Cigars, Whiskey and Winning
- Goal Directed Therapy: Advanced Techniques & Decision-Making Pathways

Wisconsin Association of Nurse Anesthetists Fall Meeting, Elkhart Lake, WI October 2, 2016

- ERAS: The Anesthesia Provider's Role
- Pharmacoeconomics: Justifying Your Anesthesia Agents and Adjuncts
- Propofol Infusion Syndrome: PRIS
- Anesthesiologist Assistants: A CRNA's Perspective

New England Association of Nurse Anesthetists Fall Meeting, Foxwood, CT October 1, 2016

- ERAS: The Anesthesia Provider's Role

Kentucky Association of Nurse Anesthetists Fall Meeting, Louisville, KY September 23, 2016

- ERAS: The Anesthesia Provider's Role
- Pharmacoeconomics: Justifying Your Anesthesia Agents and Adjuncts
- CMS: What is PQRS, MIPS, & MACRA?

AANA 83rd Annual Meeting, Washington, DC September 13, 2016

- Enhanced Recovery Symposium: Pharmacoeconomics and Federal Reimbursement

Texas Association of Nurse Anesthetists Fall Regional Meeting, Houston, TX August 7, 2016

- AANA Update: The Value of Membership
- Pharmacoeconomics: Justifying Your Anesthesia Agents & Adjunct Anesthetics
- ERAS: The Anesthesia Provider's Role

Mississippi Association of Nurse Anesthetists Annual Meeting, San Destin, FL July 7-10, 2016

- Hospital Credentialing & Privileging: Parallels to the Secret Service
- ERAS: The Anesthesia Provider's Role

LACES Summer Seminar 2016, Perdido Beach, AL June 24-26, 2016

- AANA Update: The Value of Membership
- Chemotherapy and Radiation; Pharmacological and Anesthesia Concerns
- Anesthesia For Endoscopy: Risk vs. Reward in Anesthesia Practice
- Awake Craniotomies and Regional Anesthesia
- Acetaminophen: Making a Business Case for My Practice
- Pharmacoeconomics: Justifying Your Anesthesia Agents & Adjunct Anesthetics

Pennsylvania Association of Nurse Anesthetists Spring Meeting, Hershey, PA May 1, 2016

- Propofol Infusion Syndrome: PRIS

Alabama Association of Nurse Anesthetists Fall Regional Meeting, San Destin, FL April 22-24, 2016

- Fluid Management: A Paradigm Shift
- Acetaminophen: Making a Business Case for My Practice
- Pharmacoeconomics: Justifying Your Anesthesia Agents & Adjunct Anesthetics

New England Association of Nurse Anesthetists Fall Regional Meeting, Boston, MA April 15-17, 2016

- Non-OR Procedures: Cigars, Whiskey and Winning
- Pharmacogenomics: The DNA of Anesthesia
- Goal Directed Therapy: Advanced Techniques & Decision-Making Pathways

Ohio Association of Nurse Anesthetists Fall Regional Meeting, Columbus, OH April 15-17, 2016

- Basic Evaluation of Patients with Pacemakers & Defibrillators
- Pharmacoeconomics: Justifying Your Anesthesia Agents and Adjuncts

Idaho Association of Nurse Anesthetists Fall Regional Meeting, Boise, ID April 15-17, 2016

- ERAS: The Anesthesia Provider's Role
- Pharmacogenomics: The DNA of Anesthesia

LACES Spring Seminar 2016, Perdido Beach, AL March 18-20, 2016

- AANA Update: The Value of Membership
- Propofol Infusion Syndrome
- Non-OR Procedures: Cigars, Whiskey and Winning
- Inhalation Agents in the Elderly & Obese
- 12-Lead EKG: Bundle Branch Blocks
- 12-Lead EKG: Quick & Easy Interpretation

California Association of Nurse Anesthetists Spring Meeting, Sacramento, CA March 9-13, 2016

- ERAS: The Anesthesia Provider's Role
- Pharmacoeconomics: Justifying Your Anesthesia Agents and Adjuncts
- CMS: What is PQRS, MIPS, & MACRA?

Maryland Association of Nurse Anesthetists Fall Regional Meeting, Columbia, MD March 5, 2016

- ERAS: The Anesthesia Provider's Role
- Airway Management: EBUS and Tumor Debulking

Minnesota Nurse Anesthesia School Conference, Minneapolis, MN February 20, 2016

- Pharmacoeconomics: Justifying Your Anesthesia Agents and Adjuncts
- Enhanced Recovery: What Can Anesthesia Contribute?

Texas Association of Nurse Anesthetists Fall Regional Meeting, Austin, TX January 24-25, 2016

- AANA Update: The Value of Membership

Ohio Association of Nurse Anesthetists Fall Regional Meeting, Maumee, OH November14-15, 2015

- Crisis Management in the OR: What's Your Response
- Non-OR Procedures . . . All of a Sudden, I'm A Genius?

AANA 2015 Fall Leadership Academy, Chicago, IL November 3-8, 2015

- AANA Presentation: ERAS for Industry Partners
- Business Case for Enhanced Recovery After Anesthesia

Florida Association of Nurse Anesthetists Fall Meeting, Tampa, FL October 23-25, 2015

- AANA BOD Update
- Enhanced Recovery: What Can Anesthesia Contribute?
- Pacemakers & Defibrillators-Simply the Basics

Alabama Association of Nurse Anesthetists Fall Meeting, Birmingham, AL October 16-18, 2015

- AANA BOD Update
- Non-Opioid/Non-Gas Anesthesia Techniques
- 12-Lead EKG: Quick & Easy Interpretation

Colorado Association of Nurse Anesthetists Fall Meeting, Denver, CO October 10, 2015

- AANA BOD Update
- Enhanced Recovery: What Can Anesthesia Contribute?

Louisiana Association of Nurse Anesthetists Fall Meeting, New Orleans, LA, October 2-4, 2015

- AANA BOD Update
- 12-Lead EKG: Quick & Easy Interpretation

LACES Fall Seminar 2015, Perdido Beach, AL September 18-20, 2015

- AANA BOD Update
- Pacemakers & Defibrillators in Anesthesia
- Non-Opioid/Non-Gas Anesthesia Techniques
- Inhalation Agents in the Elderly & Obese
- 12-Lead EKG: Quick & Easy Interpretation

AANA Anesthetists 82nd Annual Meeting, Salt Lake City, Utah August 31, 2015

- Health & Wellness Forum: Critical Incidence Stress Management (CSIM)

University of Texas Health Sciences – DNP Class of 2016, Houston, TX August 13, 2015

- Healthcare Policy Development: APRN's Role in Advocacy

Texas Association of Nurse Anesthetists Spring Meeting, Plano, TX August 7, 2015

- AANA BOD Update
- Pacemakers & Defibrillators-What You Were Afraid to Ask (Advanced)

Mississippi Association of Nurse Anesthetists Annual Meeting, Sandestin, FL July 10, 2015

- AANA BOD Update
- ERAS: The Anesthesia Provider's Role

Pennsylvania Association of Nurse Anesthetists Spring Meeting, Hershey, PA May 3, 2015

- Neuro-Anesthesia: A General Overview
- Crisis Management in the OR: What's Your Response

Michigan Association of Nurse Anesthetists Spring Meeting, Dearborn, MI April 25-26, 2015

- Non-OR Procedures . . . All of a Sudden, I'm A Genius?
- Crisis Management in the OR: What's Your Response
- Implanted Pacemakers & Anesthesia: Just the Basics

University of Texas Health Sciences – DNP Class of 2015, Houston, TX March 26, 2015

- Healthcare Policy Development: APRN's Role

Texas Association of Nurse Anesthetists Spring Meeting, San Antonio, TX March 15, 2015

- AANA BOD Update

Mississippi Association of Nurse Anesthetists Annual Meeting, Jackson, MS January 17-18, 2015

- AANA BOD Update
- Pacemakers & Defibrillators-Simply the Basics

Alabama Association of Nurse Anesthetists Fall Meeting, Birmingham, AL October 11, 2014

- AANA BOD Update

- Pacemakers & Defibrillators-Simply the Basics

Texas Association of Nurse Anesthetists Spring Meeting, Las Vegas, NV March 7, 2014
- Anesthesia Business Plan
- Negotiating Beyond Contracts

University of Texas Health Sciences – DNP Class of 2014, Houston, TX January 16, 2014
- Healthcare Policy Development: APRN's Role

Texas Association of Nurse Anesthetists Fall Meeting, Arlington, TX September 14, 2013
- The PhD and DNP Roles: An Innovative Dichotomy

AANA 80th Annual Meeting, Las Vegas, NV August 10, 2013
- Student Session: CRNA Professional Development: Beyond Clinical Practice

ASATT National Conference, Las Vegas, NV August 09, 2013
- Awake Craniotomies & Regional Anesthesia

Texas Woman's University & Sigma Theta Tau International, Houston, TX April 03, 2013
- The PhD and DNP Roles: An Innovative Dichotomy

Texas Association of Nurse Anesthetists Fall Meeting, Austin, TX March 1, 2013
- Politics & Policy: Speaking with your Legislator

ASATT National Conference Washington, DC October 05, 2012
- The Role of Endotracheal tube intubation and Microaspiration

Louisiana Association of Nurse Anesthetists Fall Meeting, Natchitoches, LA October 2012
- The Role of Endotracheal tube intubation and Microaspiration
- Awake Craniotomies & Regional Anesthesia
- Basic Evaluation of Patients with Pacemakers & Defibrillators

Texas Association of Nurse Anesthetists Fall Meeting, San Antonio, TX September 2012
- Politics & Policy: What You Should Know

AANA 79th Annual Meeting, San Francisco, CA August 11, 2012
- Procedures Outside of the OR . . . all of a sudden, I'm a Genius
- What's New in the World of Craniotomies

Texas Association of Nurse Anesthetists Spring Meeting, Woodlands, TX February 2012
- Neurological Disorders: Clinical Implications
- The Political Process: What's Your Role?

American Association of Respiratory Therapists National Conference, Tampa Bay, FL November 5-6, 2011
- Post-Intubation Pulmonary Complications: The Role of Microaspiration

ASATT Region V Conference: UT MD Anderson Cancer Center, Houston, TX June 04, 2011
- Anesthesia Machine and Anesthesia Analyzers

American Association of Critical Care Nurses: NTI, Chicago, IL May, 2011
- Post-Intubation Pulmonary Complications: The Role of Microaspiration

Texas Association of Nurse Anesthetists Spring Meeting, Austin, TX March, 2011

- Evoked Potentials: Clinical Implications

AANA 77th Annual Meeting, Seattle, WA August 11, 2010
- A Novel Approach . . . Awake Craniotomy
- Monitoring Our Actions . . . Evoked Potentials

ASATT Region V Conference: UT MD Anderson Cancer Center, Houston, TX June 12, 2010
- Laboratory Result for Blood Gases and Coagulation Factors

Chinese University of Hong Kong: Nethersole School of Nursing, Hong Kong, China March 19, 2010
- Role of the Certified Registered Nurse Anesthetist (CRNA) in the United States of America

AANA 77th Annual Meeting, San Diego, CA August 2009
- Abstract presented: Brydges, G., & Huynh, L. (2009). Is routine use of nasogastric or orogastric tube intraoperatively effective in reducing or preventing the incidence of postoperative nausea and vomiting: A literature review?
- Abstracted presented: Huynh, L., & Brydges, G. (2009). Gastric fistula caused by nasogastric tube in patient undergoing esophagectomy and thoracotomy for resection of esophageal adenocarcinoma: A case report.

Texas Association of Nurse Anesthetists Spring Meeting, Austin, TX March, 2009
- Basic Implanted Pacemaker and Defibrillator Evaluation

Houston Anesthesia Chapter, Houston, TX May 2008-August 2008
- Anesthesia in the Elderly and Obese Patient

Philippine Nurses Association of Metropolitan Houston, Houston, TX October 25, 2008
- Advancing the Future of Healthcare through Innovative Diagnostic & Treatment Modalities
- Current Trends in Anesthesia

Post Graduate Assembly in Anesthesiology, The New York State Society of Anesthesiologists, Inc., New York, NY December 2007
- Abstract present: Brydges, G. J., Ruiz, J. R., Selvan, M. S., Kee, S., Riedel, B., & C., F. J. (2007). Optimal Prophylactic Antiemetic (pAE) Regimens Reduce PONV in the Breast Oncology Surgical Population.

2007 ASA Annual Meeting, San Francisco, CA October 2007
- Abstract presented: Ruiz, J. R., Selvan, M. S., Kee, S., Brydges, G. J., Frenzel, J. C., & Riedel, B. (2007). Comparative analysis of PONV risk within the Oncology Surgical Population.

8th Annual Health Services & Outcomes Research Conference: Improving the Quality of Health Care Houston, TX. July, 2007
- Abstract presented: Selvan, M. S., Riedel, B., Brydges, G. J., Owen, M., Kee, S., Frenzel, J. C. et al. (2007). Predictors of Postoperative Nausea and Vomiting among Abdominal Surgical Oncology Patients untreated with prophylactic antiemetics.

APPENDIX J

Graduation Committee Signature Form

TEXAS WOMAN'S UNIVERSITY
DENTON, TEXAS

April 4, 2019

To the Dean of the Graduate School:

I am submitting herewith a dissertation written by Garry Brydges entitled "Financial Literacy and Competency of Executive Nursing Leaders: A Mixed Methods Study." I have examined this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of PhD with a major in Nursing.

Rebecca Krepper
Rebecca Krepper, PhD, Major Professor

We have read this dissertation and recommend its acceptance:

Rosemary Luquire
Rosemary Luquire, PhD

Ainslie Nibert
Ainslie Nibert, PhD

Anne Young
Elizabeth A. Young, EdD

Ainslie Nibert
Ainslie Nibert, PhD, Associate Dean, College of Nursing

Accepted:

Dean of the Graduate School